Collection of experiences and plans

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Summary

List of abbreviations and terms

BAT	best available technologies
BAU	Business as Usual
B.U.R.A.	Bollettino Ufficiale Regione Abruzzo
CDS	County Development Strategy
CoM	Covenant of Mayors for Climate and Energy
CReIAMO PA	Competences and networks for environmental integration and improvement of PA organizations
Dpcm	Decreto del Presidente del Consiglio dei Ministri
EAFRD	European Agricultural Fund for Rural Development
EMFF	European Maritime and Fisheries Fund
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
FEC	Final energy consumption
FLAG	Fishery local action Group
ICZM	Integrated Coastal Zones Management Plan
MATTM	Ministero dell'Ambiente e della Tutela del Territorio e del Mare
MIUR	Ministero dell'istruzione, dell'università e della ricerca
MOU	Memorandum of Understanding
NAP	National Climate Change Adaptation Plan
NAS	National Climate Change Adaptation Strategy
NECP	Integrated Energy and Climate Change Plan for the Period of 2021-2030

NEEF	National Energy Efficiency Fund
NSDS	National Sustainable Development Strategy 2017/2030
PACC	Regional Plan for Adaptation to Climate Change
PAER 2020	Marche Region Environmental Energy Plan
PAI	Piano stralcio di bacino
PER	Piano Energetico Regionale
PGDAC	Piano di gestione delle Risorse Idriche del Distretto idrografico Appennino Centrale
PGRA	Piano di Gestione del Rischio Alluvioni del Distretto dell' Appennino Centrale
Piano GIZC	Piano di Gestione Integrata delle Zone Costiere
PNIEC	National Integrated Energy and Climate Plan Proposal
P.O.D.	Detailed Operational Projects
PON	Programma Operativo Nazionale
POR	Programma Operativo Regionale
P.R.A.E.	Piano Regionale Attività Estrattive
PUMS	urban plans for sustainable mobility
SEAP	Sustainable Energy Action Plans
SUS	Strategia per lo Sviluppo Urbano Sostenibile
SVIM	Sviluppo Marche S.r.l.

Executive Summary

The context analysis is essential to collect information and resources that will be used during the other activities of the project and is considered as the knowledge-base of data to learn and disseminate values of each territorial context. The objective of the Del 3.2.1 is to provide information and useful information for the implementation phases of the project (WP4), when the adaptation actions are defined in accordance with policies and plans implemented at national, regional and local level.

Croatia and Italy have different regulatory conditions, governance approaches, identification and allocation of loans: for example, local and national authorities have different roles and weights. Therefore, it was deemed necessary to briefly develop a reference framework of the two countries to define:

-the main national plans that intervene in the field of mitigation and adaptation to climate change;

-the regional and local plans for target area;

-The main projects and financing funds intercepted by different territories in the fields of interest.

The Deliverable is structured in 2 parts, the first part is a summary of the main policies at national, regional and local level for Italy and Croatia; in the second part, on the basis of an interpretative table, the climate adaptation policies, plans and measures and the main projects and sources of financing intercepted by the various target areas were classified for each target area.

Introduction

Action 3.2 - Context analysis is part of WP3 'Definition and implementation of a Support and Monitoring Platform for Joint SECAPs'. The context analysis is essential to collect information and resources that will be used during the other activities of the project and is considered as the knowledge-base of data to learn and disseminate values of each territorial context.

The present template regards sub-activity A.3.2.1, which aims to investigate all existing policies, plans, measures and funding tools already put in place in each territorial context (district level) with a special focus on energy and climate issues. The sub-activity will produce a deliverable (D.3.2.1) conceived as a database form, listing and briefly describing all the identified elements, that will be useful during the implementation phase (WP4), and especially for the implementation of the common online platform.

The present template is therefore divided in two parts: Part 1 is dedicated to the identification and description of climate adaptation policies, plans (SEAPs) and measures put in place in partners' countries/regions; Part 2 identifies and describes the funding tools (programmes, schemes, grants, etc.) that are currently available at national, regional and local level to finance climate adaptation measures (e.g. optimization of water consumption, adaptation of building codes to future climate conditions and extreme weather events, realization of flood defenses, urban forestation, green infrastructure, etc.). Partners have to fill in every part of the template, providing as many relevant details as possible whilst respecting the maximum number of words/characters indicated.

Existing policy, plans, measures and funding tools already put in place in each territorial context: Croatian Areas

Overview of the national/regional/local context

The Republic of Croatia is a member state of the European Union (EU) since 2013 and its energy and climate legislation is aligned with the most relevant EU disposition. In many documents, the European Union has emphasized the need to integrate the management of energy and climate measures to ensure that all activities at EU level and at national, regional and local level can contribute to the objectives of the European Commission (this, for example, is a key principle of the *Strategy for the European Energy Union*[1]published by the European Commission in February 2015). In the case of Croatia, considering the small size of the country (compared to other EU member states) with around 4 million inhabitants, most of the services, institutions, and strategies are managed on national level. Regional and local level have limited resources and authorities over decisions that affects climate change actions. A centralized setup dealing with climate change challenges is a fact that cannot be avoided in the assessment of existing strategies, plans, policies and procedures, and funding instruments: the context in which Croatian partners of *Joint_SECAP* project operate is synthetically shown below. At the County level, the most important plans are: the *Air protection program, the ozone layer, climate change mitigation and climate change adaptation*[2], according to national air protection law, and *the County Energy Efficiency Action Plan*[3]*, provided* by the *Energy Efficiency Act*[4].

Another document, not specifically aimed at the issues of mitigation and adaptation but which may contain measures in line with them is the *County Development Strategy (CDS)*[5].
Based on the *Croatian Regional Development Act* (NN 147/14)[6], the *County Development Strategy*, is the main strategic document at county level for long-term socio-economic development which defines main development priorities and measures for their implementation. At the local level, many Croatian municipalities within the project area already delivered and are implementing SEAPs and Energy Programs and Plans. Energy Programs and Plans, and SEAPS are similar documents with almost the same specific objectives but with no obligatory integration of the measures and priorities. Both Energy Programs and Plans, and SEAPs have no mandatory implementation indicators, in many cases, however, they are expected. Local authorities are the smallest self-sustained autonomies in Croatia: they can deliver different strategies and plans in line with national and regional policies, and implement them. Municipalities and cities in the project area even try to bring extra benefits for their community by joining the European projects such as the Joint_SECAP Project. At the same time, they are all facing the same issues and challenges – lack of resources and institutional tools to make bigger impact in climate change adoption. Municipalities are rather small administrations that need to outsource most of the expertness to make significant results, and due to lack of resources, municipalities are leaning on support of the national or regional authorities. Financing actions related to both of listed strategies are mostly connected to the resources form the European Structural and Investment fund, and just partly from national resources. The *Draft Climate Change Adoption Strategy in the Republic of Croatia for the period to 2040*

with a view to 2070 (White Book)[7]listed the amount needed for the implementation of the Adaption Strategy, around 3,6 billion EUR out of the State budget foreseen is only 0,23% of total budget. Almost all funding instruments listed by project partners are co-financed by EU funds. The processes to fund the actions are models of open call for project. Such approach brings municipalities with lack of resources in unprivileged position for funding projects and dependable on national action plans, priorities, and procedures. Regional government, although with some authority and obligations have limited resources and access to national resources.

Context analysis for Croatian area suggest proactive approach of local and regional governments towards national policy makers in order to meet joint objectives, to be constructive partner at local level, and local support in climate changes adaption.

a) National level

At national level the key documents are the following ones:

1) Draft Climate Change Adoption Strategy in the Republic of Croatia for the period to 2040 with a view to 2070 (White Book) (2017)

The document is a deliverable of the project *Strengthening the capacity of the Ministry of Environment and Energy for adaptation to climate change and preparation of the Draft Climate Change Adaption Strategy*[8]by beneficiary Ministry of Environment and Energy. This document, valid until 2040 and with an overview until 2070, is being approved. It deals with the assessment of adverse impacts of climate change, taking appropriate adaption measures to prevent or reduce the potential damage they may cause; it selects priorities and propose implementation strategy and funding instruments. It includes an action plan for implementation, to be defined, along with measures and priorities. The Adaptation Strategy proposes a total of 81 measures within ten selected sectors: Hydrology, water and sea resources management; Agriculture; Forestry; Fisheries; Biodiversity; Energy; Tourism; Health; Spatial planning and coastal area management; Risk management. Possible indicators for monitoring the impact of the measures in the Adaptation Strategy are divided according to the selected sectors. The associated funding to this document is: European Regional Development Fund (ERDF)[9], Cohesion Fund[10], European Maritime and Fisheries Fund (EMFF)[11], European Agricultural Fund for Rural Development (EAFRD)[12]and The European Social Fund (ESF)[13].

2)Draft energy Development strategy till 2030 with the view to 2050[14]

The preparation of the Energy Strategy is an obligation under the Energy Act (OG 120/12, 14/14, 95/15, 102/15, 68/18)[15]. For the purposes of developing the Energy Strategy, analytical backgrounds have been prepared (the so-called Green Paper) presented to the professional and interested public at workshops held in November 2018. The Green Paper contains elaborated targets for the use of renewable energy sources, energy efficiency, the internal energy market and energy security, which will upon final adoption be integrated into the final version of the *Low-Carbon Development Strategy*[16] (until 2030 with an outlook

to 2050), presented in this document. The Croatian Government in October 2019 adopted a new national Energy Strategy that be valid until 2030, with projections until 2050, which envisages increasing renewables' share in gross final energy consumption to 36.4% by 2030.The key objectives of the strategy are ensuring sustainable energy production in Croatia over the next 10 years, with projections until 2050, reducing import dependence, and strengthening the security of energy supply through the development of strategic infrastructure. The Strategy is dealing only with energy issues, but at the same time it sets the obligations to the regions to deliver and implement Energy Programs and Plans.

3) *The Integrated Energy and Climate Change Plan for the Period of 2021-2030 (NECP)*[17]
It provides an overview of the current energy system and the state of energy and climate policy. It also gives an overview of national targets for each of the five key dimensions of the Energy Union and appropriate policies and measures for achieving these goals and establishes an analytical basis. In the Integrated Energy and Climate Plan particular attention should be paid to the goals set for 2030, which include the reduction of greenhouse gas emissions as well as increase of renewable energy use, energy efficiency and energy interconnections. Approval underway; it should be adopted in 2020, implemented in 2021 and valid until 2030.

4) Republic of Croatia regional development strategy for the period until 2020[18]
This strategy aimed to develop socio-economic development of Croatia, in cordination with sustainable development principles. Three main goals:1. Increasing quality of life by encouriging sustainable territorial development, 2. Increasing competitiveness of regional economy and employment, 3. Sustainable management of regional development. In this document there are numerous measures for sustainable development and for mitigation and adaptation to climate change: Measure 1.1.3. - Promoting local community sustainable development programs and activities related to mitigation and adaptation to climate change at the local and regional level; Measure 1.2.1. - Support for the development of climate change mitigation systems and the implementation of preventive measures and adaptation measures to new climatic conditions. Improving the co-operation between CSOs and the local community regarding public space use; Measures 1.2.2. – 1.3.4. - Support for the development of climate change mitigation systems and the implementation of preventive measures and adaptation measures to new climatic conditions; Measure 1.3.5. - Support for the development of climate change mitigation systems and the implementation of preventive and adaptation measures under new climatic conditions, taking into account specific impacts in the field of cooperation; protection and renewal of biodiversity and promotion of ecosystem services, capacity building, development of jointly coordinated approaches to planning, monitoring and management of Natura 2000 and other types and types of habitats in cross-border areas; Measure 3.1.1. - Establishing a Public Policy Management System that embraces and cyclically links all management phases: analysis, planning, implementation, monitoring, reporting and evaluation, and aligns with horizontal issues (mitigation and adaptation to climate change, environmental protection, resilience, sustainability, demography, social inclusion, innovations, etc.); Measure 3.1.2. - Defining guidelines for good project management in the field of climate change, implementation of the harmonization process of planning climate change mitigation procedures and climate change adaptation in the process of planning, implementation, monitoring and evaluation of projects at all levels of regional development management. Measure 3.2.1. Encouraging horizontal co-operation at the national level

through the activities of education of key stakeholders on complex developmental governance issues essential for project development, including nature protection, energy efficiency, cultural heritage, mitigation of climate change and adaptation to climate change, sustainable development, etc. Measure 3.3.1. Encouraging horizontal cooperation at regional and local level through key stakeholder education activities on complex developmental governance issues essential for project development, including nature conservation, energy efficiency, cultural heritage, climate change mitigation and adaptation to climate change, sustainable development, etc. on regional and at local level. Associated funding: Ministry of Regional Development and EU funds.

There are also other national programs in force that refer to the adaptation measures:

-*Programme of measures for the protection and management of the marine environment and coastal area of the Republic of Croatia*[19] (Into Force, implemented in 2016 and it is valid until 2022). State budget and different EU funds
- *Rural Development Programme of the Republic of Croatia* for the Period 2014-2020[20]. European Agricultural Fund for Rural Development (EAFRD).

b) **Regional Level**

The following plans are in force or were applied in the past with reference to the Joint_SECAP target areas.

1)*The Program for the protection of air, the ozone layer, climate change mitigation and adaptation to climate change*[21]**.** According to National Law on Air Protection.

1.a) for the area Dubrovnik-Neretva Region for the period from 2017 to 2020[22]

The main goal is to protect and continuously improve the quality of air in the area of Dubrovnik-Neretva Region. Concrete Measures are provided for adaptation to climate change, regarding:

- air quality status;

- evaluation of the measures taken and their effectiveness

- implementation of the Air Protection, Ozone Layer and Climate Change Measures in the Republic of Croatia for the period 2013-2017, programs and other documents for the protection of air quality, ozone layer and mitigation of climate change

- Implementation of obligations under international agreements on the protection of air, ozone layer and mitigation of climate change

- Information on imposed penalties

- data on the use of financial means to protect and improve the quality of air proposed amendments to existing documents and other data relevant to the protection of air quality, ozone layer and mitigation of climate change.

The program is funded with County and local funding.

1.b) Primorje-Gorski kotar County for the period 2019-2022[23]

The main objectives of the Program are the air and the ozone layer protection and climate change mitigation. The concrete measures are: MPR - preventative measures for the preservation of air quality, -MKR - Short-term measures, when there is a risk of exceeding the threshold of use; -MGV - Measures to reach limit values for the release of pollutants in the air within the set deadline if exceeded; -MOZ - Measures to achieve long-term targets for ground-level ozone in the air; -MOT - Measures to reduce and limit the emission of pollutants that permit the adverse effects of acidification, eutrophication and photochemical pollution; -MTM - Measures to reduce and/or limit heavy metal emissions; -MOS - Measures to phase out the consumption of controlled ozone depleting substances and reduce fluorinated greenhouse gas emissions; -SME - Measures to reduce and/or limit greenhouse gas emissions and adapt to climate change; -MEN - Measures to encourage energy growth and the use of renewable energy;- MTR - Measures to reduce total emissions from traffic.

2)The County Energy Efficiency Action Plan

Energy Efficiency Act in Croatia states that all counties and all cities with more than 35000 inhabitants are obligated to plan energy efficiency measures. This makes 37 obligated parties in planning. By that local government is induced to systematically manage energy and plan which steps to take in order to consume energy more rationally and reduce expenses at the same time. Plans are made on a three-year and annual basis. Annual Energy Efficiency Plans are made every year, and they represent a ground basis for national report on the implementation of measures set in NEEAP.

2a) *Istrian County for the 2019 - 2021. Into force -In progress (2019)* [24]

Goal of the Action Plan is to set guidelines for the implementation of the energy efficiency improvement policy through energy savings, respecting the energy needs of the Istrian County and the principles of sustainability and environmental protection. The concrete adaptation measure is the SEAP revision workshop. Associated Funding: Horizon 2020 EU programme.

2b) *Split-Dalmatia County_ Annual Energy Efficiency plan for 2016 and. Energy Efficiency Action Plan Split-Dalmatia County for the period of 2014.-2016*[25]- Implemented in 2014 and expired in 2016.
The Action Plan sets strategic goals for rationalizing energy consumption and costs and emission into the environment - according to the 3rd National Energy Efficiency Action Plan and the Law on Energy, energy efficiency. The plan sets out climate change mitigation measures in three sectors: industrial, transport and general consumption sectors. EU funds and regional and local financing sources.

2c) *Primorje-Gorski Kotar County: Energy Efficiency Action Plan 2017-2019*[26]
It is a planning document for a three-year period in accordance with the National Action Plan, which sets out the implementation of energy efficiency improvement policies. The measures planned are: for industrial 4 measures, for traffic 6 measures, for general consumption 6 measures, and for services 11 measures.

3) The County Development Strategy
Based on the Croatian Regional Development Act (NN 147/14)[27], the County Development Strategy (CDS), is the main strategic document at county level for long-term socio-economic development which defines main development priorities and measures for their implementation. It recognizes all needs and development potentials on county level from one side, and builds future structure for sustainable development based on guidelines and development priorities determined by the strategies from national level on the other side.
They can contain energy measures and only in some cases measures to adapt to climate change.

3a) *County Split-Dalmatia County development strategy for the period up to 2020*[28].Into force, period from 2014 to 2020.

It represents the main strategic document of the county with the aim of long-term socio-economic development in the areas. The strategic goals are: 1. improve the quality of living with the sustainable use of nature 2. increase economic competitiveness 3. improve human resources and development management. Measure C1P3M3 deals: the Development of the integrated system, civil protection and climate change resilience.

3b) *Primorje-Gorski Kotar Development Strategy 2016-2020*[29]
Adopted in 2015, includes some Strategic objectives and priorities with reference to green economy and the reduction of dependence on fossil energy sources. For example:
Objective 1. Development of a competitive and sustainable economy. Priority 1.4. Development of the green economy (the use of natural resources and efficient management in all segments of the economy); reducing dependence on fossil energy sources through greater reliance on domestic resources and renewable energy sources as well as increasing energy efficiency across all sectors.

3c) *Development Strategy 'North Istria' 2014-2020.* Into force; in progress (2014-2020)[30].

This plan includes some sustainable measures especially in the agricultural sector:

Measure S.C.2 – Promoting sustainable system of agricultural production (including sub-measures M03-Quality systems for agricultural products and food, M04-Investment in physical assets, M06-Agricultural entities development-RES&irrigation). Associated funding: LEADER program Measure 19, local authority budget, Istrian County budget, state budget

3d) *Istrian County Development Strategy until 2020*[31]. Into force, in progress (2018 - 2020).
Guidelines for the future economic and overall development of the Istrian County starting from development resources and potential. Concrete adaptation measures regard: Priority 3.1. Encouraging energy efficiency and the application of renewable energy sources; Priority 3.5. Strengthen the capacity to manage risks and increase the level of readiness to respond to crisis events. Associated funding: Local authority budget, EU funds, Istrian County budget.

4) Other Plan of Regional level

- *Environmental protection program of Split-Dalmatia County*[32]. Expired. It was implemented in 2008 and it lasted until 2012.
It contained the basic goals, the conditions and the criteria of environmental protection and elaborates the principles and guidelines for environmental protection.

-*Master Plan of North Adriatic Functional Region Transport System Development* 2018-2030[33]. Adopted: 2018. This plan includes several measures to reduce CO2 emissions and mitigate the impact of transport on climate change, e.g.: the measure MJ-G. 6th Adaptation to climate changes and mitigation.

c) Local Level

The larger cities have developed some “Air protection plans” and “Energy Efficiency Action Plan” as required by national legislation; in some cases, smaller cities have joined the Covenant of Mayors and are implementing the SEAPs Plans. Many cities have a local strategic plan, provided by national Act in 2014, which often contains mitigation measures and only in some cases adaptation measures. These plans define objectives and priorities of urban areas which includes central cities and possibly other local units (with their consent).

Dubrovnik-Neretva Region

City of Dubrovnick: Program for the protection of air, the ozone layer, climate change mitigation and adaptation to climate change for the City of Dubrovnik 2016-2020[34].

Measures for mitigation and adaptation to climate change, regarding:
1. Educational activities to raise public awareness on climate change;
2. Forests maintenance in order to reduce the probability of fire occurrence;
3. Encourage educational campaigns regarding eco driving and replacing old vehicles with new vehicles;
4. Expand and improve the bicycle infrastructure;
5. Introduction of new ecological bus lines or increase the frequency of existing ones according to needs.
6. Encourage and plan the procurement of vehicles with reduced concentrations of exhaust gases in public urban transport, vehicles of the city administration and of city institutions and companies.
7. Build charging stations for electric vehicles.
8. Provide a collection and treatment system for landfill gas at the "Grabovica" landfill 9. Create the energy sustainable development action plan of the City of Dubrovnik. 10. Continue to implement energy efficiency measures.
Multy funding: local, national, EU, Region.

Municipality of Vela Luka, Smokvica, Blato and Korčula: Sustainable Energy Action Plans SEAP[35]
Approved on 09/2014 under IEE project MESHARTILITY
The aim of the project was to measure and share data with utilities for the purpose of proper monitoring of the implementation of SEAPs.The long-term should be based on the protection of nature, but at the same time allow all energy needs satisfied from their own resources.

Primorje-Gorski Kotar County
City of Opatija: SEAP Sustainable Energy Action Plan[36]
Joined the Mayor Agreement on 05.04.2011. The objective is the control Inventory of CO2 Emissions for 2015. The successful implementation of each measure has been analyzed for:
Construction Sector: Public buildings: 8 measures; Households: 5 measures; Commercial sector: 3 measures; Public lighting: 2 measures; Traffic: 3 measures; General measures: 1 measure.

City of Kastav: SEAP Sustainable Energy Action Plan[37]
Revision of the Sustainable Energy Action Plan 2015. Joined the Mayor Agreement on 24.02.2011. The objective is the control Inventory of CO2 Emissions for 2015. As part of the Energy Sustainable Development Plan of the City a, it was analyzed energy consumption of three sectors: building, traffic and public lighting.

Municipality of Čavle: SEAP Sustainable Energy Action Plan[38]
Date of adhesion15/05/2014; date of formal approval: 11/09/2014; Submission date: 06/11/2014; Approved year– Expiring year: 2014.-2020. The main objective of this Action Plan is to reduce CO2 emissions by more than 20% by 2020 compared to the reference year 2012. Measures and activities for reducing immediate consumption energy, electricity and heat, and thus the reduction of CO2 emissions, are proposed in the area of renewable energy and energy efficiency.

Municipality of Viškovo: SEAP_Sustainable Energy Action Plan[39]

Document drafted but not adopted by municipality council. The methodology for drafting this Action Plan is in line with the European Commission guidelines. The measures identified were divided into groups according to the sector of direct consumption: Measures to reduce CO2 emissions from the construction sector; Measures to reduce CO2 emissions from the transport sector; Measures to reduce CO2 emissions from the public lighting sector.

Municipality of Matulji : SEAP-Sustainable Energy Action Plan[40]

Date of adhesion 26/03/2015; date offormal approval:26/07/2016, Submission date: 26/09/2016, Approved year– Expiring year: 2015. The main objective of this Action Plan is to reduce CO2 emissions by more than 20% by 2020. Measures and activities for reducing immediate consumption energy, electricity and heat, and thus the reduction of CO2 emissions, are proposed in the area of renewable energy and energy efficiency.

Split-Dalmatia County

SPLIT

1. Programme for the protection of air quality, ozone layer, climate change mitigation and adaptation for Split City area for the period 2018-2021.
Into force Implemented in 2018 and valid until 2021.The purpose of the City of Split Programme is to define objectives and measures to prevent and reduce air pollution, protect the ozone layer, mitigate climate change and adapt to climate change. Concrete adaptation measures: Most of them are mitigation measures but below listed are adaptation measures: M19 Increase preparedness to extreme weather conditions; M21 Conduct educational activities to raise public awareness of climate change. Associated funding: the annual Budget of the City of Split, Protection Fund environment and energy efficiency, EU Structural and Investment Funds.
2. Energy Efficiency Action Plan of the City of Split for the period 2017 – 2019

Into force. Implemented in 2017 and valid until 2019. The plan defines measures and activities in the buildings, transport and public lighting sectors. Associated funding: European structural investment funds (ESI), EU co-operation and co- financing fund on regional and local level and other financing sources.

POSTIRA

Development Strategy of the Postira Municipality 2014-2020

This Strategy is comprehensive and multidisciplinary thus analyzing development from many different aspects which is necessary to achieve sustainability. Defined measures that can be associated with climate change adaptation are for example: revitalization of the drainage system, sustainable development of the tourist potential, improvement of the health care system etc. Associated funding: the Strategy recognizes

EU funds, private investors and various bank loans as financial sources for the implementation of measures and projects defined in this document.

SUPETAR

Development Strategy for the city Supetar till 2020

This Strategy is comprehensive and multidisciplinary covering urban development from many different angles which constitutes a well-integrated planning. In addition to the latter, the document includes an Action Plan which describes measures in more detail. There are foreseen adaptation measures (although they are not underlined as such and are mostly derived from reasons that are different from climate change). The Strategy defines and describes all measures along with the implementation indicators. The indicators are numerous and entail monitoring number of associated areas.

BRAČ

1. Local Development Strategy of Local Action Group Brač 2014-2020

If considered very broadly, some measures defined within the Strategy can be associated with adaptation (e.g. improving agricultural production can entail irrigation). The Strategy defines a set of tools to monitor implementation process and results. Associated funding: Programme for Rural Development – EU funds and state budget.

2. Local Development Strategy in Fisheries LAGUR Brač

Into force, implemented since 2017. Some measures could be linked to adaptation strategies as well, for example: encouraging innovative, sustainable and safe technologies and solutions in fishing infrastructure, equipment and business.

SUTIVAN

Strategic Development Program Municipality of Sutivan for the period from 2015-2020

Into force, implemented since 2016 and valid until 2020. Some measures could be linked to adaptation strategies as well: 1.6.1. Raising awareness of the population and management of natural disasters education; 1.6.2. Reconstruction and construction of infrastructure for the prevention and mitigation of natural disasters; 3.4.3. Development and promotion of environmentally and environmentally sustainable agriculture. In addition to the latter, there are several measures which are broadly defined and that can be associated to adaptation context as well (e.g. improvement of water supply infrastructure, tourism infrastructure etc.).

Budget of the municipality of Sutivan

PUCISCA

Strategic project program for Municipality of Pucisca 2014-2020

Into force, implemented since 2014 and valid until 2020.The Programme defines a series of measures and associates projects with those measures but the latter, in the context of climate change, mostly falls under the mitigation umbrella. Associated funding: Internal (municipal budget) and external funding (EU funds, private investors, national government funds).

Istrian County

Buje

1. SEAP Sustainable Energy Action Plan – City of Buje

Under revision. The objectives include the reduction of CO2 emissions by implementing EE measures, using renewable energy resources, consumption management, education and other measures, to reduce energy consumption in building, traffic and public lighting sectors, to use spatial planning policies to enable urban to ecological sustainable areas transformation.

2. Strategic Development Plan 2016-2020 for City of Buje

Into Force, in progress (2016 – 2020). The key principles of the Strategic Development Plan are developing a strategy to achieve the integration of the most important economic, social and environmental requirements within the sustainability. Concrete adaptation measures: Alternative energy source usage stimulation in public and private sector (solars, heat pumps…); Raising awareness on the benefits of energy-sustainable development.

Novigrad

1. SEAP – City of Novigrad – Cittanova

Under revision, in progress (2015 – 2020). Strategic and operative document used to define overall framework for 2020. Results from Baseline Emission Inventory (BEI) will be used to define the best activity areas and the opportunities to reach CO2 emmission reduction goal. The concrete adaptation measures are: Traffic sector - Eco Driving campaign – Campaign to promote eco-friendly driving and educate drivers; Traffic sector – E-mobility – Using e-vehicles (cars, bicycles, scooters) for CO2 emission reduction. Associated Funding: Environmental Protection and Energy Efficiency Fund (FZOEU fund); HRK (500 HRK / Passenger.

2. Total Development Program for City of Novigrad-Cittanova

Into force. It is the Official document by which the City Council can plan activities, most significant and most efficient projects to a consolidate the economical, agricultural and cultural goals in relation to the region and state in general. Concrete adaptation measures. Priority 2.3 – Implementing Energy Efficiency measures (6 sub-measures: Energy renewal of public buildings/institutions, public lighting, traffic, economy, family houses and residential buildings, education of citizens).

Sitography

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Existing policy, plans, measures and funding tools already put in place in each territorial context: Italian Areas

Overview of the national/regional/local context

Italy is the leading country in Europe for the number of adhesions to the Covenant of Mayors with around 4,900 members, 50% of the total; some of them are supported by the Regions in terms of financial support or by several territorial Coordinators (the Regions themselves, Municipalities Unions, Associations, etc.) for technical support. Despite this attention at the local level, we observe a delay in the approval of the *National Climate Change Adaptation Plan (NAP)*[1], after the 2015 approval of the National *Climate Change Adaptation Strategy (NAS)*[2]. The plan is in a draft version since 2017, since then we are still waiting for the transition from a field of studies to a tool capable of setting priorities and effectively guiding policies. The National level growing debate regarding energy and climate policies, highlights another Italian criticality: the lack of synergy between the different levels of governance. Cities and local governments have often been ignored by national policies starting from the National Energy Strategy, up to the NAP Draft, and the National *Integrated Energy and Climate Plan Proposal (PNIEC)*[3].Greater attention to the integration of governance levels is present in the *Piano Strategico Nazionale della Mobilità Sostenibile*[4] *(Strategic National Plan of Sustainable Mobility)*, adopted in April 2019, with a series of measures designed for citie sto renew the local public transport with less polluting means (electric, methane or hydrogen) and more modern technologies to promote the improvement of air quality, in line with international agreements and with the regulatory provisions of the European Union; as well as with the *Piano di tutela delle acque*[5]*(Water Management Plan)*. In this regard, the target areas are affected by the *Piano di gestione delle Risorse Idriche del Distretto idrografico Appennino Centrale* (PGDAC)[6] *(Central Apennines Hydrographic District Management Plan*) e dal *Piano di Gestione del Rischio Alluvioni del Distretto dell' Appennino Centrale (PGRA)*[7] *(Central Apennines Hydrographic District Flood Management Plan).* In particular, the last plan defines the security objectives and intervention priorities at the district scale, in a concerted manner between all the involved administrations, the managing bodies, and the stakeholders participation.

The concrete planned actions are classified in 4 fundamental domains: prevention, protection, preparation, and recovery. The most relevant measures regarding climate change adaptation fall within the first domain.

Instead, the Regions are very proactive, considering that in Italy they have a very specific role on energy and environmental issues, in relation with local authorities. In particular the coastal and water defense plans, the hydrogeological management plan that highlight the measures that are necessary to reduce risks, to define mitigation measures, but also the prevention measures for the population safety.

With reference to the Joint_SECAP Project territory, we report the following plans: the *Marche Region Environmental Energy Plan -PAER 2020*[8]**,** that identifies the programming and operational guidelines for the environmental energy policy in the regional territory; the *Piano di Gestione Integrata delle Zone Costiere (Piano GIZC)*[9] *(Integrated Coastal Zones Management Plan*)which in the definition of concrete

adaptation measures, provides soft and hard interventions, establishing close synergies with the municipalities that are the beneficiaries of the interventions themselves. Considering the Marche Region case, there is a strong partnership between Municipalities and Region for the coastal and water defense plans, the hydrogeological management plan and with reference to the climate change effects.

For example, the*Piano di Tutela delle Acque*[10] *(Regional Water Safeguard Plan*), represents the planning tool for promoting interventions aimed at tackling the degradation of integrated water systems (superficial as well as subterranean) and therefore it deals with local specificities and with local authorities; the*Piano Assetto Idrogeologico - Piano stralcio di bacino Regione Marche (PAI)*[11] *(Hydrogeological Structure Plan– Marche Regional River Basins),* identifies, quantifies, reduces and prevents situations of hydrogeological decay, mapping the risks and defines mitigation measures for limiting the risk of exposed population.

The role of the Regions, in the case of the Abruzzo Region for example, is a coordinating task for the activities in the municipalities. Abruzzo represents a best practice regarding mitigation and adaptation policies, both in the active involvement of local authorities in the construction of SEAPs and more recently SECAPs, but also through the submission of important international commitments for their territory.

The Region is currently working at the realization of the *Regional Plan for Adaptation to Climate Change* (PACC)[12], through RD no. 860 of 13/11/2018, approved the guidelines for the realization of the *Regional Plan of Adaptation to Climate Change and Regional Climate Profile*[13].The Region also coordinated the signing of the Covenant of Mayors of three hundred and five municipalities and the four provinces that have signed the covenant of mayors' agreement. In 2015 Abruzzo Region has endorsed the new CoM for climate and energy, thus supporting the implementation of the EU 40% greenhouse gas-reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. It is now working with its municipalities and provinces to update the already submitted SEAPs into SECAPs.

In 2016 the Region signed up a climate agreement for subnational governments, *The Under2 Memorandum of Understanding* (MOU)[14]. This memorandum brings together subnational governments willing to make a number of key commitments, including either reducing greenhouse gas emissions equivalent to 80 to 95 percent below 1990 levels or to less than 2 annual metric tons per capita by 2050.

There are also numerous plans in the field of energy, environment and management of the territory that have been realized and implemented at Regional level, namely:

The *Piano Energetico Regionale* (PER)[15] (*Regional Energy Plan),* which is into force since 2009, is the fundamental dynamic tool at the disposal of the Region of Abruzzo for the management of energy policy in the area; the *Piano Regionale per la Tutela della Qualità dell'Aria*[16] *(Regional Plan for the Protection of Air Quality)***,** approved with Regional Council Resolution n.79 / 4 dated 09/25/2007 and the Being updated "PAI - Plan for Hydrogeological Structure", etc. The Abruzzo Region has also assumed a coordinating and directing role for the river contracts that are being activated in the regional territory with the Decree of the Regional Executive no. 915 of 10 November 2015.

At local level, there is a significant participation of Municipalities in European programs that concern sustainability, adaptation to climate change, and environmental protection in general.

Important is the forerunner role of the Municipality of San Benedetto del Tronto which started the drafting of SECAP, even before participation in the Joint_SECAP project; in addition to this, Municipalities often join together to respond to European calls for proposals and to propose joint projects: for example, the municipalities of San Benedetto del Tronto - lead partner, Grottammare, Cupra Marittima, Pedaso and Porto San Giorgio, have joined the project*Flag Marche Sud*[17] *(FLAG Southern Marche)*. This strategy faces the fishery sector in a global view, with a wide and organic approach that involve different development components.

Even in this case the coordinating role of the Region is very important, carried out also with the support of the Marche region development agency SVIM (Sviluppo Marche S.r.l.).

In the same target area several *Contratti di Fiume*[18](River Contracts) are being carried out. The River Contracts are voluntary tools for strategic and negotiated planning that pursue the protection, the correct management of water resources and the enhancement of river territories together with the safeguard from the hydraulic risk, contributing to local development. The *Contratto di Fiume "Fiume Tesino"*[19](Tesino river contract), for example, involves the municipality of Grottammare as lead partner, other 9 municipalities and 25 public and private stakeholders).
All of the 305 Municipalities of the Abruzzo Region submitted and implemented the SEAPs; 664 interventions have been carried out by big (> 5000 inhabitants) and small (< 5000 inhabitants) municipalities and provinces, mainly interventions of energy efficiencies in schools, energy efficiency in public buildings and public lighting.
The coordination between bigger municipalities is more difficult. For example, the case of the Municipality of Pescara[20]and Chieti, which have more integrated territories, the two cities have developed two different mobility *Piano Urbano della Mobilità Sostenibile* (PUMS) (Urban Sustainable Mobility Plan).

1) All of the Municipalities of the target areas have approved the *Piani della protezione civile*[21] *(*Civil Defence Municipal Plans) introduced in 1992 with L. 225/1992 (institution of the Civil Defence service) and with the L. 112/1998 (devolution of tasks to Regions and Municipalities). Even if these plans are not directly linked to climate adaptation topics or to energy issues these are official documents that establish all the operative procedures for local population to follow in case of calamity or natural disaster. For any given – and applicable, according to the territory – type of natural risk geographical maps of spatial danger and emergency procedures are issued, and also the responsible personnel are indicated. For the purpose of this analysis, the most important types of risk are seismic, hydro-geological, flood, fire.

2) Within the Joint-Secap Project target areas there are some protected areas that are equipped or are being equipped with a management plan, among them: the *Piano di Gestione della Riserva Naturale Regionale Sentina*[22;]*(Sentina Regional Natural Reserve Management Plan)*; the*Piano della Riserva Naturale del Borsacchio*[23] *(Plan of the "BorsacchioRegional Natural*

Reserve), the*Piano di Gestione del Sic Torre del Cerrano*IT7120215[24] (Plan of Management of the SIC IT7120215 "*Torre del Cerrano*") the *Piano di Gestione della Riserva Naturale Regionale Lago di Penne[25] (Plan of Regional Natural Reserve "Lago di Penne")*.Many measures that are included in these plans might be included ad climate change adaptation measures. One of these protected areas, the APM of Cerrano has joined the C.E.T.S. – European Charter for Sustainable Tourism[26]– which consists of a methodological document and of a certification that allows better management of protected areas for tourism development.

The AMP shared its actions with the municipal Administrations of Pineto and Silvi, with the Province of Teramo and the Abruzzo Region.
Regarding the provision for funding climate change adaptation measures (EU projects, technical assistance, etc.), the policy fiche on Climate Change outlines its mainstreaming into policies and funds for cohesion, energy, transport, research and innovation, agriculture, external relations, etc. Between them it is worth to highlight: The European Regional Development Fund (ERDF);

-The European Agricultural Fund for Rural Development (EAFRD)

-The European Maritime and Fisheries Fund (EMFF)

-Horizon 2020, with 35% dedicated to climate-related research

-The LIFE programme

Among the most recent European Programs implemented in the Target areas, we highlight: *LIFE PRIMES "Preventing flooding RIsk by Making resilient communities"[27]***,** budget di 2,366,767.00 €. It aims to build resilient communities by engaging them in early warning and flood risk prevention measures; *IEE 2011-PARIDE***.** The project organized joint procurement of energy performance contracts, which resulted in investments of € 30 million and 70% guaranteed savings, thus improving safety and quality of life for 239,000 inhabitants of the province. Giulianova, Roseto, Castiglione, Castilenti, Pineto, Silvi.

€ 1.087.228, 00 (including € 815.421,00 from EU); *Interreg MED Project SHERPA – Shared knowledge for Energy renovation in buildings by Public Administrations[28]*. 12 Partners including the Abruzzo Region. Total budget of the project Euro 3.591.689,35. Deadline Project 31.08. 2019.

There are numerous sources of funding at national level, among which many are recent:

- Piano nazionale per la mitigazione del rischio idrogeologico - 2019[29] (*National Plan for the Mitigation of Hydrogeological Risk), Restoration and Protection of the Environmental Resources (Decree of the President of the Council 27thfeb 2019).* Total budget amount to 3 billion euros. The plan includes interventions on

the San Benedetto project area and within the Abruzzo Target Areas 1 and 2, with the Municipalities of Elice, Penne, Castiglione, Castilenti, MoscianoSan'Angelo.

-DECRETO-LEGGE 30 aprile 2019, n. 34 Misure urgenti di crescita economica e per la risoluzione di specifiche situazioni di crisi[30] *(Decreto Legge 30th april 2019, n. 34 Urgent measures for economic growth and for the resolution of specific crisis situations).* Contributions to municipalities for energy efficiency and sustainable territorial development. € 210.000, 00- Activities must begin by October 31, 2019. Funds: MATTM.

- *DECRETO-LEGGE 14 ottobre 2019, n. 111 Misure urgenti per il rispetto degli obblighi previsti dalla direttiva 2008/50/CE sulla qualità dell'aria*[31] *– Decreto Clima- Green New Deal ITALIAN Policy - "Urgent measures for the respect of the obligations previewed from the directive 2008/50/Ce for the quality of the air" October 2019.*Planned interventions:

Reforestation: EUR 30 million euros; Renewable Energy: EUR 20 million euros for the school transport service 'green'; Slow mobility: EUR 40 million for the financing of projects for the creation, extension, modernization and upgrading of priority lanes for local public transport which may be submitted by one or more municipalities (with more than 100,000 inhabitants). Funds: MATTM.

- *Programma di Incentivazione della Mobilità Urbana Sostenibile (PRIMUS)*[32]*,* 2019 (*Sustainable Urban Mobility Incentive Programme (Primus) DM SG/90 del 3 settembre 2019)*Co-financing is available for Detailed Operational Projects (P.O.D.) related to the following actions: a)school and home-work; b) development of urban sharing mobility; c) development of mobility management activities at the offices of the State Administrations, of schools and universities Each P.O.D. is co-financed by the Ministry between Euro 300.000,00 and Euro 600.000,00 up to the maximum of 75% of the total cost. Funds: MATTM.

- *Bando per promuovere progetti di ricerca a support dell'attuazionedellaStrategiaNazionale per lo Sviluppo Sostenibile"Snsvs 2", 2019*[33]*(Call for the promotion of research projects in support of the implementation of the National Strategy for Sustainable Development* **-** *Legislative Decree no. 152/2006 MATTM DD Prot .0006930.25-07-2019 - "Snsvs 2").*CATEGORY 1 - Research projects to support the processes of elaboration and implementation of regional and provincial strategies for sustainable development: € 2.100.000,00; CATEGORY 2 - Research projects on priority themes for the implementation of the National Strategy for Sustainable Development: € 900,000.00; Call for metropolitan cities for the presentation of interest expressions regarding activities on the implementation of the National Sustainable Development Strategy -Legislative Decree no. 152/2006 DD Prot .000334.26-07-2019 € 2.500.000,00.

-Memorandum of Understanding signed digitally on 6 December 2018 between MATTM. and MIUR. Every year each year, proposals for environmental education activities are selected and funded. DM SG/90, 3rd of September 2019– Avviso di interesse per il finanziamento di progetti di educazione ambientale,2019[34] (Call for proposals on Environmental Education 20199.The grant is up to 80% of eligible expenditure (in proportion to available resources). The total amount of the individual contribution may not exceed Euro 15,000.00 (Euro 15,000/00).

-CREIAMO PA – Competenze e reti per l'integrazione ambientale e per Il miglioramento delle organizzazioni Della Pa Cohesion Policies 2014-202[35]*(CReIAMO PA – Competences and networks for environmental integration and improvement of PA organizations).* L5– Strengthening of administrative capacity for adaptation to climate change. The Project promoted by MATTM, intends to carry out activities aimed at the definition of guidelines and methodologies and the development of skills in the field of adaptation to climate change.

In addition, among the financing measures that have been present for some years and which directly address citizens' interventions, we highlight the following:

- Fondo Nazionale Efficienza Energetica[36]*(The National Energy Efficiency Fund)*

The fund, envisaged by Legislative Decree 102/2014, foresees the financing of energy efficiency measures implemented by companies and by the Public Administration on buildings, district heating plants and production processes. NEEF is managed by Invitalia, the National Agency for inward investment and economic development, owned by the Italian Ministry of Economy. It is the first Italian equity fund entirely devoted to investment projects in the energy efficiency sector. For the launch of the operational phase, 150 million euros were made available by the Ministry of Economic Development, which will also allocate a further annual income of about 35 million euros in the 2018-2020 period. Beneficiaries are citizens, thus it covers all municipalities.

At a Regional level, with the 21-27 planning, regional development investments will strongly focus on objectives 1 and 2. 65% to 85% of ERDF and Cohesion Fund resources will be allocated to these priorities, depending on Member States' relative wealth: - Smarter Europe, through innovation, digitization, economic transformation and support to small and medium-sized businesses - a Greener, carbon free Europe, implementing the Paris Agreement and investing in energy transition, renewables and the fight against climate change. A STRONGER FOCUS will be on sustainable urban development: 6% of the ERDF will be earmarked for investments in sustainable urban development.

The 2014-2020 planning concerned the promotion of the following main investments in the areas of mitigation and adaptation to climate change, within the target areas:

- *ROP Marche ERDF 2014-2020*[37] (*Marche Region ERDF ROP 2014-2020).* As modified after the 2016-2017 seismic events, has a total budget of 585 M€ split over 8 priority axes. The budget allocated on climate related objectives is around 140 M€ (23, 4%). The budget on TO 5 "Promoting climate change adaptation, risk prevention and management" amounts to80, 8 M€ (13, 8%).

- ROP Abruzzo ERDF 2014-2020[38] (*Abruzzo Region ERDF ROP 2014-2020)*

Axis IV – Eco-efficiency and reduction of energy consumption in public buildings- Calls and funding of projects concluded – projects ongoing. Municipalities involved (as of the pilot areas) Elice (100.000 euro) Mosciano (100.000).

Axis V – Mitigation of hydrogeological risk. Calls and funding of projects concluded – projects ongoing. Municipalities involved (as of the pilot areas) Roseto; Strengthening of coastal defense devices (Reduce costs linked to coastal erosion and improve environment).

- Abruzzo Region - Rural Development Programme 2014-2020[39]

The Plan contains measures aimed at contrasting the climate change effects and making territories more resilient to their effects. Between them it is worth to highlight: M13.1.1 "Compensation payments for mountain areas", aimed at countering the abandonment of agricultural mountain areas; M10 - 10.1 - Payments for agro-climatic-environmental commitments.

- Marche Region-Rural Development Programme 2014-2020[40]

The programme as per its last version, has a total budget of around 538 M€ split over 20 measures, dedicated to 6 priories and 3 crossing objectives: environment, climate change and innovation. Opportunities for adaptation actions can be found mostly under the following measures: Sub-measure 5.1 - Prevention and mitigation of the hydrogeological risks; Sub-measure 5.2 - Recovery measure after disasters; Sub-measure 16.5 - Collective actions for climate change mitigation and adaptation and for environmental improvement;-Sub-measure 4.2.B Investments to reduce energy consumption;-Sub-measure 4.3.B Development, modernization and enhancement of irrigation infrastructures; Sub-measure 8.3 Prevention of damage caused by forest fire and natural disasters.

- LF 1. EMFF 2014/2020 PO – Priority

The EMFF is the EU's maritime and fisheries policy fund for the 2014/2020 period. It is one of the five European Structural and Investment Funds aiming at supporting job creation and a sustainable and healthy European economy and environment. The strategies and action plans - for which a spending

program of between € 1 and € 5 million is envisaged - refer to specific sub-regional areas and are managed by public-private partnerships called FLAG (Fishery local action Group) with the supervision of Regional Authorities. In the Marche Region 3 FLAGS were approved: Northern, Central and Southern Marche –and received a contribution for the development of their strategies action plans. The Marche Sud FLAG, includes 5 Municipalities as public partners, among which San Benedetto del Tronto (lead partner), Grottamare and Cupra Marittima. The related local development strategy provides for a total budget of Euro 1.946.600. At the moment, no specific action on climate adaptation is envisaged, however the climate change is explicitly indicated as an aspect to be considered in the definition of the calls for proposals and a preference factor in selecting projects. Further and more specific references to adaptation could be integrated following the revision of the document expected by the end of 2019.

At local level, with funds partly from the state and partly from local authorities, the following were financed:

- *National Experimental Programme of Sustainable Mobility Home-School and Home-Work. Progetto "pesos" – PEscara SOStenibile*[41]. Finanziato dal Ministero dell'Ambiente e dal Comune di Pescara Finanziamento di 2 milioni di Euro.

- *MoveTe,Ministry's National Experimental Programme for Sustainable Mobility*[42]*, provided for by Ministerial Decree 282 of 17 October 2017 Environment*. Project to promote sustainable mobility, promoted by the Municipality of Teramo and Adsu, the Company for the right to university studies. Common partners of MoveTE are Martinsicuro, Alba Adriatica, Giulianova, Roseto Degli Abruzzi, Pineto, Atri, Mosciano Sant'Angelo, Bellante and Castellalto, all of the Teramo Province and covering the territory from the capital to the Adriatic coast. The decree allocated a total of 35 million euros to encourage sustainable mobility. Highlights of the initiative: fewer motor vehicles on the road, resulting in reduced pollution, use of, velostations and parking spaces for bikes in central points of the 10 municipalities that have joined; bike lanes and road connections to be built.

-Strategia per lo Sviluppo Urbano Sostenibile – SUS[43]*(Strategy for sustainable urban development "SUS") of the Municipality of Pescara is a sustainable urban regeneration project* (Asse VII del POR FESR 2014-2020) € 6.900.000, 00. The planned works have been divided into four MEASURES: ACTION 1–TO REALIZE INTELLIGENT MANAGEMENT SYSTEM OF URBAN TRAFFIC AND PUBLIC MEANS –Tot. Ac2on € 698 651, 60 (municipal funding € 48 651, 60); ACTION 2– CONSTRUCTION OF AN ECOLOGICAL PUBLIC TRANSPORT SYSTEM– Tot. Ac2on € 4 494 606.42 (municipal financing € 194.606, 42); ACTION 3– POTENTIAL CICLABLE AND PEDESTRIAN MOBILITY– Tot. Ac2on € 2 945 927, 12 (Financing ROP ERDF € 500.000, 00– municipal funding € 1.695.927, 12– private funds TERNA 750.000, 00; ACTION 4–ASSESSMENT OF EXISTING CULTURAL AND ENVIRONMENTAL RESOURCES–Tot. Ac2on € 1 557 033, 53 (municipal funding € 107 033, 53)

- Public lighting of the Municipality of Roseto

Published and awarded by the municipality of Roseto the tender for the assignment of the project financing of Public Lighting. The amount of the works is around 2 million and a half euros which will be used to carry out work on the rose garden and hamlets.

a) National level

Key document on national level are as follows:

1) National Climate Change Adaptation Strategy (NAS) and Plan (NAP)[1]

The Strategy adopted by Ministry of Environment Directorial Decree n. 86 16/6/2015; the Plan drafted in 2017, is currently under revision. The National Climate Change Adaptation Strategy aims to be a tool to support national, regional and local institutions in defining their own adaptation paths, also in relation to the specific characteristics of the territories. It outlined the impacts of climate change on environmental resources and processes and on the socio-economic systems of the Italian territory and proposed a vision of the path to tackle them. The subsequent Plan has been issued to implement the Strategy: its general goal is declined in four specific objectives: limiting the vulnerability, increasing the adaptation capacity, improving the exploitation of any opportunities and facilitating the coordination of actions at different levels. The Plan includes a context analysis of the current and future climatic condition, a description of the risk propensity and the expected impacts per sectors, an extended list of possible adaptation actions at national level with indications about tools for monitoring and evaluating their effectiveness. The Joint_SECAP area falls within the macro-region 2 "Po Valley, high Adriatic coast and coastal areas of central-southern Italy". The plan identifies 376 adaptation actions both cross-sectional and sectorial (also provided in the form of a databases). Sectorial actions are associated with the identified impacts, related adaptation objectives and homogeneous climate areas. The adaptation actions identified by the plan are classified per categories (Soft, Green, Grey), then evaluated based on the following criteria: effectiveness, economic efficiency, second order effects, performance in the presence of uncertainty, and considerations for political implementation. The plan includes a preliminary set of indicators of progress and effectiveness of the adaptation actions; guidelines for the development of a monitoring-reporting-evaluation system are also included, even if operational details are not provided. The Plan defines the possible sources of funding and assess the necessary financial and human resources. A possible financial resource for adaptation can be obtained from the application of the Directive 2003/87/CE (art. 3) concerning the setting up of the “carbon market” for trading CO2 allowances. The revenues of the auctions can be used, up to the extent of 50% of the total, to support adaptation actions.

2) National Integrated Energy and Climate Plan Proposal (PNIEC)[3]

The Plan proposal, drafted at the end of 2018 has obtained the green light for final approval by the Unified Conference that regulates relations between State, Regions, Provinces and Municipal Administrations. The plan was drafted by the Ministry of Economic Development is structured in 5 sections/goals:

decarbonisation, energy efficiency, energy security, internal energy market, research, innovation and competitiveness.

The main objectives of the instrument are:
- 30% renewable energy sources production; - 21.6% renewable energy sources in final gross energy consump2on in transport -4 3%; - 32.5% reduc2on in primary energy consump2on compared to the PRIMES 2007 scenario of compared to an EU target; - 33% reduc2on of GHG (GreenHouse Gases), 3% higher than the target set by Brussels.
The Plan highlights the climate impacts on the energy system and consequently, it details the measures needed to create a resilient energy system that remains reliable through short- and mid-term climate scenarios and is able to continuously evolve, even in long-term scenarios, such as: promoting the development of micro grids and smart grids; implementing programmes and instruments for managing and guiding demand (demand-side management); promoting the application, across all sectors, of best available technologies (BAT) for managing energy efficiency; improving interconnections with European networks to offset the use of discontinuous renewable sources.The plan includes specific adaptation and resilience measures, in particular under the issue: *decarbonisation with reference to* the Mobility management. Regarding urban plans for sustainable mobility (PUMS) Obligation for Municipalities (more than 100.000 inhabitants) taking Plan, 2me scope 2021; obligation for Municipalities (more than 50.000 inhabitants) taking Plan - 2me scope 2025 (to achieve financial resources).

Associated funding: Fund for the research of the electrical system National plan of the electrical system research; -Structural Fund and Cohesion Fund measure PON – POR; Agreements for the innovation - Horizon 2020.

3) Italian National Energy Strategy 2017[44]
Approved in 2017, the National Energy Strategy is the ten-year plan that the Italian Government drew up to anticipate and manage the change of the national energy system: a document looking beyond 2030, and laying the groundwork for building an advanced and innovative energy model. The objective of the Strategy is to make the national energy system more competitive, more sustainable, and more secure.
It sets out measures to achieve sustainable growth and environmental targets, as envisaged by COP21, contributing in particular to a low-carbon economy and to the fight against climate change. Renewables (RES) and energy efficiency will contribute not only to environmental protection, but also to energy security (by reducing the dependence of the energy system) and cost-effectiveness (by favoring the reduction of costs and prices).

4) The National Sustainable Development Strategy 2017/2030 (NSDS)[45]
The National Sustainable Development Strategy 2017/2030 (NSDS) has the objective to integrate the 2030 Sustainable Development Goals to the economic, social and environmental programming. The NSD is organized in five core areas, corresponding to the so-called “5P” of sustainable development proposed by the 2030 Agenda: People, Planet, Prosperity, Peace and Partnership. The Plan focuses on adaptation measures and aimed at creating resilient territories and communities under the Planet and Partnership areas, that is: -Halt the Loss of biodiversity; -Ensure sustainable management of natural Resources; Create

resilient communities and territories, Protect landscape and cultural heritage. The monitoring of the implementation of the strategy is foreseen in the plan. The National Institute of Statistics has published 173 SDG's indicators. They are associated with each strategic choice and objective. The associated funding is: DD n. 417 del 21 December 2018 - Sustainable Urban Mobility Incentive Programme (primus) - € 15.000.000,00; DD Prot .0006930.25-07-2019 - Call for implementation of the sustainable development strategy 3.000.000,00; DM SG/90 del 3 September 2019 –. Call for proposals on Environmental Education 2019- € 330.000,00.

5) The Strategic National Plan of Sustainable Mobility[4]

Adopted by the Ministry of Infrastructures and Transport through the Dpcm of 24 April 2019, no. 1360. The Plan aims at renewing the bus fleet used for local public transport with less polluting means (electric, methane or hydrogen) and more modern ones to promote the improvement of air quality, using innovative technologies in line with international agreements and with the regulatory provisions of the European Union, as well as to relaunch the industrial chain of bus production. All foreseen measures are to be considered as climate change adaptation measures. The resources of the Plan will be disbursed in 3 five-year periods starting from 2019, based on pre-established criteria (which will take into account, for example, the number of passengers transported and the number of vehicles circulating) on three different rankings:-one for the municipal capitals of the metropolitan cities and provincial municipalities with high pollution of PM10 and nitrogen dioxide (to which 398 million euros will be assigned; only for the first five years of application); one for municipalities and metropolitan cities with more than 100,000 inhabitants (1.1 billion euros); one for the Regions (to which 2.2 billion euros will be distributed).

6) Central Apennines' Hydrographic District Management Plan and Central Apennines' Hydrographic District Flood Management Plan[6]

The Central Apennines' Hydrographic District Management Plan approved with Decree of the Presidency of the Council of Ministers 27/10/2016, the 2nd update is expected by 2021. In compliance with the European Water Framework Directive (2000/60/CE) and the Flood Directive (2007/60/CE), the central Apennine inter-regional district adopted it to safeguard the hydrographic integrity of its territory. The PGDAC2016 declares the environmental macro-pressures of the district as a whole: climate change influence on water resource integrity, availability and quality; expansion of the built environment and increasing pressure on water resource for human use; hydrologic and hydro- morphologic impact of energy production from renewables (especially hydro-electric power).The Plan implementation is subject to monitoring and reporting procedures according to the EU Dir 2000/60/CE, specific guidelines were developed by ISPRA the main Italian environmental research center. The 2016-2021 budget amount to roughly 1,5 bn euros, funded by national finance (through the annual Stability Law); European Agricultural and Rural Development Fund (EAFRD); resources derived from water-waste service tariffs allocated for investment and, to a lesser extent, in-house financial backing by local administrations.

With the reference to the *Central Apennines' Hydrographic District Flood Management Plan***,** it is approved with Decree of the Presidency of the Council of Ministers n.27/10/2016. The 1st update is expected by 2021. Following the prescriptions of the European directive 2007/60/CE on Flood Risk, the plan covers all aspects related to flood risk management, that is prevention, protection, and preparation, including the flood forecasting and alerting systems, as well as management during the event phase. The Plan is based on the mapping of the hazard and the hydraulic risk carried out on a district scale and consists of two sections, one concerning planning and management and is carried out at the level of individual basins of the district, the other concerns the overall warning system for hydraulic risk. The concrete planned actions are classified in 4 fundamental domains: prevention, protection, preparation, and recovery. The most relevant measures regarding climate change adaptation fall within the first domain. In particular, the Plan indicates measures of restriction (M21), removal/relocation (M22), reduction (M23), and other types of preventive measures (M24).The "National Plan for the Mitigation of Hydrogeological Risk, Restoration and Protection of the Environmental Resources" mentions resources for the implementation of flood risk district plans from the Environment Operational Plan, sub-plan "Interventions for the protection of the territory and waters" financed under the Development and Cohesion Fund 2014-2020.

b) Regional level

b.1 Marche Region

1. Marche Region Environmental Energy Plan -PAER 2020[8]

The PEAR 2020 identifies the programming and operational guidelines for the environmental energy policy in the regional territory. According to the burden sharing principle, regions are bound to comply with *ad hoc* objectives set for them by national legislation. As far as the Marche region is concerned, the ratio between overall consumption from electricity and thermic renewables (RES-E, RES-T) and gross final energy consumption (FEC) is expected to be at least 15, 4%. The achievement of this percentage is the main objective of the Plan. Future monitoring activities are constructed according to two main scenarios: Business as Usual (BAU) and Energy Efficiency Scenario (EES). The first is intended as the future regional energy profile keeping the current trend and the latter is a new scenario provided the present Plan's prescriptions are applied. The plan mainly refers to the resources of the European structural and Investment funds 2014-2020. The Plan implementation is monitored annually at national level according to the method approved with the Ministerial Decree 11 May 2015 with the aid of the Italian System for the monitoring of information regarding renewable energy (SIMERI), as established by Art. 5 of the DM "Burden Sharing".

2. Integrated Coastal Zones Management Plan[9]

Plan adopted by the Regional Assembly and transferred to the Regional Council for approval (Resolution n.675 10/6/2019). The 2019 ICZM deals with the long-run effects caused by both hydrological criticalities and marine agency on the coastal ecosystem of the region. It represents the update of the previous 2005

plan. Monitoring activities are organised in relation to the categories of long-term impacts established by the National Strategy for Sustainable Development. In this current version, a 7-years financial planning and a 10-years timespan for implementation are set. The ICZM Plan assimilates the contents of the EU directive 2007/60/CE on flood risk management. The ICZM approach aims to be holistic as it encompasses technical site-specific aspects of coastal management and safeguard as well as socio-economic factors. Concrete measures put in place are of two main types: structural measures and maintenance measures, and specific actions can be, in turn, soft or hard. Associated funding: Regional funds (ERDF POR), National Port Authority, RFI (Italian Railways).

3. Regional Water Safeguard Plan[10]
Plan approved by Resolution of the Regional Council with n.145, 26/01/2010, some modification to the related regulation have been introduced later. In a complimentary action with the PGDAC (applied at the hydrographic district level), in compliance with the Water Framework Directive (2000/60/CE) and the national law about water management at regional level (D. Lgs. 152/2006), the Plan deals with the integrated protection of water resource of the Marche region. It represents the planning tool for promoting interventions aimed at tackling the degradation of integrated water systems (superficial as well as subterranean). The Plan's scope involves some measure related to climate change. The adaptive objectives and related actions for contrasting the above effects are: Application of the minimum water flow regime (MWF) in order to contrast climate change effects on the mass flow rate of water bodies; Water balance practices and rational water withdrawal for contrasting emergency periods; Reuse of wastewaters for industrial, civil and agricultural use; Monitoring activities. The financing tools for the above interventions are of two types: public spending and financial allocations based on the tariff system.

4. Hydrogeological Structure Plan[11] *– Marche Regional River Basins (PAI) and Hydrogeological Structure Plan –Tronto River Basin PAI Tronto*

The Hydrological Structure Plan is to identify, quantify, reduce and prevent situations of hydrogeological decay. It is approved by Resolution of the Regional Council n. 116, 21/01/2004; several updates have been approved. As far as landslide risk is concerned, the Plan defines three main aims: a) the outline of the hydrogeological instability and the attribution of classes of risk (from lower to higher R1, R2, R3, R4) and danger (from lower to higher P1, P2, P3, P4); b) determining the sustainable management modalities for vulnerable territories in order to guarantee their morphology; c) definition of mitigation measures for limiting the risk of exposed population. The Hydrogeological Structure Plan –Tronto River Basin *PAI Tronto is* approved by Resolution of the Institutional Committee of the Tronto River interregional Basin no.3, 7/6/2007. The plan deals with the weaknesses and criticalities of the Tronto river basin, which convers an interregional territory (comprising Marche, Abruzzo, and Lazio regions) and comprises the southern part of the municipality of San Benedetto and the whole municipality of Monteprandone. By defining non-binding interventions and advisory tools for the prevention of risk, its strategic objective is to help transitioning from an extraordinary-emergency to a routinized, ordinary type of territory management. The Plan indicates generic approaches for adapting to the weaknesses of the territory, hydraulically and geologically for the most part. As far as hydraulic risk is concerned, among non-structural measures – as the Plan addresses them – are actions to re-profile waterbeds in order to facilitate water discharge and

flow and reinforcement of river banks. Flood risk is expected to be treated mostly via: Total prohibition to build on risk areas; Reprofiling of exposed dangerous slopes; Application of metal containment nets.

b.2 Abruzzo Region

1. Regional Plan for Adaptation to Climate Change (PACC)[12]
The Region is currently working at the realization of the plan with the regional universities (RD no. 1037 of 28/12/2018) and a permanent task force (RD no. 1038 of 28/12/2018). Through RD no. 860 of 13/11/2018, the guidelines for the realization of the Regional Plan of Adaptation to Climate Change and Regional Climate Profile have been approved. The Abruzzo PACC project - Climate Change Adaptation Plan of the Abruzzo Region has as its first commitment the formulation of a climate profile of the Abruzzo Region from which to then develop a specific adaptation plan for the Region. For the formulation of an adaptation plan that is effective involvement of the various stakeholders is absolutely essential. The PACC Abruzzo intends to ensure, for this purpose, an active process of stakeholder participa2on. Their involvement, in fact, will guarantee the identifica2on of resilient skills in order to favor their systematization in the future strategy. Specific objectives: Implement an innovative information system on climate change and their effects on a local scale; To reach the definition and design of pilot actions to involve both the public and private sectors; - Increase the concern of the main stakeholders, citizens and policy regarding the risks and vulnerabilities associated with climate change; Insert the Abruzzo Region in the network of European Regions to engage in climate change adaptation policies.

2) Covenant of Mayors for Climate and Energy (Com)
Abruzzo Region has joined the CoM as territorial coordinator in 2010 thus committing to the 2020 EU energy objectives. The Region of Abruzzo became involved with the CoM as it strongly believes in the key role of local governments in promoting energy efficiency and tackling climate change, role which is remarked and highlighted by the CoM initiative. All SEAPs of all municipalities and provinces have been realized and implemented. Actually, in Regione Abruzzo all the three hundred and five municipalities and the four provinces that have signed the Covenant of Mayors agreement are part of the multilevel governance. As such, 309 SEAPs have been submitted. More specifically, 664 interventions have been carried out by big (> 5000 inhabitants) and small (< 5000 inhabitants) municipalities and provinces mainly interventions of energy efficiencies in schools, energy efficiency in public buildings and public lighting. Going deeply into details, the following interventions have been performed: installation of photovoltaic plants, installation of thermodynamic solar plants, installation of temperature controllers on heating systems, construction of insulating walls, replacement of boilers, replacement of light sources, replacement of casings and windows, installation of cogeneration plants. The implementation of the initiative has been really successful in the Abruzzo territory as the following results have been obtained: 60% of the electricity consumed in 2013 was produced from renewable sources and 71% of electricity produced comes from renewable sources. In 2015 Abruzzo Region has endorsed the new CoM for climate and energy, thus supporting the implementation of the EU 40% greenhouse gas-reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. It is now working with its municipalities and provinces to update the already submitted SEAPs into SECAPs. Abruzzo

Region is reporting its energy and climate data, plans, initiatives and strategies on yearly basis on the official CoM platform, that is CDP (Carbon Disclosure Project). In 2019, it has reported its data with its 4 provinces and this has been recognized as a best practice since it is the only region making the climate disclosure with all its province. Associated funding: The Region has earmarked a whole priority Axis – Axis II "energy sustainability" - of the 2007-2013 ERDF Operational programme amounting to € 35.239.821,00, to the implementation of the interventions planned by the CoMs in the territory. Actions in the following areas have been supported: activities for the promotion of renewable energy sources and energy savings (€ 3.293.821), promotion of energy saving systems (€ 28.000.000) and promotion of energy production from renewable sources (€ 4.000.000).

3) Under2 MoU (Memorandum of Understanding)[14] *– a climate agreement for subnational governments*
In 2016 Abruzzo Region has signed the Under2 MOU (Memorandum of Understanding), a climate agreement that brings together subnational governments willing to make a number of key commitments, including either reducing greenhouse gas emissions equivalent to 80 to 95 per cent below 1990 levels or to less than 2 annual metric tons per capita by 2050. "Under2" refers to the MOU's goal of limiting global warming to below 2 degrees Celsius. By signing the agreement, Abruzzo Region agrees to undertake is own unique set of actions and plans to reach 2030 reduction goals and related targets, also in coordination and cooperation with all signing parties. These actions are farmed in the following areas: energy, traffic and transport, natural resource protection and waste reduction, science and technology, communication and public participation, short-lived climate pollutants. To reach the objectives of Under2MOU, Abruzzo Region has signed, between the others, an agreement on public transport (Regional Decree no.684 of 07/09/2018) titled "Efficient urban mobility and adequate actions to enhance environmental actions by local transport systems". This MOU focuses on adaptation and resilience since it states that: A. The Parties agree to collaborate on actions to promote adaptation and resilience, with an eye toward maximizing benefits for both GHG emission reduction and climate adaptation; B. Parties will share best practices in modeling and assessment to understand projected climate impacts, especially at the regional and local scale; C. Parties will work together to build metrics and indicators that can help to track progress in reducing the risk of climate change to people, natural systems, and infrastructure; D. In working to reduce climate risk, Parties will look to natural or "green" infrastructure solutions that maximize ecological benefits while providing protection. By signing the agreement, Abruzzo Region agrees to work towards consistent monitoring, reporting, and verification across jurisdictions, and will work through mechanisms such as the Compact of States and Regions and the Compact of Mayors to that end. It reports its energy and climate data on yearly-basis thus sharing them with all parties.7

4)Regional Plan for the Protection of Air Quality[16]

The Plan was draped in compliance with the Decree of the Ministry of the Environment and of the Protection of the Territory October 1, 2002, n. 261. The current Plan was approved with Regional Council Resolution n.79 / 4 dated 09/25/2007 and published in the B.U.R.A. Special n. 98 of 05/12/2007. Being updated. The objectives of the plan are: - Zoning of the regional territory according to the pollution levels of the ambient air quality; - Develop plans to improve air quality in areas and agglomerations where the

levels of one or more pollutants exceed the concentration limits; - Draw up plans for maintaining air quality in the area where the levels of pollutants associated with legal limits; - Improve the regional monitoring network; - Develop shared strategies aimed at respec2ng the limits imposed by the legisla2on and the reduc2on of climate-altering gases. Strategies and scenarios for the reduction of emissions have been identified by paying particular attention to the remediation areas resulting from the zoning of the regional territory and keeping in mind the other objectives of the plan.
5) Piano Stralcio di Bacino per l'Assetto Idrogeologico dei Bacini Idrografici di Rilievo Regionale Abruzzesi e del Bacino Interregionale del Fiume Sangro "Fenomeni Gravitativi e Processi Erosivi" - PAI – (Plan for Hydrogeological Structure)[46]

Approved variant 19 June 2019.In force for over 10 years (first adop2on on December 29, 2004). The Exchanging Basin Plan for the Hydrogeological Structure of the Abruzzo Regional Basin and the Sangro River Interregional Basin "Gravitative Phenomena and Erosive Processes" is defined by the legislator as a "cognitive, normative and technical-operative tool through which they are planned and planned actions and rules of use aimed at the conservation, defense and enhancement of the soil, based on the physical and environmental characteristics of the territory concerned (see art.17 of Law 183/89, Framework Law on the subject of soil protection). The draping of the implementation Rules is of particular importance for the pursuit of the legal objectives and for the definition of procedural guidelines for the conservation of the soil. This preventive "non-structural" intervention defines the guidelines, requirements, constraints and application criteria according to the different administrative and planning levels. In general terms, the legislation implementing the Plan is aimed at regulating the destinations of use of the territory, through specific prescriptions on what is allowed and what is forbidden to realize, in terms of works and activities, in areas of very high danger. (P3), elevated (P2) and moderate (P1).

6) Regional Plans in the following areas: waste protection; water management; hydrogeological asset; flood protection; flood risk management; air quality; energy; waste management; quarrying and mining activities, transport; landscape; maritime domain

Several Plans in the field of energy, environment and management of the territory have been realized and implemented at Regional level, namely: Water Protection; Water management; Flood Protection; Flood risk management; Air Quality; Energy; Waste management; Quarrying and mining activities; Transport; Landscape; Maritime domain, etc. All plans are in line with the national strategies as well as the EU initiatives in the field and have the objective to reach the 2020 and 2030 EU energy ad climate goals. Each Plan has then its own objective. All Plans have indeed impact on adaptation to climate change since they are all aimed at the management and governance of the territory. It is worth to highlight that the Region of Abruzzo has established a regional task force, made up by all departments, with the aim to jointly work at adaptation to climate change and integrate all plans and strategies as regards as climate change issues.
a) The *Regional Energy Plan*[15], which is into force since 2009, is the fundamental dynamic tool at the disposal of the Region of Abruzzo for the management of energy policy in the area. The fundamental objectives of the Plan are: -design and implementation of energy and environmental policies; economic management of primary energy sources available in the area; development of alternatives to the consumption of hydrocarbons; limiting the impact on the environment and harm to public health,

resulting from the use of fossil fuels; participation in activities aimed at sustainable development. The Plan is going to be updated into the regional integrated energy and climate plan.

b) *The Piano Regionale Attività Estrattive P.R.A.E.*[47]*(Regional Plan for Quarrying and Mining activities - P.R.A.E.)* is a regulatory tool whose main objectives is to achieve in the short and medium period a better level of environmental, social and economic sustainability of mining and quarrying activities, through the containment of the land use, rationalization of the farming methodologies, qualification of environmental recovery, valorization of mining and quarries. As such, it is not a "urban plan" but a tool for the sustainable planning and management of the territory.

7) Contratti di Fiume[48]*(River contracts)*

RC are into force. Decree of the Regional Executive no. 915 of 10 November 2015 establishes the governance of RC. The River Contracts, through the integration of policies and stimulating the capacity for cooperation and sharing between different levels of government and between different subjects of the same level, pursue multiple objectives: safety, mitigation and prevention of risks, environmental rebalancing and landscape enhancement, sustainable use of resources, sustainable tourism use, diffusion of water culture. The River Contracts thus stimulate the territorial planning from the bottom up, because they involve the communities in the valorisation of their territory, promoting direct and concrete actions by the various components of society and institutions.

c) Local level

c.1 San Benedetto del Tronto Network: San Benedetto del Tronto, Grottammare, Monteprandone, Cupra Marittima

1.Local development participatory strategy for the SOUTHERN MARCHE Fishery Local Action Group (FLAG)[17]

The "FLAG Southern Marche" is a temporary consortium constituted by the 5 southern coastal municipalities of the region (San Benedetto del Tronto – lead partner, Grottammare, Cupra Marittima, Pedaso and Porto San Giorgio) 5 fishery entities, 1 aquaculture entity, and 4 from the civil society. The strategy faces the fishery sector in a global view, with a wide and organic approach that involve different development components. The overall objective in fact is to strengthen - by 2023 – the basic conditions for the sustainability of the FLAG area's economy through actions that could maintain and improve social and economic prosperity. The FLAG strategy does not finance directly actions related to adaptation. However, opposition to climate change and sustainability are identified as key requirements in the selection and evaluation of projects as regards the actions A.3 "Innovation"; B.1 "Fish resources"; B.3 "Urban resources". The overall Plan's financial budget is 1.946.600 euros, of which 1.321.600 € from the European Maritime and Fishery Fund 2014-2020 (Priority 4 of the related Operational plan dedicated to

"Community-Led Local Development strategies") and the rest to be taken from private finance and other public funds.

2. Sustainable Energy and Climate Action Plan – Municipality of San Benedetto del Tronto

Time scope 2019-2030. SECAP mitigation section was approved on April 2019, SECAP adaptation section is currently being drafted. Within the current SEAP, with specific regard to climate change adaptation, the municipality declared as priority objectives the reduction of the hydrogeological risk in the urban area and the preservation of the local agricultural sector, put to the test by extreme weather events in the last years. The integration of the plan with adaptation actions aimed at reducing climate vulnerability and increasing resilience will be addressed in the next 2 years, during the implementation of the Joint SECAP Interreg project (Interreg Italy-Croatia).

3. Piano Comunale di Protezione Civile (Civil Defenc eMunicipal Plans) - Municipalities of San Benedetto del Tronto[49]*, Grottammare*[50]*, Cupra Marittima*[51]*, Monteprandone*[52]

San Benedetto del Tronto's Plan approved in 2018; Monteprandone's plan approved in 2018, Grottammare's plan approved in 2014, Cupra Marittima's Plan approved in 2013. Civil Defence municipal planning has been introduced in 1992 with L. 225/1992 (institution of the Civil Defence service) and L. 112/1998 (devolution of tasks to Regions and Municipalities). Civil defence municipal Plans are official documents that establish all the operative procedures for local population to follow in case of calamity or natural disaster. For any given – and applicable, according to the territory – type of natural risk geographical maps of spatial danger and emergency procedures are issued, and also the responsible personnel are indicated. For the purpose of this analysis, the most important types of risk are seismic, hydro-geological, flood, fire. The municipality of San Benedetto del Tronto has also taken part (as one of the two pilot municipality in the Marche region) to the regional participatory project CAAP (Civic Adapt Action Plan) launched in order to strengthen citizens' resilience in case a calamity occurs. The CAAP is meant to be a training complement to the Emergency Plan, as it develops a bottom-up approach to risk adaptation. These Plans do not deal with climate change adaptation measures directly, but they establish procedures and routines to adopt when a potentially catastrophic event takes place. Emergency procedures and facilities (amassment and first aid areas) are listed for each municipality.

4. Sentina Regional Natural Reserve Management Plan[22]

Plan approved by the Municipal Council of San Benedetto del Tronto by resolution n. 31, 6/05/2014. The Riserva Sentina is a natural protected area, just above the Tronto river. The protected area has been established in December 2004, with an approximate coverage of 180 Ha. It is part of a larger conservation project: "Natura 2000". The main problem that threatens the ecological integrity of the area is the almost total disappearance of humid zones. Plan goals are organized into 4 main preservation sections, namely: water, biodiversity, environment, cultural goods. Within each category, a number of macro-objectives is enounced, each of them substantiated by actual concrete measures for countering the analyzed pressures. Below is a Concrete adaptation measures summary of the measures that can be labelled "adaptive" more appropriately. Ecosystem conservation; Intensive agriculture's impact reduction; Coastal

integrated management; Improving the quality of water resource (although hardly addressable at this spatial level).

5. *On going River Contracts and CREW Project*[53]

The River Contracts are voluntary tools for strategic and negotiated planning that pursue the protection, the correct management of water resources and the enhancement of river territories together with the safeguard from the hydraulic risk, contributing to local development. The stakeholders involved in the RC define a shared Action Program (PA) and undertake to implement it by signing an agreement.
Within the project area, the following River contracts have been activated:

- the Tesino river contract (which involves the municipality of Grottammare as lead partner, other 9 municipalities and 25 public and private stakeholders);
- 4 Torrent contracts in the territory of San Benedetto del Tronto.

In addition, the Municipality of San Benedetto del Tronto, through an *Italy-Croatia Interreg project called CREW:* "Coordinated Wetland Management in Italy-Croatia cross border region", has started the preparation of a Wetland Contract covering the Sentina area, where are the homonymous natural reserve and the Tronto River mouth. At the current state of progress, the river contracts launched on the territory do not contain specific indications concerning adaptation actions. It is worth noting, however, that the Tesino River manifesto states that: "the need to start a path towards the River Contract is amplified by the fragility of the territory that periodically displays itself on the occasion of the extreme weather events, also in consequence of the climate change in progress and of the levels of soil sealing especially near the mouth " The manifesto of the Tesino river contract explicitly mentions the use of European Structural and Investments Funds in particular the ERDF, ESF, EAFRD.

c.2 Pescara Network: Pescara, Montesilvano, Francavilla, Spoltore,San Giovanni Teatino, Chieti

1.PUMS - Urban Sustainable Mobility Plan - "Verso Pescara 2027"[20]

PUMS - Piano Urbano Mobilità Sostenibile - "Verso Pescara 2027". Approved on February 20, 2017, it includes: the general urban traffic plan (PGTU) and the urban plan for sustainable mobility lPUlVlS). The PUMS (Urban Sustainable Mobility Plan) is a strategic plan aimed at satisfying the demand for mobility of people and businesses in urban and peri-urban areas, in order to improve the quality of life. According to the "guidelines" on the PUMS developed by the European Commission in 2014, the minimum objectives that a PUMS should be set are: - to ensure that all citizens have real transport opportunity allow access to services and major urban destinations; - improve the safety, efficiency and cost-effectiveness of transporting people and goods; - reduce air and noise pollution, greenhouse gas emissions and energy consumption; - raising the quality of the urban environment for the benefit of citizens, the economy and society as a whole. The policies and measures proposed by the PUMS must cover all modes and forms of transport throughout the urban system: public and private, passengers and goods, circulation and parking, motorized and muscular. At the same time, the PUMS must address urban planning issues related to sustainable mobility, according to a structured process that includes analysis of the state of affairs,

construction of the strategic vision, identification of the aims and objectives, selec2on of policies and intervention measures, communication active and listening, monitoring and evaluation.

2. PUMS - Urban Sustainable Mobility Plan - Chieti Green

Approval of the PUMS - Urban Sustainable Mobility Plan – 2010. The objective is the Reduction of particulate levels in the air. This plan is in the implementation phase. The PUMS identifies a first set of indicators that will be monitored to verify any changes (for better and for worse), in order to put in place possible corrective actions during the implementation of the plan. They relate to both aspects of economic sustainability (functional performance indicators), environmental sustainability (environmental quality indicators) and social sustainability (social value indicators).

3)Piano d'azione per l'energia sostenibile (PAES)[54] (S.E.A.P. Adoption plan for Sustainable Energy) - Francavilla al Mare

On November 30th, 2012, the Sustainable Energy Action Plan (SEAP) was approved with a resolution by the Municipal Council of Francavilla al Mare. The Plan will Expire in 2020. With the adhesion to the Covenant of Mayors, the Municipality of Francavilla al Mare committed itself to elaborate and implement its own Action Plan for Sustainable Energy to reduce its own CO2 emissions. On the basis of the European Action Plan on energy efficiency, the "Covenant of Mayors" is established in order to engage the cities (city council resolution) in: reaching and exceeding the CO2 emissions reduction targets by 2020; - adopt an Ac (on Plan (SEAP) to achieve these objectives; - provide a two-year report; - organize dedicated events (social aspects, citizens' awareness). Targeted interventions in the following areas: BUILDING AND TERTIARY, TRANSPORT, LOCAL PRODUCTION ENERGY TERRITORIAL PLANNING, GREEN PURCHASE, PARTICIPATION AND DISSEMINATION. Associated funding: Internal resources of the City, any private capital through project finance tools (Project Financing, Third-Party Financing, etc.), European calls for tenders, ESCO.

4. Strategic project SIR SALINE – Montesilvano

Ministerial Decree 3 March 2003, published on the G.U. n. 121, general series, of 27 May 2003. Programmatic phase. National program for the reclamation and environmental restoration of the Site of National Interest called Fiumi Saline-Alcole - D.M. 468/01 - Law 289/02 - Approval of guidelines for the preparation of the Plans and the subsequent characterization of the private production areas falling within the SIN "Saline Rivers and Alcohol". National program for the reclamation and environmental restoration. The Characterization Plan approved by the Ministry of the Environment and the Protection of the Territory, General Directorate for Quality of Life (MATT), consists of two Projects: one relating to the river auctions prepared by the APAT and the ARTA, and the another pertaining to the marine-coastal area, drawn up by the ICRAM. Furthermore, the PDC was integrated in order to comply with the indications contained in the document drawn up by the APA T called "Proposal for the evaluation of the qualitative status of river sediments". Resources MATTM - D.M. 18 September 2001, n. 468 Resources Region Abruzzo cap. 292210, U.P.B. 05.02.010.

c.3 Abruzzo Network:

Area no1 Castilenti, Elice, Castiglione Messer Raimondo and Penne; Area no 2 Giulianova, Mosciano Sant'Angelo, Pineto, Roseto degli Abruzzi and Silvi

1. Sustainable Energy Action Plans – SEAPS by all municipalities of Abruzzo Region (305) and provinces (4)

All the three hundred and five municipalities and the four provinces of the Abruzzo Region have joined the covenant of mayors under the coordination of the Region. Thus, 309 PAES have been submitted and implemented. 664 interventions have been carried out by large (> 5000 inhabitants) and small (< 5000 inhabitants) municipalities and provinces mainly interventions of energy efficiencies in schools, energy efficiency in public buildings and public lighting. The Region has earmarked a whole priority Axis – Axis II "energy sustainability" - of the 2007-2013 ERDF Operational programme amounting to € 35.239.821,00, to the implementation of the interventions planned by the CoMs in the territory. Actions in the following areas have been supported: activities for the promotion of renewable energy sources and energy savings (€ 3.293.821), promotion of energy saving systems (€ 28.000.000) and promotion of energy production from renewable sources (€ 4.000.000).

2. C.E.T.S. – European Charter for Sustainable Tourism – Municipality of Silvi

The 2015 European Sustainable Tourism Charter is a tool that implements the A.M.P. Torre del Cerrano established by decree of the Ministry of the Environment and Protection of the Territory and the Sea of 10/21/2009, published in G.U. of the Italian Rep. n.80 of 07-04-2010. The objectives underlying the European Charter of Sustainable Tourism in Protected Areas have been consecrated in 10 Principles of the Charter of Sustainable Tourism. Tree are the strategic point for the AMP Torre del Cerrano:1. Sharing of the Tourist Development Project "Riviera dei Borghi Acquaviva";2. The enhancement of the "Protocol of Understanding" for the environmental characterization of the bathing establishments; 3. The recognition of the tourist potential of nature conservation activities. The AMP shares its actions with the municipal Administrations of Pineto and Silvi, with the Province of Teramo and the Abruzzo Region.

3. *Municipality of Roseto – Plan of the "Borsacchio" Regional Natural Reserve*[23]

The adoption by the Municipality of Roseto foreseen January 2020. The plan identifies the regional and programmatic lines for the sustainable development of the Reserve, with the proposal of a series of project-actions. The document will define the objectives of safeguarding and of enhancing the naturalistic and historical-cultural components of the protected area, and also defines the transformations of the territory. In general terms, PAN is a plan for environmental protection and sustainable development, therefore it will have positive environmental effects. These benefits could induce positive indirect effects for climatic and atmospheric conditions, such as for example interventions related to sustainability of agricultural enterprises or those necessary to solve specific territorial problems, through: - proposals for responsible business management systems; - active participation in sustainable economic development processes in the territory; - sustainable means of transport through slow mobility; - use of innovative technologies with low energy consumption from renewable sources. Many funding: a) Regional funds for

protected areas; b) European Regional Development Fund (ERDF);c) The European Agricultural Fund for Rural Development (EAFRD) - and the European Fund for Maritime Affairs and Fisheries (EMFF) for the obvious connections with policies related to the protected area; d) The European Social Fund (ESF) for economic and social cohesion (specific projects related to education, skills and lifelong learning); e)National ad European Funds related to environmental matters, including initiatives aimed at protecting and enhancing the environmental specificities of the Reserve, as well as those relating to hydro-geological and integrated management of the coastal area, to the reclamation of areas(SIN, landfills, waste, etc.); f) Eu co-funded projects (LIFE, Interreg Adrion, etc.)

4.Municipality of Pineto - Plan of Management of the SIC IT7120215 "Torre del Cerrano"[24]

Adopted 2015 By Management Consortium of the Marine Protected Area

The Management Plan of the Natura 2000 site (European Commission Habitats Directive (92/43/EEC)) has been integrated with existing legislation already present on that same geographical area. The management plan measures aim at achieving the general objectives of the directive, that is "…. The maintenance or restoration in a satisfactory state of conservation, of natural habitats and species of fauna and flora of interest, taking into account also economic, social and cultural needs, as well as regional and local particularities. The plan foreseen 81 actions: 28 from Eco-sustainable Tourism European Chart; 53 from Site of Community Importance (SCI) measures) divided into the following categories; MONITORING: of species, habitats, effectiveness of measures; active intervention -information: dissemination, awareness and training; ACTIVE MANAGEMENT: guidelines, action programs or direct interventions that can be carried out by public administrations or by private individuals. Concrete adaptation measures: Dune defines actions to protect the coasts from erosion due to rising sea levels. Associated funding: Italian environment ministry, EU direct (EU co funded project) and indirect funds (EsRegione Abruzzo Calliope EU project).

5. Municipality of Penne – Plan of Regional Natural Reserve "Lago di Penne"[25]

Approved by the Abruzzo Region (Regional Council Decree n. 173/11 del 15/02/2005). The current plan is operative, the measures of the new PAN will be implemented as soon as the PAN will be approved. The Regional Nature Reserve has developed four naturalistic asset plans approved by both the Municipal Council of Penne and the Regional Council, currently the 5th PAN is going to be approved and includes the introduction of the management plan of the SCI Lago di Penne of the Natura 2000 Network related to the climate change. Moreover, the Reserve already carried out environmental mitigation action to stimulate the growth of new natural forests. Concrete adaptation measures: spelt cultivation, tree planting, enhance/restore the resilience of rural and natural areas of southern Europe, whose natural and cultural heritage are threatened by sharp socio-economic changes leading to land-use modifications, and by the disrupting influence of climate change. Associated funding: Regional funds including ROD ERDF and UE co funded projects.

6. Municipal Emergency Plans – all municipalities

The Municipal Emergency Plan is the planning and organization of all the activities and procedures that will have to be adopted to face a calamitous event in the territory of interest, an articulated system of procedures, organization, resources and exchange of information. The Plan takes into consideration the risks and variations of the expected scenarios that may affect a specific territory and its characteristics such as watercourses, mountainous or flat land, valleys, hamlets placed in disadvantaged localities, railway infrastructures, roads, airports, schools, hospitals, through the collection of data and cartography and the preparation of appropriate risk scenarios, evaluating the consequences that may affect, based on the vulnerability of the place, the type of housing, sensitive sites such as schools and hospitals, industrial settlements or even the number of inhabitants and their heterogeneity, considering the presence of children and the elderly and the various disabilities.

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[PP1] IRENA -Istrian Regional Energy Agency

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**Strateška studija utjecaja na okoliš – Strategije prilagodbe klimatskim promjenama u Republici Hrvatskoj za razdoblje do 2040. godine sa pogledom na 2070. godinu (engl. Environmental influence strategic study – Adjustment strategies for climatic change in Republic of Croatia for period until 2040 with overview until 2070)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Main goal of the study is to reduce vulnerability of social and natural systems on negative climate change effects and strengthening resilience and recovery ability to these effects
Concrete climate change adaptation measures foreseen (if any)	Adaptation measures for: Sector of hydrology, water and sea resource – 9 measures (capacity building for implementation of nonstructural measures for protection against harmful effects of water during extreme situations caused by climate change , capacity building of retention and accumulatory systems, protective barriers…) Sector of agriculture – 10 measures (adjustment research programme for climate change adjustment, increasing water storage capacity in agricultural soil, drainage system building and renewal…) Sector of forestry – 12 measures (including adaptation measures in existing documents related to sector, green infrastructure concept implementation, building capacity for systematic tracking and reporting on forest ecosystem status as a precondition for informed planning and implementation of climate change adaptation…) Sector of fishery – 10 measures (strengthening aquaculture capacity by selective breeding, recirculating systems breeding…) Sector of natural ecosystems and biodiversity – 9 measures (implementation of tracking, early warning and monitoring system for protected areas, strengthening knowledge transfer on importance of ecosystems and biodiversity and the

	associated climate change risk, integrating existing knowledge on climate change effects in environmental protection system…) Sector of energy – 7 measures (strengthening energy grid resilience, strengthening capacity and stimulating legal frame for increasing RES capacity and distribution sources, strengthening capacity for tracking and fast removal of negative effects of climate change on electro-energy system…) Sector of tourism – 6 measures (integrating climate change in tourism development strategy, strengthening touristic infrastructure to severe climate conditions, raising awareness of people involved in the tourism sector to possibilities of adjustment to climate change…) Sector of health – 9 measures (developing a system of calculating health-economic indicators for conditions related to climate change, integrating IT systems to track climate change indicators, developing a frame for non-invasive biomonitoring for tracking climate change related factors…) Sector of spatial planning and coastline area management – 5 measures (strengthening knowledge base and tracking and evaluation systems, integrating adaptation measures in spatial planning…) Sector of risk management – 6 measures (mapping usable water sources outside public supply use, multi-sector risk assessment for different scenarios related to climate change…) General measures – 2 measures
Implementation and monitoring mechanisms/procedures	/
Status of implementation	In progress (2019 – 2040)
Associated funding (if any)	/
Title	**Strateška studija utjecaja na okoliš Programa mjera zaštite i upravljanja morskim okolišem i obalnim područjem (engl. Environmental influence strategic study of protection measures and sea environment and coastline management Programme)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Directive aims to implement measures for reaching or maintaining a good ecologic environment in sea environment by 2020. Objectives include protection, preservation, enabling recovery and renewal of sea and coastal ecosystems and sustainable use of services related to the ecosystem, preservation of protected sea areas and eco-significant areas of EU Natura 2000, pollution reduction in sea and coastal areas

	with the aim of human health preservation, maintaining balance between human activities and natural resources
Concrete climate change adaptation measures foreseen (if any)	Measure 3.9. Development and implementation of methods and technology for adaptation to changes in sea and coastal ecosystem under the influence of climate change – biological exploration and adjustments in fishing technologies related to non-domestic, potentially economically significant species to reduce over-exploitation, strengthening resiliance of coastal areas to extreme weather and climate hazards, development of adaptation possibilities of coastal areas to raising sea levels
Implementation and monitoring mechanisms/procedures	/
Status of implementation	In progress (2016 – 2020)
Associated funding (if any)	/
Title	**Analize i podloge za izradu Strategije energetskog razvoja Republike Hrvatske (Zelena knjiga) (engl-Analysis and basis for Republic of Croatia energy development Strategy development (Green book)**
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Analysis of current status of energy sector in Republic of Croatia and EU with emphasis on current development projects and guidelines for all relevant stakeholders in Croatia
Concrete climate change adaptation measures foreseen (if any)	Climate change adaptation strategy in Republic of Croatia with Action plan for 2019-2040 period (draft) – general goals include vulnerability reduction of social and natural systems to negative climate change effects and strengthening resilience and capability of recovery to these effects, gathering and organising all relevant institutional, political, economical and social stakeholders to develop strong support for implementing joint actions for adaptation measures, integrating adaptation procedure and measures in existing and new policies, programmes, plans and other activities on all management levels, encouriging and strengthening scientific research to better understang climate change influence complexity and reduce uncertainty related to climate change effects, raising awareness about climate change importance and inevitability of initiating adaptation procedures in all social segments
Implementation and monitoring mechanisms/procedures	/
Status of implementation	In progress (2019 – 2050)
Associated funding (if any)	/

Title	**Rural Development Programme of the Republic of Croatia for the Period 2014-2020**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Rural development programme, including ex-ante and post ante analysis and consequent associated measures
Concrete climate change adaptation measures foreseen (if any)	O_01: Support for young farmers,Sub-measure 8.2.1.3.1. O_01: Vocational training for cross-compliance, agriculture, environment and climate measures and organic farming (Climate change adaptation and mitigation practices), M02 - Advisory services, farm management and farm relief services - Advice on cross-compliance and agri-environmental-climate and organic farming measures, measure contributes to the realisation of climate change mitigation and adaption - the access to advisory services will enable the quicker adaptation to and mitigation of climate change at the level of the individual holdings, agricultural producers and forest owners. M03 - Quality schemes for agricultural products and foodstuffs - objective of the measure is to stimulate agricultural producers to participate in quality schemes, which contributes to the increase of added value, as well as protect products with quality designations from misuse and imitation. (focus Area 5D: Reducing green house gas and ammonia emissions from agriculture; and Focus Area 5E: Fostering carbon conservation and sequestration in agriculture and forestry - the activities within the framework of this measure contribute to the mitigation of climate changes through the adoption of established standards.)
Implementation and monitoring mechanisms/procedures	O_01: The activities planned under this operation will address the lack of a knowledge basis on agri-environmental issues in Croatia. The provision of specific training courses and knowledge transfer through seminars, workshops, short and targeted training courses will form part of an obligatory package of measures for those receiving support under Agriculture, environment and climate conditions, and beneficiaries taking up organic farming. All the beneficiaries of Agriculture, environment and climate conditions support, as well as the beneficiaries of the Measure Organic farming, shall attend 18 hours of training during the first two commitment years. In the following years, beneficiaries shall select at least one from a range of short seminars and workshop or attendance on a specific demonstration activity or benefit from the tailored advice under M02. In the case of the forestry sector, training and knowledge transfer seminars are intended for private forest holders.

	Other farmers and private forest holders may apply to attend the courses on offer on a voluntary basis. Indicatively, but not exclusively, training courses shall be held on the following topics: - Cross-compliance obligations; - Climate change adaptation and mitigation practices; - Agri-environmental practices; - Sustainable forest management; - Sustainable soil management; - Crop rotation; - Water efficiency; - Sustainable cultivation techniques; - Preservation of landscape features. This type of operation shall be carried out by the Ministry of Agriculture, directorate(s) responsible for advising. In the case of trainings and seminars on specific sectoral needs, external legal entities or persons may be contracted by the Ministry of Agriculture, directorate(s) responsible for advising, for the respective knowledge transfer action. M02 - EAFRD (€): 3,600,000.00, National Cofinancing (€): 635,294.00, Additional National Funding (€): 0, Total (€): 4,235,294.00 M03 - EAFRD (€): 4,200,000.00, National Cofinancing (€): 741,176.00, Additional National Funding (€): 0, Total (€): 4,941,176.00
Status of implementation	In progress (2014-2020)
Associated funding (if any)	European Agricultural Fund for Rural Development (EAFRD)
Title	**Smjernice za uključivanje klimatskih promjena i bioraznolikosti u procjenu utjecaja na okoliš (engl. Guidelines for including climate change and biodiversity in environmental impact assessment)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The goal is to help member states to improve the way climate change and biodiversity are included in environmental impact assessment and implemented across EU
Concrete climate change adaptation measures foreseen (if any)	Direct GHG emmission measures GHG emmissions connected to energy GHG emmissions connected to transport Alternative and mitigation measures related to natural effects: Heatwaves Droughts Wildfires Floods and extreme rain

	Storms and strong winds Landslides Sea level rise Cold and snow Biodiversity measures – ecosystem degradation Biodiversity measures – habitats Biodiversity measures – species diversity
Implementation and monitoring mechanisms/procedures	Direct GHG emmission measures – developing technologies, materials, supply chains to avoid or reduce emmissions, protection of natural carbon deposits that might be endangered by the project (moving soils, woods, swamp areas..), planning possible carbon compensation mesures available through existing programmes or include them in the project (example – planting trees); GHG emmissions connected to energy – using recycled construction materials with low carbon level, incorporating energy efficiency in project design (example – warmcel, facing windows south for solar energy, passive ventilation and low carbon light bulbs), using EE equipment, using RES; GHG emmissions connected to transport – using areas connected to public transport or establishing transfer agreements, ensuring infrastructure for low emmission transport (example – electric chargers, bicycle objects) Alternative and mitigation measures related to natural effects: heatwaves (ensuring heat protection, encouriging design with reduced need for cooling, reduction of heat storage (example - using appropriate materials and colors)), droughts (ensuring drought protection – example use of high temperature endurance material, implementing technologies and methods for rainwater collection), wildfires (using fireproof construction materials), floods and extreme rain (changes in construction design to enable water level rise and groundwater level rise, drainage improvement), storms and strong winds (ensuring design and structure endurance), landslides (surface protection and erosion control, example fast renewal of vegetation, erosion control measures, example - corresponding drain canals and ditches), sea level rise (construction changes to enable sea level rise, example - columns on buildings), cold and snow (cold and snow protection by using appropriate material and design) Biodiversity measures – ecosystem degradation (renewal of ecosystem degradation on location) Biodiversity measures – habitats (including Natura 2000 network, fragmented and isolated habitats) – green bridges and eco-channel use Biodiversity measures – species diversity (alternative design to avoid negative effects on bird species, promotion of well

	developed parks, walkways, green roofs and walls that can contribute to species diversity and climate change adaptation and mitigation in urban environments
Status of implementation	In progress (2013-2020)
Associated funding (if any)	/
Title	**STRATEGIJA REGIONALNOG RAZVOJA REPUBLIKE HRVATSKE ZA RAZDOBLJE DO KRAJA 2020. GODINE (engl. Republic of Croatia regional development strategy for the period until 2020)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Strategy aimed to develop socio-economic development of Croatia, in ccordination with sustainable development principles, creating conditions to ensure strengthening competitiveness and realisation of development potential for all areas Three strategic goals include: 1. Increasing quality of life by encouriging sustainable territorial development, 2. Increasing competitiveness of regional economy and employment, 3. Sustainable management of regional development
Concrete climate change adaptation measures foreseen (if any)	Measure 1.1.3. Supporting cultural identity affirmation and civil society development – promoting programmes and activities for local community sustainable development and activities related to climate change mitigation and adaptation on local and regional levels Measure 1.2.1. Public infrastructure of local significance development – supporting development systems for climate change mitigation and preventive measures implementation Measure 1.2.2. Regional public infrastructure development Measure 1.2.3. Sustainable use and valorization of cultural and natural heritage Measure 1.2.4. Supporting application of environmental protection and EE measures on local and regional level Measure 1.3.1. Providing development support to specific areas – supporting development systems for climate change mitigation and preventive measures implementation Measure 1.3.2. Providing support to sustainable island development Measure 1.3.3. Providing support to sustainable mountainous areas development Measure 1.3.4. Quality of life improvement and urban area development Measure 1.3.5. Creating desirable living contitions in neighbouring areas

	Measure 3.1.1. Improvement of public policies management cycle on all management levels Measure 3.1.2. Improvement of regional development project management Measure 3.2.1. Inter-department harmonization of public policies implemetation on national and regional level Measure 3.3.1. Stakeholder strengthening in development projects' regional development management and implementation
Implementation and monitoring mechanisms/procedures	Measure 1.1.3. - Promoting local community sustainable development programs and activities related to mitigation and adaptation to climate change at the local and regional level Measure 1.2.1. - Support for the development of climate change mitigation systems and the implementation of preventive measures and adaptation measures to new climatic conditions. Improving the co-operation between CSOs and the local community regarding public space use. Measures 1.2.2. – 1.3.4. - Support for the development of climate change mitigation systems and the implementation of preventive measures and adaptation measures to new climatic conditions Measure 1.3.5. - Support for the development of climate change mitigation systems and the implementation of preventive and adaptation measures under new climatic conditions, taking into account specific impacts in the field of cooperation; protection and renewal of biodiversity and promotion of ecosystem services, capacity building, development of jointly coordinated approaches to planning, monitoring and management of Natura 2000 and other types and types of habitats in cross-border areas Measure 3.1.1. - Establishing a Public Policy Management System that embraces and cyclically links all management phases: analysis, planning, implementation, monitoring, reporting and evaluation, and aligns with horizontal issues (mitigation and adaptation to climate change, environmental protection, resilience, sustainability, demography, social inclusion, innovations, etc.) Measure 3.1.2. - Defining guidelines for good project management in the field of climate change, implementation of the harmonization process of planning climate change mitigation procedures and climate change adaptation in the process of planning, implementation, monitoring and evaluation of projects at all levels of regional development management. Measure 3.2.1. Encouraging horizontal co-operation at the national level through the activities of education of key stakeholders on complex developmental governance issues essential for project development, including nature protection,

	energy efficiency, cultural heritage, mitigation of climate change and adaptation to climate change, sustainable development, etc. Measure 3.3.1. Encouraging horizontal cooperation at regional and local level through key stakeholder education activities on complex developmental governance issues essential for project development, including nature conservation, energy efficiency, cultural heritage, climate change mitigation and adaptation to climate change, sustainable development, etc. on regional and at local level
Status of implementation	In progress (2017 – 2020)
Associated funding (if any)	Ministry of Regional Development and EU funds
Title	**STRATEŠKA STUDIJA PROCJENE UTJECAJA NA OKOLIŠ ZA STRATEGIJU ENERGETSKOG RAZVOJA REPUBLIKE HRVATSKE DO 2030. GODINE S POGLEDOM NA 2050. GODINU (engl. Strategic study of energy development energy development projects for the Republic of Croatia until 2030 with a projection for 2050)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Strategic Environmental Impact Assessment is the procedure for evaluating likely significant environmental impacts that may arise from the implementation of a strategy, plan or program. It creates the basis for promoting sustainable development through the consolidation of protection conditions environment in strategies, plans or programs.
Concrete climate change adaptation measures foreseen (if any)	Measure 1 – Construction of Climate change influence study analysis with vulnerability analysis and climate change adaptation measures suggestion for existing large hidroenergy systems on Adriatic basin rivers (period 2021 – 2030) Measure 2 – Strengthening resilience of electroenergetic system to climate changes with focus on energy production plants for production of electric and heat energy and transfer grid
Implementation and monitoring mechanisms/procedures	Measure 1- Implemented by the Ministry of Environmental Protection and Energy, legal entities performing hydro power plant electric energy production activities Measure 2 - Implemented by the Ministry of Environmental Protection and Energy, legal entities performing electric energy production and/or transfer, deadline continuous
Status of implementation	In progress (2019 – 2050)
Associated funding (if any)	Environmental Protection and Energy Efficiency Fund EU 2021 – 2027 Structural fund envelope Hydro power plant owners

Regional level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**Energy Efficiency Action Plan for Istrian County for the 2019. - 2021. period**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Goal of the Action Plan is to set guidelines for the implementation of the energy efficiency improvement policy through energy savings, respecting the energy needs of the Istrian County and the principles of sustainability and environmental protection
Concrete climate change adaptation measures foreseen (if any)	SEAP revision workshops
Implementation and monitoring mechanisms/procedures	Implementation done by IDA – Istrian Development Agency in the scope of project EMPOWERING
Status of implementation	In progress (2019)
Associated funding (if any)	Horizon 2020 EU programme
Concrete climate change adaptation measures foreseen (if any)	SECAP revision workshops
Implementation and monitoring mechanisms/procedures	Implementation done by IDA – Istrian Development Agency in the scope of project EMPOWERING, workshop to provide methodology/tools for SECAP implementation for participants/CoM signatories
Status of implementation	In progress (2019)
Associated funding (if any)	Horizon 2020 EU programme
Concrete climate change adaptation measures foreseen (if any)	Workshop on GIS usage in SEAP and SECAP measures, drought risks in Istrian County and possible adaptation measures in SECAP development, exploring different financing schemes/models possibilities and EE planning (50 participants)
Implementation and monitoring mechanisms/procedures	Implementation done by IDA – Istrian Development Agency in the scope of project EMPOWERING (Horizon 2020)
Status of implementation	In progress (2019)
Associated funding (if any)	Horizon 2020 EU programme
Title	**LOKALNA RAZVOJNA STRATEGIJA LAG-a "SJEVERNA ISTRA" 2014-2020.(engl.Local Development Strategy 'North Istria' 2014-2020**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force

Brief description (including objectives)	Local development strategy for North Istrian County area
Concrete climate change adaptation measures foreseen (if any)	Measure S.C.2 – Promoting sustainable system of agricultural production (including sub-measures M03-Quality systems for agricultural products and food, M04-Investment in physical assets, M06-Agricultural entities development-RES&irrigation)
Implementation and monitoring mechanisms/procedures	Activities: Certifying farmers into the quality system, investment in buiding, equipping and improving the irrigation system in agricultural entity, invest in modern technology with the goal of saving energy and reduction of harmful waste from processing, investing in habitat restoration important for biodiversity conservation, terrace structure investment, investment in the purchase of an electric shepherd or autochthonous shepherd's dog, investment in new cattle dwellings and upgrading existing ones, inverstment in renewable energy sources, investment in irrigation systems, increasing the number of ecologically certified manufacturers by 3 agricultural entities, investment in RES and reducing CO2 emmissions, investment in irrigation systems Monitoring based on the number of assigned grants, realised investments, number of eco-labeled products, number of farmers implementing new irrigation system, energy source cost reduction percentage, harmful waste quantity reduction percentage, negative environmental impact reduction percentage, quartal evaluation reports
Status of implementation	In progress (2014-2020)
Associated funding (if any)	From membership fees, LEADER programme Measure 19, local authority budget, Istrian County budget, state budget
Title	**Županijska razvojna strategija Istarske županije do 2020. godine (engl.Istrian County Development Strategy until 2020)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Fundamental and comprehensive strategic document that achieves the guidelines for the future economic and overall development of the Istrian County starting from development resources and potential. Four main strategic objectives include: 1. Increase of economic competitiveness; 2. Development of human resources and high quality of life; 3. Strengthening infrastructure, environmental protection and sustainable space management and resources; 4. Development, preservation and promotion of Istrian identity.

Concrete climate change adaptation measures foreseen (if any)	Development Priority 3.1. Encouraging energy efficiency and the application of renewable energy sources, Measure 3.1.1. Increasing Energy Efficiency (EnU) including promotion of CHG and Trigeneration cogeneration
Implementation and monitoring mechanisms/procedures	Activities more related to climate adaptation include installment of local climate measurement devices in Istrian County, investments and stimulus for the use of RES and EE policies and measures on local level, public educational and promotional campaign Monitoring includes EE projects count,percentage of total annual expenditure of direct energy source, reaching energy savings goals
Status of implementation	In progress (2018 - 2020)
Associated funding (if any)	Local authority budget, EU funds
Concrete climate change adaptation measures foreseen (if any)	Development Priority 3.1. Encouraging energy efficiency and the application of renewable energy sources, Measure 3.1.2. Promotion and use of renewable energy sources
Implementation and monitoring mechanisms/procedures	Stimupation of RES projects (windmill energy, PV energy, geothermal energy…), subsidies for plant growth included in biofuel production, hybrid/off grid system investments… Monitoring includes RES projects count, percentage of total electrical energy consumption, investment and grant quantity used for RES projects
Status of implementation	In progress (2018 - 2020)
Associated funding (if any)	Istrian County budget, local authority budget, EU funds
Concrete climate change adaptation measures foreseen (if any)	Development Priority 3.5. Strengthen the capacity to manage risks and increase the level of readiness to respond to crisis events, Measure 3.5.1. Establish and develop a system for monitoring, forecasting and planning climate change mitigation measures and measures to mitigate climate change impacts
Implementation and monitoring mechanisms/procedures	Activities: Establishment of a cross-sectoral county body for co-ordination and conducting monitoring activities, forecasting and planning of climate change adjustment measures, building a system for monitoring, forecasting and planning adaptation measures and strengthening resistance to climate change, adoption of adjustment measures and increase of resistance to climate change in all strategic programs and development plans of key IEC sectors, providing budget funds in key IBA development sectors to adapt and mitigate the consequences of climate change, strengthening public and private sector co-operation in risk management, increasing security and capacity building to respond to crisis events, development and strengthening of human resources and the improvement of material and technical resources of operational forces of civil protection, epowering the community and establishing a support system in the county to respond to major disasters and

	catastrophes caused by climate disasters, strengthening international cooperation in joint planning, preparation and action in major disasters and disasters, encouraging the use of Green Building as a means of mitigating climate change and creating more favorable working and living conditions. Monitoring indicator - Istrian County budget expenditures for weather and climate negative effect mitigation
Status of implementation	In progress (2018 - 2020)
Associated funding (if any)	EU funds
Local level plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	**Akcijski plan energetski održivog razvoja – Grad Buje – Buie, 2012. (engl. SEAP – City of Buje – Buie)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Under revision
Brief description (including objectives)	Sustainable Energy Action Plan for City of Buje, located in NW part of Istrian County Objectives are to reduce CO2 emissions by implementing EE measures , using renewable energy resources, consumption management, education and other measures, to reduce energy consumption in building, traffic and public lighting sectors, to use spatial planning policies to enable urban to ecological sustainable areas transformation.
Concrete climate change adaptation measures foreseen (if any)	Building sector - Gas line implementation for the City of Buje – Buie – connection to existing gas lines, minimal 5% CO2 reduction estimation because of more favorable CO2 emmision factor for natural gas compared to other energy sources
Implementation and monitoring mechanisms/procedures	Biannual reporting procedure using Monitoring Emission Inventory (MEI) production using the same methodology as used for Baseline Emission Inventory (BEI) for CO2 emmissions comparison
Status of implementation	In progress (2018 – 2020)
Associated funding (if any)	? *
Concrete climate change adaptation measures foreseen (if any)	Traffic sector – Replacement of personal and freight vehicles owned by the City in coordination with Green procurement rules (www.zelenanabava.hr/), lowering energy consumption by adleast 40% and lowering CO2 emmissions to 90gCO2/km by year 2020.

Implementation and monitoring mechanisms/procedures	Biannual reporting procedure using Monitoring Emission Inventory (MEI) production using the same methodology as used for Baseline Emission Inventory (BEI) for CO2 emmissions comparison
Status of implementation	Finished (2012 – 2016)
Associated funding (if any)	300.000 HRK *
Concrete climate change adaptation measures foreseen (if any)	Traffic sector – Promoting biofuel use – According to the Energy Development Strategy for Republic of Croatia and Law on Biofuel the goal is to implement 10% biofuel use in total traffic fuel consumption by 2020, since biofuel is defined as a RES and does not emit CO2.
Implementation and monitoring mechanisms/procedures	Biannual reporting procedure using Monitoring Emission Inventory (MEI) production using the same methodology as used for Baseline Emission Inventory (BEI) for CO2 emmissions comparison
Status of implementation	In progress (2012 – 2020)
Associated funding (if any)	TBD, no initial investment costs foreseen *
Concrete climate change adaptation measures foreseen (if any)	Traffic sector – Promotional, informative and educational measures and activities for traffic quality advancement and CO2 emmissions reduction – Informative-demonstrational workshops for citizens, training and informing on ecologically acceptable driving, promotional material distribution – 6% CO2 emmission reduction by 2020
Implementation and monitoring mechanisms/procedures	Biannual reporting procedure using Monitoring Emission Inventory (MEI) production using the same methodology as used for Baseline Emission Inventory (BEI) for CO2 emmissions comparison
Status of implementation	In progress (2012 – 2020)
Associated funding (if any)	6.000 HRK *
Is the plan a good practice? If yes, why?	Yes, the SEAP structure is used for all cities and some municipalities in Istrian County, therefore it can be considered a good template for implementing energy and future climate (SECAP) adaptation policies
	* *Financing sources available* – City of Buje – Buie budget, ESCOs, HBOR credit (Croatian Bank for Renewal and Development), Environmental Protection and Energy Efficiency Fund (FZOEU fund), Regional Development Fund, IPA Cross-border Co-operation Programmes (IPA 1, IPA 2), CIP - Competitiveness and Innovation Framework Programme, IEE – Intelligent Energy Europe, CONCERTO initiative, FP7 - Seventh Framework Programme, Structural funds, ELENA - European Local Energy Assistance, WeBSEFF - the Western Balkans Sustainable Financing Facility, Open Regional Fund for RES and EE, European Investment Bank, EBRD - European Bank for Reconstruction and Development, Green for growth fund – Southeast Europe

Title	**Akcijski plan održivog razvoja Grada Novigrada – Cittanova, 2015. (engl.SEAP – City of Novigrad – Cittanova)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Under revision
Brief description (including objectives)	Strategic and operative document used to define overall framework for 2020. goals. Results from Baseline Emission Inventory (BEI) will be used to define best activity areas and opportunities to reach CO2 emmission reduction goals. Objectives include: BEI production, within 1 year of joining Covenant of Mayors (CoM), SEAP completion and delivery within 1 year of joining CoM, regular biannual reporting after SEAP completion, activity promotion, public and stakeholder involvement, regular Local Energy Days organisation, CoM promotion
Concrete climate change adaptation measures foreseen (if any)	Traffic sector - Eco Driving campaign – Campaign to promote eco friendly driving and educate drivers
Implementation and monitoring mechanisms/procedures	City of Novigrad – Cittanova, FZOEU, utility company, transport companies in charge of implementation; education on eco-driving for personal car, bus and freight vehicles >3,5 T drivers; Biannual reporting procedure using Monitoring Emission Inventory (MEI) production using the same methodology as used for Baseline Emission Inventory (BEI) for CO2 emmissions comparison
Status of implementation	In progress (2015 – 2020)
Associated funding (if any)	50.000 HRK (500 HRK / Passenger) - Environmental Protection and Energy Efficiency Fund (FZOEU fund)
Concrete climate change adaptation measures foreseen (if any)	Traffic sector – E-mobility – Using e-vehicles (cars, bicycles, scooters) for CO2 emmision reduction
Implementation and monitoring mechanisms/procedures	City of Novigrad – Cittanova, FZOEU, utility company, transport companies in charge of implementation; education on eco-driving for personal car, bus and freight vehicles >3,5 T drivers; Biannual reporting procedure using Monitoring Emission Inventory (MEI) production using the same methodology as used for Baseline Emission Inventory (BEI) for CO2 emmissions comparison
Status of implementation	In progress (2015 – 2020)
Associated funding (if any)	600.000 HRK / year - Environmental Protection and Energy Efficiency Fund (FZOEU fund)
Is the plan a good practice? If yes, why?	Yes, the SEAP structure is used for all cities and some municipalities in Istrian County, therefore it can be considered a good template for implementing energy and future climate (SECAP) adaptation policies

Title	**Strateški plan razvoja grada Buje-Buie od 2016. do 2020. (engl.Strategic Development Plan 2016-2020 for City of Buje-Buie)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into Force
Brief description (including objectives)	The key principles of the Strategic Development Plan are developing a strategy to achieve the integration of the most important economic, social and environmental requirements within the sustainability framework. The strategy needs to be aligned with national and European planning framework and include a multi-annual planning period within which local level can realistically implement certain structural changes in society and economy.
Concrete climate change adaptation measures foreseen (if any)	Alternative energy source usage stimulation in public and private sector (solars, heat pumps…)
Implementation and monitoring mechanisms/procedures	Implementation: Encouraging installation of photovoltaic systems on roofs objects, encouraging the installation of heating systems for sanitary purposes water on roofs of buildings Monitoring: Indicators - Number of built-in photovoltaic systems, number of built-in heating systems for sanitary water, reduction of energy costs, reduction of CO2 emissions, reduction of air pollution (Source: City of Buje town administration records, execution of the budget of the City of Buje and certain institutions within the budget treasury, evidence of the institution responsible for air quality monitoring)
Status of implementation	In progress (2016 – 2020)
Associated funding (if any)	EFRR, Operational Program for Competitiveness and Cohesion, specific goal 4c2 - Reduction of energy consumption in residential buildings; Program Central Europe, Priority axis 2 - Co-operation on low-carbon strategies in Central Europe, SO 2.1. - Development and implementation of solutions to increase energy efficiency and use of renewable energy sources in public infrastructure; FZOEU; gasoline distributers; private sector
Concrete climate change adaptation measures foreseen (if any)	Raising awareness on the benefits of energy-sustainable development
Implementation and monitoring mechanisms/procedures	Activities include education and change of employee behavior in public sector, education and promotion of RES and EE for citizens, promotional, informative and educational activities for improving traffic in order to reduce CO2 emissions, electric car charging station installation Monitoring indicators include number of participants in educations and lectures, number of pieces of information and promotional material, number of participants of "eco-driving", filling station for electric cars built and placed in function (Source: Signing lists, public announcements, articles, postings

	on web pages, evidence of educational institutions that can organize the "Eco-driving" program
Status of implementation	In progress (2016 – 2020)
Associated funding (if any)	EFRR, Operational Program for Competitiveness and Cohesion, specific goal 4c2 - Reduction of energy consumption in residential buildings; Program Central Europe, Priority axis 2 - Co-operation on low-carbon strategies in Central Europe, SO 2.1. - Development and implementation of solutions to increase energy efficiency and use of renewable energy sources in public infrastructure; FZOEU; gasoline distributers; private sector
Is the plan a good practice? If yes, why?	Yes, the Strategic Development Plan structure is used for most cities and municipalities in Istrian County, therefore it can be considered a good template for implementing energy and future climate adaptation policies
Title	**PROGRAM UKUPNOG RAZVOJA GRADA NOVIGRADA – CITTANOVA za razdoblje 2015. – 2020. Godine (engl. Total Development Program for City of Novigrad-Cittanova)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Official document by which the City Council can plan activities, most significant and most efficient projects for the city of Novigrad-Cittanova, use the basis for making budgets and allocating public money within the city budget and consolidate the economical, agricultural and cultural goals in relation to the region and state in general.
Concrete climate change adaptation measures foreseen (if any)	Priority 2.3 – Implementing Energy Efficiency measures (6 sub-measures: Energy reneweal of public buildings/institutions, public lighting, traffic, economy, family houses and residential buildings, education of citizens)
Implementation and monitoring mechanisms/procedures	Monitoring based on biannual reports and measure status evaluation (Indicators: number of implemented investments (goal: 5), number of sessions held (goal: 10), number of households classifying waste (goal: 2.000), number of protected animal species (goal: 5), number of energy-efficient buildings (goal: 5), number of energy-efficient lighting fixtures (goal: 50)
Status of implementation	In progress (2015-2020)
Associated funding (if any)	/

PART 2: FUNDING TOOLS

Category	Notes
European funding	**European Regional Development Fund (ERDF)** – one of five European Structural and Investment fund (ESI fund), intended for developing economic and social cohesion in EU and reducing differences in socioeconomic regional development. Resources are mainly used for infrastructure improvement, local development and environmental protection. The funds support small and medium enterprises (SMEs), manufacturing investments, infrastructure and local development enhancement, investments in education and health preservation in regions. Link: https://ec.europa.eu/regional_policy/en/funding/erdf/ **Cohesion fund (CF)** – mechanism for financing large infrastructural EU projects in sectors of traffic and environmental protection. Fund value is **70 billion EUR**. Users are exclusively from the public sector, and the ratio between traffic and environmental protection has to stay equal. 85% is financed by the EU, and minimal project value is 25 million EUR. Link: https://ec.europa.eu/regional_policy/en/funding/cohesion-fund/ **Joint European Support for Sustainable Investment in City Areas (JESSICA)** – European Commission initiative developed with European Investment Bank (EIB) and Council of Europe development bank (CEB). The initiative supports sustainable development and regeneration through financial mechanisms. Users are encouraged to invest a part of their structural funds (mostly ERDF) in urban development funds. It functions as a **revolving fund** – a continuous source of financial means by which financial instruments (guaranties, loans, profit shares) commercial banks give loans to end users (local and regional bodies, agencies, national bodies, private investors) Link: https://www.eib.org/en/products/blending/jessica/index.htm **Joint European Resources for Micro to Medium Enterprises (JEREMIE)** - it is a joint initiative of the European Commission (Directorate General for Regional Policy) and the EIB Group, mainly through the European Investment Fund, to enhance cohesion across the EU. JEREMIE offers EU Member States, through their national or regional Managing Authorities, the opportunity to use part of their EU Structural Funds to finance SMEs in a more efficient and sustainable way. JEREMIE's financial resources have been deployed through selected financial intermediaries across the EU, which have provided loans, equity and guarantees to SMEs. Link: https://www.eif.org/what_we_do/resources/jeremie/index.htm **Supporting investments in energy efficiency and sustainable transport (ELENA)** - ELENA is a joint initiative by the EIB and the European Commission under the Horizon 2020 programme. The main source of funding is the Intelligent Energy Europe programme (IEE). ELENA provides grants for technical assistance focused on the implementation of energy efficiency, distributed renewable energy and urban transport programmes. The **grant** can be used to finance costs related to feasibility and market studies, programme structuring, business plans, energy audits and financial structuring, as well as to the preparation of tendering procedures, contractual arrangements and project implementation units. The

	annual grant budget is currently between **EUR 40 and 50 million.** Projects are evaluated and grants are allocated on a first-come-first-served basis. ELENA may co-finance the preparation of investment programmes in the fields of Energy efficiency and building integrated renewable energy, urban transport and mobility and residential sector. Link: https://www.eib.org/en/products/advising/elena/index.htm **Western Balkans Sustainable Energy Direct Financing Facility (WeBSEDFF)** - a direct investment facility under which EUR 50 million of loan funds have been allocated by the EBRD under the REEP. WeBSEDFF operates in Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Montenegro, Serbia and Kosovo. The facility is open to local small and medium enterprises (SME) or project developers to implement industrial energy efficiency projects, renewable energy projects, ESCO projects in public sector through ESCO contracts. Under the WeBSEDFF the EBRD provides direct loans from **EUR 2 million** (for certain countries from EUR **1 million**) up to EUR 6 million for eligible projects. Under this scheme eligible borrowers can also obtain: Technical consultancy services free of charge, provided by the Project Consultant, who supports the preparation of sustainable energy projects. Incentive payments based on the estimated reduction of CO2 emissions resulting from project implementation. Link: http://www.wb-reep.org/eng/financing/WebSEDFF **Global Energy Efficiency and Renewable Energy Fund** – a Fund-of-Funds advised by the European Investment Bank Group, investing in private equity funds which focus on renewable energy and energy efficiency projects in emerging markets. GEEREF's funds concentrate on infrastructure projects that generate clean power through proven technologies with low risk and targets attractive financial investments that also deliver a strong positive environmental and developmental impact. GEEREF was structured to catalyse private sector investments into funds and underlying projects by leveraging the public sector seed contributions invests in private equity funds which, in turn, invest in private sector projects, thereby further enhancing the leveraging effect of GEEREF's investments. It is estimated that, with **€ 222 million** of funds under management, over € 10 billion could be mobilised through the funds in which GEEREF participates and the final projects in which these funds invest. Link: https://geeref.com **Open Regional Fund for South-East Europe – Energy Efficiency (ORF-EE) –** goal of the ORF-EE is to support energy and climate relevant political and civil society actors, through networks in South-Eastern Europe, in implementing required EU regulations. Regional networks supported by the ORF-EE share their experiences on implementation of energy efficiency and climate protection measures independently, and are empowered to address issues of common interest. In doing so they contribute towards a more effective implementation of these topics in their respective countries. Potential users include partners from public, civil and private sector, with participating countries: Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro and Serbia and Croatia as model country. The overall term is **2006 to 2020.** Projects usually last 2-3 years, and the financial potential is **100.000 – 400.000 EUR**.

	Link: https://www.giz.de/en/worldwide/31746.html **European Bank for Reconstruction and Development (EBRD) –** established to help build a new, post-Cold War era in Central and Eastern Europe. EBRD is committed to furthering progress towards 'market-oriented economies and the promotion of private and entrepreneurial initiative'. EBRD financing for private sector projects generally ranges from **$5 million to $250 million**, in the form **of loans or equity.** The average EBRD investment is $25 million. Smaller projects may be financed through financial intermediaries or through special programmes for smaller direct investments in the less advanced countries. Link: https://www.ebrd.com/home **Green for Growth Fund – Southeast Europe** - a unique public-private partnership established to promote energy efficiency in its target region and to reduce CO2 emissions. GGF's investments seek to achieve a 20% reduction in energy consumption and/or a 20% reduction in CO2 emissions by financing Financial Institutions (local commercial banks, non-bank financial institutions such as microfinance institutions and leasing companies and other selected financial institutions) providing **loans** to households, businesses, municipalities and public sector for energy efficiency measures or renewable energy projects, and by providing direct financing to Non-Financial Institutions (companies, energy service companies, renewable energy companies or projects, small scale renewable energy and energy efficiency service and supply companies) that meet GGF energy saving and/or emissions targets, and comply with the technical criteria and GGF exclusion list. Link: https://www.ggf.lu
National funding	**Environmental Protection and Energy Efficiency Fund** - the Fund is established for the purpose of securing additional resources for the financing of projects, programmes and similar activities in the field of conservation, sustainable use, protection and improvement of the environment. The Fund grants financial resources to legal and natural persons for the purpose of financing the programmes, projects and other activities, set out in the Act on the Environmental Protection and Energy Efficiency Fund through **loans, subsidies, financial assistance and donations.** Financial resources are granted on the basis of a completed public contest. Link: http://www.fzoeu.hr/hr/o_fondu/ **ESCO model (HEP ESCO, Rudan d.o.o., REFLEX d.o.o….)** - The ESCO model encompasses development, implementation and financing of projects to improve energy efficiency and reduce operating and maintenance costs. The goal of each project is to reduce energy costs and maintain the installation of new, more efficient equipment and optimize energy systems, thus ensuring the recovery of investment through realized savings over a period of several years, depending on the client and the project. Cost savings risk is normally assumed by the ESCO company by providing guarantees, and besides innovative projects to improve energy efficiency and reduce energy consumption, financial solutions for their realization are often offered. During the repayment of the energy efficiency investment, the client pays the same amount of energy costs as prior to the implementation of the project, which is divided into the actual (reduced) energy cost and the cost for the repayment of the investment. After the repayment of the investment, the ESCO company comes out of the project and handles all the benefits to the client.

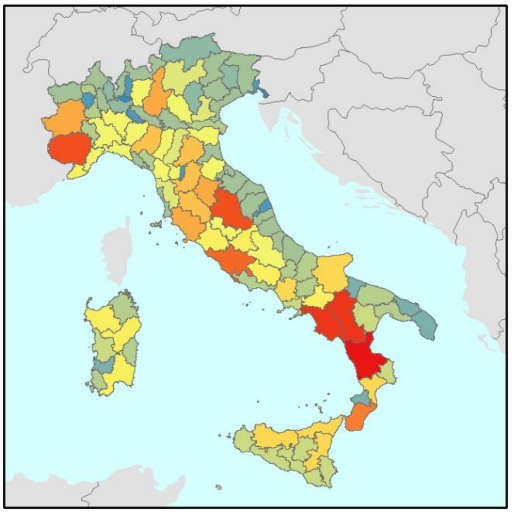
	ESCO service users can be private and public companies, institutions and units of local self-government. ESCO market is still undeveloped in Croatia (cca 10 ESCO companies existent). Link: http://www.enu.fzoeu.hr/financiranje-ee-projekata/esco-model Link:https://www.enu.hr/ee-u-hrvatskoj/tko-je-tko-ee-rh/pruzatelji-energetske-usluge/ **Natural Capital Financing Facility (NCFF)** – Natural Capital Financing Facility (NCFF) offers funding to projects that promote the conservation, restoration, management and enhancement of natural capital for biodiversity and adaptation benefits, including ecosystem-based solutions to challenges related to land, soil, forestry, agriculture, water and waste inside the EU. Funding includes credit lines through the Croatian Bank for Reconstruction and Development (HBOR) from 1,7% interest rate and payback periods up to 17 years. The NCFF consists of a combination of the following two components: The finance facility can provide financing of a minimum amount of **EUR 2 million** and a maximum amount of **EUR 15 million**. The technical assistance facility can provide each project with a grant of up to a maximum of **EUR 1 million** for project preparation, implementation and the monitoring of the outcomes. The NCFF combines EIB financing and the Commission's funding under the LIFE Programme, the EU's funding instrument for the environment and climate action. The facility is currently in a pilot phase and can sign projects until the end of 2019. The first loan was signed in April 2017. Link: https://www.hbor.hr/priprema-i-financiranje-zelenih-projekata/ **European Structural and Investment Funds (ESIF) through commercial banks in Croatia** – EU Member States who receive funding under the ESIF have a national body known as the Managing Authority (MA) which oversees the use of the available resources. MAs use ESIF allocations and place them in Financial Instruments (through a Fund of Funds or a financial intermediary from which eligible projects can be financed. Financial products such as loans, guarantees, equity and other risk-bearing mechanisms can be used. ESIF Growth and Development Loans are long-term investment loans for small and medium-sized businesses that operate for more than two years and who plan investments in manufacturing, tourism, creative industries and knowledge-based services. They are funded 50 percent from the source of the European Structural and Investment Funds (ESIF) at an interest rate of 0 percent and 50 percent from the source of commercial banks at a market interest rate to be determined by the business bank. This way of financing means that the interest rate for entrepreneurs will ultimately be significantly lower than would be achieved without the use of ESIF funds. The added value of the loan is also the release from paying all fees that are regularly charged when processing a loan application and concluding a loan agreement and regular use of the loan. Investment loans with low interest rates and no regular fees charged when approving and using credits are approved through Erste & Steiermärkische Bank d.d., Privredna banka Zagreb d.d. and Zagrebačka banka d.d. Users can be small and medium-sized businesses that operate at least two years before applying for a loan to a commercial bank. Loans are approved for a term of up to 12 years (including a start up to 2 years) and for a tourism sector up to 17 years (including up to 4 years). The lowest loan amount can be EUR 100,000 in kuna equivalent, while the highest EUR 3 million in kuna equivalent, or up to EUR 10 million in kuna equivalent for the tourism sector. The total credit potential of "ESIF Growth and Development Loans" is approximately EUR 200 million.

	Link: https://www.hbor.hr/tema/esif-krediti-za-rast-i-razvoj/ Link: https://www.eib.org/en/products/blending/esif/index.htm Croatian Bank for Reconstruction and Development (HBOR) – a development and export bank founded for the purpose of lending the reconstruction and development of the Croatian economy. The founder and exclusive owner of HBOR is the Republic of Croatia who guarantees all obligations incurred. In April 2004, through the signing of a Cooperation Agreement, business cooperation between the Environmental Protection and Energy Efficiency Fund (FZOEU) and HBOR was established with a view to providing support and encouraging investment in environmental, energy efficiency and renewable energy projects. In order to initiate and successfully implement as many projects of energy efficiency in Croatia, FZOEU and HBOR continuously announce tenders for the award of financial resources in the form of loans, subsidies and donations for projects in the areas of: sustainable construction; encouraging the use of renewable energy sources (sun, wind, biomass etc.); encouraging sustainable development of rural areas; stopping migration from rural to urban areas; environmental protection, etc. Local and regional self-government units, their communal and trade companies, craftsmen and other legal and natural persons may receive loans for investment in basic and permanent working capital for these purposes. HBOR generally credits up to 50% of the estimated value of the investment without the value added tax included. For loan funds intended for financing within these purposes, there is a possibility of subsidizing the interest rate in the amount of 2 percent with the funds of the FZOEU. The smallest loan amount is limited to HRK 100.000, while the largest amount is not limited, depending on HBOR's financing options, specific investment program, end-user creditworthiness and the value and quality of insurance instruments offered. The repayment period is maximum 12 years, with a 2-year grace period. Exceptionally, for infrastructure projects the repayment term may be up to 15 years, including a start up to 5 years. Link:http://www.enu.fzoeu.hr/financiranje-ee-projekata/hrvatska-banka-za-obnovu-i-razvitak Joint Private Partnership (JPP) - Link: http://www.enu.fzoeu.hr/financiranje-ee-projekata/jpp Revolving fund – Link: http://www.enu.fzoeu.hr/financiranje-ee-projekata/revolving-fond
Regional funding	Regional government budget (Istrian County budget) Credit lines (Istrian County and Istrian Development Agency credit lines) Link: https://ida.hr/hr/bn/poduzetnistvo/kreditiranje-i-jamstva/aktualne-kreditne-linije/
Local funding	-
Other funding schemes	-

[PP2] Municipality of San Benedetto del Tronto

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies /plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**NL1. National Climate Change Adaptation Strategy and Plan** [*Strategia e Piano Nazionale di Adattamento ai Cambiamenti climatici]*
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Strategy adopted by Ministry of Environment Directoral Decree n. 86 16/6/2015 Plan drafted in 2017, currently under revision (to be submitted to SEA)
Brief description (including objectives)	The National Climate Change Adaptation Strategy aims to be a tool to support national, regional and local institutions in defining their own adaptation paths, also in relation to the specific characteristics of the territories. It outlined the impacts of climate change on environmental resources and processes and on the socio-economic systems of the Italian territory and proposed a vision of the path to tackle them. The subsequent Plan has been issued to implement the Strategy: its general goal is declined in four specific objectives: limiting the vulnerability, increasing the adaptation capacity, improving the exploitation of any opportunities and facilitating the coordination of actions at different levels. The Plan includes a context analysis of the current and future climatic condition, a description of the risk propensity and the expected impacts per sectors, an extended list of possible adaptation actions at national level with indications about tools for monitoring and evaluating their effectiveness. According to the plan's climate analysis, the project area falls within the macro-region 2 "Po Valley, high Adriatic coast and coastal areas of central-southern Italy". It is characterized by high number of "summer days" high everage temperature and high number of "dry days", the pluviometric regime is medium-ranged both considering seasonal and extreme values. According to the IPCC scenarios adopted by the plan (COSMO RCP4.5, COSMO RCP8.5), the climatic anomalies expected in period 2021-2050 compared to the period 1981-2010 are: a reduction in both summer and winter precipitation, an increase in extreme precipitation events, a significant increase in summer days. Moreover, the Adriatic Sea is expected to undergo an increase of the average temperature around +1.5°C, with peaks of +2°C increase in winter and spring, while the estimated sea level rise is around 7 cm.

	The risks analysis conducted by the plan combines information about the potential impacts and the adaptive capacity (both evaluated combining several socio-economic and environmental indicators) into a synthetic risk index applied at provincial level. The province of Ascoli results as characterized by a medium-low "aggregate potential impact" and by a medium-high adaptive capacity. The plans contain also the description of the sectorial risks per macro-region.  cmcc Piano Nazionale di Adattamento ai Cambiamenti Climatici PNACC Prima stesura per la consultazione pubblica Luglio 2017  **Indice di rischio bi-dimensionale:** La legenda è composta da due indici e il colore indica la combinazione di entrambi: impatti potenziali (sinistra) e capacità di adattamento (destra). molto alta, bassa molto alta, medio-bassa molto alta, medio-alta molo alta, alta alta, bassa alta, medio-bassa alta, medio-alta alta, alta media, bassa media, medio-bassa media, medio-alta media, alta medio-bassa, bassa medio-bassa, medio-bassa medio-bassa, medio-alta medio-bassa, alta bassa, bassa bassa, medio-bassa bassa, medio-alta bassa, alta
Concrete climate change adaptation measures foreseen (if any)	The second part of the plan identifies 376 adaptation actions both cross-sectional and sectorial (also provided in the form of a databases). Sectorial actions are associated with the impacts identified in the first part, related adaptation objectives and homogeneous climate areas. The sectors considered are the following: 1. Water resources 2. Marine environments: biodiversity and ecosystem services 3. Ecosystems and biodiversity in internal and transition waters 4. Coastal areas 5. Geological, hydrological and hydraulic risks 6. Desertification, soil degradation and draught 7. Land ecosystems 8. Forests 9. Agriculture and food production

<table>
<tr><td></td><td>
10. Maritime fishing
11. Aquaculture
12. Tourism
13. Urban settlements
14. Critical infrastructure - transport
15. Critical infrastructure - dangerous industries and infrastructures
16. Critical infrastructure - cultural heritage
17. Energy
18. Health.
The adaptation actions identified by the plan are classified per categories (see table below), then evaluated based on the following criteria: effectiveness, economic efficiency, second order effects, performance in the presence of uncertainty, and considerations for political implementation.
<table>
<tr><th>Strategy</th><th>Macrocategory</th><th>Category</th></tr>
<tr><td rowspan="3">Soft (270 act.)</td><td>Information</td><td>Research and assessment
Monitoring, data collection and modelling Awareness raising and training</td></tr>
<tr><td>Organizational and participatory processes</td><td>Institutions
Mangement
Partnerships and public participation</td></tr>
<tr><td>Governance</td><td>Regulatory/legislative upgrade
Strategies and plans
Funding schemes
Guidelines</td></tr>
<tr><td rowspan="2">Non Soft = Green (46 act)
Grey (40 act)</td><td>Improvement of infrastructures and plants</td><td>Plants, Technologies
Defense systems, storage and distribution</td></tr>
<tr><td>Ecosystem based solutions</td><td>Integrated solutions
Forest and agro-forest ecosystems
River, coastal and marine Ecosystems
Building retrofitting</td></tr>
</table>
</td></tr>
<tr><td>Implementation and monitoring mechanisms/procedures</td><td>The plan includes a preliminary set of indicators of progress and effectiveness of the adaptation actions, elaborated with the contribution of sectorial experts and organized according to the above-mentioned classification. Guidelines for the development of a monitoring-reporting-evaluation system are also included, even if operational details are not provided.</td></tr>
</table>

Status of implementation	Not formally in force/not implemented
Associated funding (if any)	Not specified
Link	www.minambiente.it/sites/default/files/archivio_immagini/adattamenti_climatici/documento_pnacc_luglio_2017.pdf

<table>
<tr><td>Title</td><td>NL 2. National Integrated Energy and Climate Plan Proposal
[Proposta di Piano Nazionale Integrato Energia e Clima]</td></tr>
<tr><td>Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)</td><td>Time scope: 2020-2030
Plan proposal drafted at the end of 2018, currently sent to Local authorities for SEA scoping/consultation</td></tr>
<tr><td>Brief description (including objectives)</td><td>The plan was drafted by the Ministry of Economic Development is structured in 5 sections/goals:
1. decarbonisation,
2. energy efficiency,
3. energy security,
4. internal energy market,
5. research, innovation and competitiveness.
Concerning decarbonisation - Italy plans to accelerate the transition from traditional fuels to renewable sources, promoting the gradual abandonment of coal for electricity generation in favor of an electric mix based on a growing share of renewables and, for the residual part, on gas. The replacement plants and the related infrastructure will require appropriate programming.
Concerning energy efficiency – the plan indicates a mix of fiscal, economic, regulatory and programmatic instruments, mainly calibrated by sector of intervention and type of recipients. In the building sector energy efficiency measures will be pursued jointly with the seismic, plant and aesthetics retrofit. In the transport sector, priority is given to the reduction of the mobility need and the increase of collective mobility, in particular by rail and including the freight transport.
Concerning energy security – the plan focuses on the reduction of the dependence on imports and on the diversification of supply sources.
Concerning internal energy market - electrical interconnections and market coupling with other Member States will be enhanced and interconnections with third countries will also be studied. The transformation of the system induced by the growing role of renewables and distributed generation will be taken into account, experimenting with new architectures and management methods.
Concerning the research – the plan pursues the development of processes, products and knowledge in the field of RES, energy efficiency and energy networks; the integration between systems and technologies; the 2030 as a step in the process of deep decarbonization.

The following table summarize the main Italian and European energy and climate goals recalled by the plan:
<table>
<tr><td colspan="2"></td><td colspan="2">2020 objectives</td><td colspan="2">2030 objectives</td></tr>
<tr><td colspan="2"></td><td>UE</td><td>ITALY</td><td>UE</td><td>ITALY</td></tr>
<tr><td>RES</td><td>RES/Final Enegy gross consumptions</td><td>20%</td><td>17%</td><td>32%</td><td>30%</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td rowspan="7"></td><td rowspan="2"></td><td>RES/Final Enegy gross consumptions in transport</td><td>10%</td><td>10%</td><td>14%</td><td>21,6%</td></tr>
<tr><td>RES/Final Enegy gross consumptions for heating/cooling</td><td></td><td></td><td colspan="2">+1,3% per year (indicative)</td></tr>
<tr><td rowspan="2">Energy efficiency</td><td>Reduction of primary energy consumption respect to 2007 PRIMES scenario</td><td>-20%</td><td>-24%</td><td>-32,5% (indicative)</td><td>-43% (indicative)</td></tr>
<tr><td>Final Energy savings through energy efficiency mandatory schemes</td><td colspan="2">-1,5% per year (transport excluded)</td><td colspan="2">-0,8% per year (transport included)</td></tr>
<tr><td rowspan="3">GHG</td><td>GHG Reduction by ETS sectors respect 2005</td><td>-21%</td><td></td><td>-43%</td><td></td></tr>
<tr><td>GHG Reduction by NON-ETS sectors respect 2005</td><td>-10%</td><td>-13%</td><td>-30%</td><td>-33%</td></tr>
<tr><td>GHG Reduction respect 1990</td><td>-20%</td><td></td><td>-40%</td><td></td></tr>
<tr><td>Concrete climate change adaptation measures foreseen (if any)</td><td colspan="6">Despite the title, climate adaptation is addressed in a very limited way only referring to the resilience of the energy infrastructures.</td></tr>
<tr><td>Implementation and monitoring mechanisms/procedures</td><td colspan="6">The monitoring system includes the assessment of impacts of actions is not very detailed but</td></tr>
<tr><td>Status of implementation</td><td colspan="6">Not formally in force/not implemented</td></tr>
<tr><td>Associated funding (if any)</td><td colspan="6">Not specified</td></tr>
<tr><td>link</td><td colspan="6">https://www.mise.gov.it/index.php/it/energia/energia-e-clima-2030</td></tr>
</table>

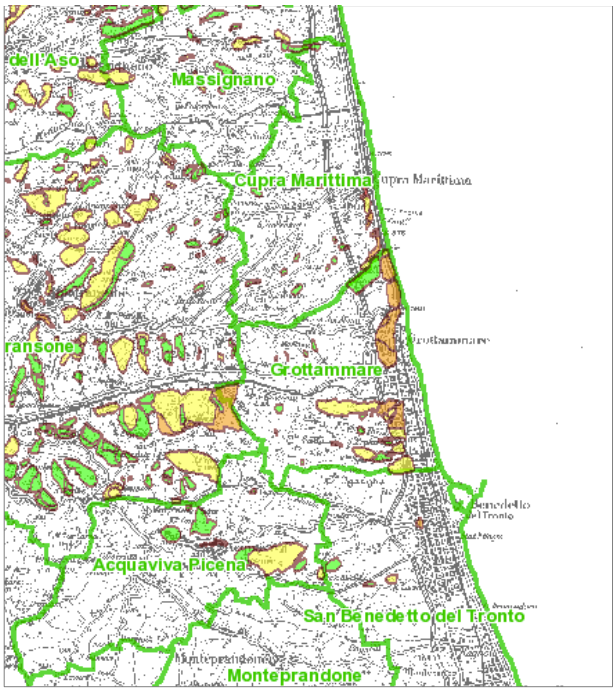
Title	**NL 3. Central Apennines' Hydrographic District Management Plan** *[Piano di Gestione del Distretto idrografico dell'Appennino Centrale - PGDAC2016]*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Time scope: 2016-2021 Plan approved with Decree of the Presidency of the Council of Ministers 27/10/2016, as the 1st update of the previous plan issued in 2010. The 2nd update is expected by 2021.
Brief description (including objectives)	This Plan deals with the protection of the hydrological functions of the hydrographic district of the Central Apennines. In compliance with the European Water Framework Directive (2000/60/CE) and the Flood Directive (2007/60/CE), the central Apennine inter-regional district adopted it to safeguard the hydrographic integrity of its territory. The PGDAC 2016 is subject to vertical as well as horizontal conformity check with other planning documents (respectively with regional plans for water protection, and with the district level plan for flood risk). Important connections are also observed with the Regional Plan for Energy and Environment (PEAR 2020) regarding, for instance, the sustainability of hydro-electric power production. The PGDAC2016 declares the environmental macro-pressures of the district as a whole: • Climate change influence on water resource integrity, availability and quality; • Expansion of the built environment and increasing pressure on water resource for human use; • Hydrologic and hydro- morphologic impact of energy production from renewables (especially hydro-electric power). Among strictly climate change-related issues the most important threats mentioned for the district are meteorological deficit (insufficient or increasingly irregular rainfall), and reductions of water discharges (alteration of hydro-morphology) Tackling these threats, the meta-objective of the Plan is to program actions that guarantee the aquatic ecosystems are maintained to satisfactory levels and protected against climate change-induced structural modification – one of the main aims is to establish sustainable usage patterns for water basins' resources. In 2015, the EU Water Framework Directive Programmes of Measures called for a unified methodological system in water resource related plans. In the PGDAC 2016, every watercourse is therefore considered in a hierarchical system in order to get to a "physical integrity" of the hydrographic district as a whole.

<table>
<tr><td>Concrete climate change adaptation measures foreseen (if any)</td><td>The ensuing system of actions drafted in the Plan is organised so as to each action: a) is framed in a precise Key Type Measure (KTM); b) works for a given strategic objective; c) contributes to one of the future scenarios prefigured by the Plan. The logical structure of the measures follows this linear relation.
As far as the Marche Region’s part of the district is concerned, the large majority of the KTMs currently planned define measures oriented toward physical interventions for hydraulic and morphological integrity of watercourses (KTM.6); remediation of contaminated sites (KTM.4); construction or upgrades of wastewater treatment plants (KTM.1); and water use-efficiency for irrigation, industrial and domestic uses (KTM.8).
Within the KTM1 and KTM8 are included all the interventions planned for the municipalities of San Benedetto del Tronto, Grottammare, Monteprandone and Cupra Marittima. These KTMs below include actions towards the strategic target of water use rationalisation.
<table>
<tr><th></th><th>Key Type Measure 1</th><th>Key Type Measure 8</th><th>Tot. Budget</th></tr>
<tr><td>Cupra Marittima</td><td>2</td><td>-</td><td>1,3 M€</td></tr>
<tr><td>Grottammare</td><td>10</td><td>2</td><td>12,5 M€</td></tr>
<tr><td>Monteprandone</td><td>3</td><td>7</td><td>2,1 M€</td></tr>
<tr><td>San Benedetto del Tronto</td><td>16</td><td>13</td><td>25,7 M€</td></tr>
</table>
</td></tr>
<tr><td>Implementation and monitoring mechanisms/procedures</td><td>The Plan implementation is subject to monitoring and reporting procedures according to the EU Dir 2000/60/CE, specific guidelines were developed by ISPRA the main Italian environmental research center.
The district's monitoring network - designed together with the identification of water bodies - has been active since 2010. it permanently verifies the ecological and chemical status of surface bodies and the quantitative and chemical status of underground water bodies. The structure of the network and the operational program - divided into two three-year monitoring periods (2010-2012 and 2013-2015) were prepared according to the WFD criteria.
Moreover, a permanent observatory of the climatic and hydrological conditions in the basins belonging to the central Apennine district is active, the related reports are available on the District website.</td></tr>
<tr><td>Status of implementation</td><td>In force</td></tr>
<tr><td>Associated funding (if any)</td><td>The 2016-2021 budget amount to roughly 1,5 bn euros, funded by national finance (through the annual Stability Law); European Agricultural and Rural Development Fund (EAFRD); resources derived from water-waste service tariffs allocated for investment and, to a lesser extent, in-house financial backing by local administrations.</td></tr>
</table>

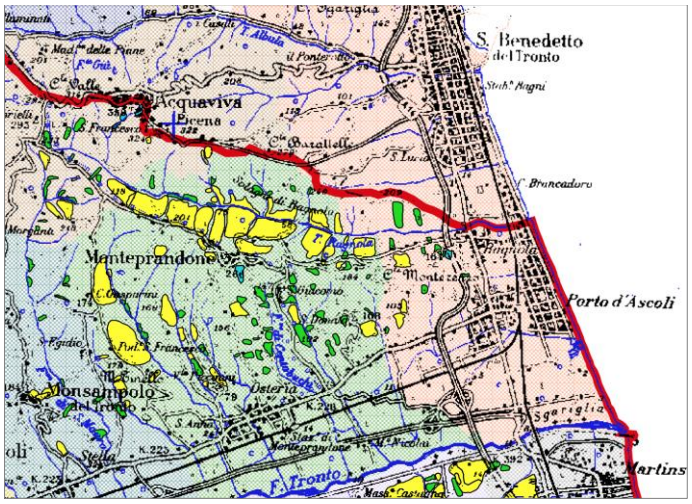
Link	http://www.autoritadistrettoac.it/pianificazione/pianificazione-distrettuale/pgdac

Title	**NL 4. Central Apennines' Hydrographic District Flood Management Plan** [*Piano di Gestione del Rischio Alluvione del Distretto idrografico dell'Appennino Centrale - PGRAAC2016*]
Time scope (currently being drafted , approved, int o force, upgrading, under revision, expiring)	Time scope: 2015-2021 Plan approved with Decree of the Presidency of the Council of Ministers n.27/10/2016. The 1st update is expected by 2021
Brief description (including objectives)	Following the prescriptions of the European directive 2007/60/CE on Flood Risk, the plan covers all aspects related to flood risk management, that is prevention, protection, and preparation, including the flood forecasting and alerting systems, as well as management during the event phase. The Plan is based on the mapping of the hazard and the hydraulic risk carried out on a district scale and consists of two sections, one concerning planning and management and is carried out at the level of individual basins of the district, the other concerns the overall warning system for hydraulic risk. The territory of the Marche Region is characterised by a *comb-like* hydrographic structure, featuring a number of watercourses almost parallel running towards the Adriatic Sea. In order to identify the specific objectives of the Plan related to actual criticalities, the regional territory has been subdivided into three hydraulically significant entities: stream-bed, flood-prone corridors and coastal corridors. The main objectives for hydraulic risk management in the area are • containing urbanization of coastal and riparian zones; • safeguard of riparian zones subject to erosion (crucial for containing floods); • minimise pollution risk for watercourses in case of floods.
Concrete climate change adaptation measures foreseen (if any)	The concrete planned actions are classified in 4 fundamental domains: prevention, protection, preparation, and recovery. The most relevant measures regarding climate change adaptation fall within the first domain. In particular, the Plan indicates measures of restriction (M21), removal/relocation (M22), reduction (M23), and other types of preventive measures (M24): • M21 – Measures for avoiding new human settlements along alluvial areas (to be achieved through housing planning and policies) • M22 – Removal and/or relocation of elements located in risky areas • M23 – Reduction of risk (and potential damage) through structural interventions on vulnerable buildings and land (e.g. safety works on buildings and water-proofing) • M24 – Other interventions (mostly governance and coordination measures) for enhancing the overall resilience of alluvially vulnerable places.

Implementation and monitoring mechanisms/procedures	The Plan implementation is subject to monitoring and reporting procedures according to the EU Dir 2007/60/CE (Guidance document no.29), specific guidelines were also developed by ISPRA the main Italian environmental research center. Monitoring activities are generally actual measures themselves. The *preparation* measures domain (M41, M42, M43) provides for both documental systems of monitoring and reporting (development, application and periodic updating of sectoral plans) and instruments.
Status of implementation	In progress Less than 10% of the actual measures are completed. For the most part, the measures are still in the *on construction* phase. Few measures still to be started or planned in detail.
Associated funding (if any)	Not specified The "National Plan for the Mitigation of Hydrogeological Risk, Restoration and Protection of the Environmental Resources" mentions resources for the implementation of flood risk distric plans from the Environment Operational Plan, sub-plan "Interventions for the protection of the territory and waters" financed under the Development and Cohesion Fund 2014-2020.
Link	http://www.autoritadistrettoac.it/pianificazione/pianificazione-distrettuale/pgraac/documentazione/elaborati

Regional level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**RL.1 Hydrogeological Structure Plan – Marche Regional River Basins** [*Piano di Assetto idrogeologico Bacini Regionali delle Marche – PAI Bacini Marche*]
Time scope (currently being drafted , approved , into force, upgrading, under revision, expiring)	Time scope: not specified Plan approved by Resolution of the Regional Council n. 116, 21/01/2004. Several updates have been approved to adjust the risk mapping and classification without changing the normative structure, updated maps are available on the regional web site (link)
Brief description (including objectives)	 The chief aim of the Hydrological Structure Plan is to identify, quantify, reduce and prevent situations of hydrogeological decay. it provides two main planning scopes: hydraulic risk and landslide/avalanche risk. As regards the former, information and provisions have been merged into the PGRAAC, that is the planning tool currently in force. As far as landslide risk is concerned, the Plan defines three main aims: a) the outline of the hydrogeological instability and the attribution of classes of risk (from lower to higher R1, R2, R3, R4) and danger (from lower to higher P1, P2, P3, P4) b) determining the sustainable management modalities for vulnerable territories in order to guarantee their morphology c) definition of mitigation measures for limiting the risk of exposed population The area covered by the plan, that is the area corresponding to the Marche Regional basins, includes the municipalities of Grottammare and Cupra Marittima and part of the municipality of San Benedetto, whose southern portion, together with the whole municipality of

	Monteprandone belongs to the Interregional basin of the Tronto river (refer to RL.2 datasheet). According to the plan's maps Grottammare, Cupra Marittima result as significantly exposed to landslide risk (up to R4). The direct interventions planned by the PAI in the Marche region mostly regard increase the presence of trees and tall vegetation. *<< Printscreen from the Regional Basins WebGis*
Concrete climate change adaptation measures foreseen (if any)	Increasingly intense and irregular raining is aggravating the frailty of slopes subject to landslides. In these cases, punctual interventions of wall reinforcing and re-profiling (that is the cut of exposed pieces of slope) are planned.
Implementation and monitoring mechanisms/procedures	Not specified An overall monitoring system concerning the implementation of soil protection regional measures is available (link)
Status of implementation	In force
Associated funding (if any)	Not specified
Link	http://www.regione.marche.it/Regione-Utile/Paesaggio-Territorio-Urbanistica-Genio-Civile/Piano-assetto-idrogeologico
Title	**RL.2 Hydrogeological Structure Plan –Tronto River Basin** [*Piano di Assetto idrogeologico Bacino Interregionale del Tronto – PAI Tronto*]
Time scope (currently being drafted, approve, into force, upgrading, under revision, expiring)	Time scope: not specified Plan approved by Resolution of the Institutional Committee of the Tronto River interregional Basin no.3, 7/6/2007
Brief description (including objectives)	The plan deals with the weaknesses and criticalities of the Tronto river basin, which convers an interregional territory (comprising Marche, Abruzzo, and Lazio regions) and comprises the southern part of the municipality of San Benedetto and the whole municipality of Monteprandone. By defining non-binding interventions and advisory tools for the prevention of risk, its strategic objective is to help transitioning from an extraordinary-emergency to a routinised, ordinary type of territory management. As regards the hydraulic risk, as already mentioned, the plan provisions should be considered as replaced by the PGRRAC's ones.

		As far as landslide risk, according to the plan's maps the municipality of Monteprandone result as extensively threatened by medium landslide risk (mostly R2, in yellow in the map below – being level R4 the highest), especially along the course of the Ragnola torrent. The municipality of San Benedetto del Tronto features about 10 small areas of landslide risk (risk level R2 and R3). <<< extract from Landslides map (Board 7)
Concrete climate change adaptation measures foreseen (if any)	The Plan indicates generic approaches for adapting to the weaknesses of the territory, hydraulically and geologically for the most part. As far as hydraulic risk is concerned, among non-structural measures – as the Plan addresses them – are actions to re-profile waterbeds in order to facilitate water discharge and flow and reinforcement of river banks. Flood risk is expected to be treated mostly via: • Total prohibition to build on risk areas • Reprofiling of exposed dangerous slopes • Application of metal containment nets (*cinturazione*).	
Implementation and monitoring mechanisms/procedures	Not specified	
Status of implementation	In force	
Associated funding (if any)	Not specified	
Link	http://www.autoritabacinotronto.it/	

Title	**RL 3. Regional Water Safeguard Plan** **[***Piano di Tutela delle Acque]*
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Time scope: not specified Plan approved by Resolution of the Regional Council with n.145, 26/01/2010, some modification to the related regulation have been introduced later.
Brief description (including objectives)	In a complimentary action with the PGDAC (applied at the hydrographic district level), in compliance with the Water Framework Directive (2000/60/CE) and the national law about water management at regional level (D.Lgs 152/2006), the PTA deals with the integrated protection of water resource of the Marche region. It represents the planning tool for promoting interventions aimed at tackling the degradation of integrated water systems (superficial as well as subterranean). As consumption levels increase and climate change looms large, the PTA aims at building the adaptive capabilities required to a territorial system threatened by climate change through intelligent water use, broadly understood. In particular, the Plan identifies several measures to implement in order to minimise the environmental costs derived from CC effects. The Plan's scope only partially involve measure related to climate change. The most important effects of CC on the Marche Region's water systems have been divided between qualitative and quantitative, and listed as follows: Quantitative • Compromised discharge regimes • Higher frequency of floods • Trend of longer periods of drought • Higher sea levels on average Qualitative • Increasing salinization of aquifers • Thermic stratification of surface and coastal waters • Higher bacterial concentration • Hypertrophication (excessive phosphorous and nitrogen concentration typically resulting in algal blooms) • Diminished oxygenation of surface and coastal waters (ensuing less prosperity and diversity for aquatic life).
Concrete climate change adaptation measures foreseen (if any)	The adaptive objectives and related actions for contrasting the above effects are: • Application of the **minimum water flow** regime (MWF) in order to contrast climate change effects on the mass flow rate of water bodies (through the prevision of insertion devices for every water capitation site) • Water balance practices and rational water withdrawal (increase water storage capability for contrasting emergency periods; one notable measure is to use abandoned quarries as water reservoir)

	• Reuse of wastewaters for industrial, civil and agricultural use (e.g. through installation of efficient water dispenser, application of programmed irrigation practices and the like) • Institution of safeguard protected areas • Monitoring activities (for instance obligation for water service providers to draft periodical report on water provision, consumption and water losses).
Implementation and monitoring mechanisms/procedures	Not specified
Status of implementation	In force
Associated funding (if any)	The financing tools for the above interventions are of two types: public spending and financial allocations based on the tariff system.
Link	http://www.regione.marche.it/Regione-Utile/Ambiente/Tutela-delle-acque/PTA

Title	**RL 4. Integrated Coastal Zones Management Plan** [*Piano di Gestione Integrata delle Zone Costiere*]
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Time scope: not specified Plan adopted by the Regional Assembly and transferred to the Regional Council for approval (Resolution n.675 10/6/2019). It updates the former 2005 Plan
Brief description (including objectives)	The 2019 ICZM deals with the long-run effects caused by both hydrological criticalities and marine agency on the coastal ecosystem of the region. It represents the update of the previous 2005 plan. In this current version, a 7-years financial planning and a 10-years timespan for implementation are set. The ICZM Plan assimilates the contents of the EU directive 2007/60/CE on flood risk management. The ICZM approach aims to be holistic as it encompasses technical site-specific aspects of coastal management and safeguard as well as socio-economic factors. For a hydrographic comb-like system as that of the Marche region, strategic coastal management requires two main ingredients to take place effectively: availability of space along coasts and adequate supply of solid sediments brought by rivers. Operational measures are set in order to contrast the three main pressures faced by the region's coast, namely: • high edification on waterfronts; • scarce contribution of solid material from inland water bodies; • sea level rise.

<table>
<tr><td></td><td>Macro-objectives of the Plan are strategic aims described as follows:
Restoration of dynamic equilibrium over the long run between sea and land interfaces
Enhancement of coastal resilience: establishing the intrinsic capacity of coasts to autonomously withstand physical stress coming from both sea and land
Ensure intra- and inter-generational equity in the usage of coastal areas by safeguarding natural resources and functional relations between different physical ecosystems.
The interventions are spatially organised in 11 coastal areas (SPUs – Secondary Physiographic Units).</td></tr>
<tr><td>Concrete climate change adaptation measures foreseen (if any)</td><td>Climate change is affecting coastal integrity for two main reasons: sea level rise that threatens the width of beaches on the one hand, and the weak hydrographic connectivity jeopardising natural discharge.
Concrete measures put in place are of two main types: structural measures and maintenance measures, and specific actions can be, in turn, soft or hard.
They mostly regard defence works against the erosive agency of tides, and in order to claim drowned land. Together with more strategic, environmental objectives, these measures are oriented to protect human settlements along the coasts as well as infrastructures (primarily roads, and the Adriatic railway line).
<table>
<tr><td></td><td>MAINTENANCE</td><td>STRUCTURAL</td></tr>
<tr><td>TIONS</td><td>• Winter-time interventions on sandy shores for protecting beach properties
• Frequent maintenance of previous interventions (e.g. beach re- nourishment)</td><td>• New breakwater projects (barrie piers)
• Dredging works
• The Lungomare Nord project in A</td></tr>
<tr><td>TIONS</td><td>• Intensive beach scraping
• Beach nourishment from wetlands, cave’s scrap material or from seabed.
• Maintenance of existing breakwaters.</td><td>• Re-sectioning of inland watercou
• Reconstitution of dune areas wit intensive plantations of autochth species.</td></tr>
</table>
The project municipalities affected the structural interventions are San Benedetto del Tronto (11 M €) and Grottammare (9 M€) – both targeted for beach nourishment and replenishment interventions only.</td></tr>
<tr><td>Implementation and monitoring mechanisms/proce dures</td><td>Monitoring activities are organised in relation to the categories of long-term impacts established by the National Strategy for Sustainable Development (SNSvS): People/Prosperity/Planet
As provided for by the SEA (Strategic Environmental Assessment), each Plan’s intervention will be evaluated through indicators of context, plan and effects.</td></tr>
<tr><td>Status of implementation</td><td>Next to be in force</td></tr>
<tr><td>Associated funding (if any)</td><td>Regional funds (ERDF POR), National Port Authority, RFI (Italian Railways).</td></tr>
</table>

Link	http://www.regione.marche.it/Regione-Utile/Paesaggio-Territorio-Urbanistica-Genio-Civile/Difesa-della-costa#Piano-GIZC-2019

Title	**PL 5. Marche Region Environmental Energy Plan** *[Piano Energetico Ambientale Regionale - PAER 2020]*
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Time scope: 2016-2020 Plan approved by the Region with resolution n. 42, 20/12/2016
Brief description (including objectives)	The PEAR 2020 identifies the programming and operational guidelines for the environmental energy policy in the regional territory, it updates the prescriptions of the previous regional plan (PEAR 2005) and thus represents the continuation of the planning process that brought to the acknowledgement of the so-called "2020 Climate & Energy Package" (approved in 2009) into the Italian regional normative system. That Package was absorbed by the Italian national system with D.Lgs. 28/2011, and its objectives shared among the regions through Ministerial Decree in 2012. According to the burden sharing principle, regions are bound to comply with *ad hoc* objectives set for them by national legislation. As far as the Marche region is concerned, the ratio between overall consumption from electricity and thermic renewables (RES-E, RES-T) and gross final energy consumption (FEC) is expected to be at least **15,4%**. The achievement of this percentage is the main objective of the Plan. The Plan is divided into four main sections: a) analysis of the current state in terms of energy consumption and production (either internationally, nationally and regionally); b) assessment of the previous Plan's prescriptions; c) definition of new strategic objectives to be achieved by 2020; d) system of actions to be deployed in order to achieve the Plan's objectives. The objectives set by the PEAR 2005 are considered substantially reached, although not in the expected sectoral allocation. For example, photovoltaic targets were widely over-achieved and compensated for thermic and wind power under-achievements. Future monitoring activities are constructed according to two main scenarios: **Business as Usual (BAU)** and **Energy Efficiency Scenario (EES)**. The first is intended as the future regional energy profile keeping the current trend and the latter is a new scenario provided the present Plan's prescriptions are applied. The following is a summary of the most important actions the Plan proposes, listed by category: **A) Macro-objectives: reduction of gross final energy consumption and increase the share of thermic renewable energy production (FEC, RES-T)** • Housing stock renewal towards Near-Zero Energy Building (mostly via tax credit).

	• Development of cogeneration (especially at the micro level in historical centres). • Sustain social co-housing in smart condominiums. • Foster collective mobility (carpooling, exchange parking and pedestrian/cycle infrastructure). • Encourage the diffusion of alternative fuels (especially electric, biofuels and hybrid). • Development of biomasses thermic energy production (especially domestic and industrial contexts). • Incentivize large municipalities to draft and adopt action plans like SEAPs and SECAPs. **B) Macro –objective: increase the share of electric renewable energy production (RES-E)** • Maintain photovoltaic power to current levels of diffusion as the driver of regional electric renewable production. • Expanding the share of wind power production among other production sources (to date 0,07% of total regional production). New wind power development should prioritize small installations – up to 60 kW – and mostly for agricultural and touristic activities. • Diversified development of hydroelectric power (prioritizing installation that do not deplete watercourses). • Greater commitment on the implementation of smart grids for electricity distribution. • Limited resort to further production from electric biomasses. The PEAR 2020 also provides guidelines for expanding the strategic view beyond 2020, it does so by identifying potential opportunities and constraints emerged in the intervening time that might bring to a partial reconsideration of the Plan's prescriptions. The most important factors are: • Major technological advancements in the conversion, transport and storage of energy; • Growing conflict with communities over the implementation of new energy infrastructures (e.g. NIMBY episodes) • Changing legislation (particularly at the national level, as it is clear how the structure of incentives issued with each Stability Law is likely to affect deeply the outcomes of energy production and consumption.
Concrete climate change adaptation measures foreseen (if any)	The PEAR 2020 does not deal with climate adaptation issues.
Implementation and monitoring mechanisms/procedures	The Plan implementation is monitored annually at national level according to the method approved with the Ministerial Decree 11 May 2015 with the aid of the Italian System for the monitoring of information regarding

	renewable energy (SIMERI), as established by Art. 5 of the DM "Burden Sharing".
Status of implementation	In progress
Associated funding (if any)	The plan mainly refers to the resources of the European structural and Investment funds 2014-2020
Link	http://www.regione.marche.it/Regione-Utile/Energia/Piano-Energetico-Ambientale-Regionale

Local level climate adaptation policies/strategies/plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	**LL 1. Local development participatory strategy for the SOUTHERN MARCHE Fishery Local Action Group** [*Strategia di sviluppo locale di tipo partecipativo per l'area del FLAG Marche SUD*]
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	"F.L.A.G Southern Marche" Foundation Act September 2016. Time scope: 2017/2023. An update is expected by the end of 2019.
Brief description (including objectives)	The "FLAG Southern Marche" is a temporary consortium constituted by the 5 southern coastal municipalities of the region (San Benedetto del Tronto – lead partner, Grottammare, Cupra Marittima, Pedaso and Porto San Giorgio) 5 fishery entities, 1 aquaculture entity, and 4 from the civil society. The strategy faces the fishery sector in a global view, with a wide and organic approach that involve different development components. The overall objective in fact is to strengthen - by 2023 – the basic conditions for the sustainability of the FLAG area's economy through actions that could maintain and improve social and economic prosperity. Specific objectives and ensuing actions outlined by the plan are the following:

Objectives	**Specific objectives**	**Actions (interventions to be financed)**
Obj. 1 – non-material assets Create conditions for youth employment; promoting innovation,	1.A: **Capacity Building**	Animation activities, information, training, best practices exchange /transfer and orientation.
	1.B: **Diversification**:	Direct subsidies for sustaining entrepreneurial initiatives oriented able to diversify the economic proposal.

<table>
<tr><td></td><td>
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<tr><td>diversification and lifelong learning, and generational turnover</td><td>1.C: Innovation</td><td>Subsidies for encouraging innovation along fishery and aquaculture supply chain.</td></tr>
<tr><td rowspan="3">Obj. 2 – Material Assets
Safeguard and enhance local economy's fundamental resources in order to improve and use environmental assets and to improve social wellbeing</td><td>2.A: Fish resource</td><td>Subsidies for projects of biomasses increase, re-naturalisation, sustainable fishing techniques.</td></tr>
<tr><td>2.B: Environmental resource</td><td>Subsidies for SCIs management plans</td></tr>
<tr><td>2.C: Urban resource</td><td>Subsidies for refurbishing underutilised buildings in disembarkment areas destined to community services and street furniture</td></tr>
<tr><td rowspan="3">Obj. 3 – FLAG Marche Sud
Embodying a proactive role as development agency for championing community needs</td><td>3.A: FLAG Management</td><td>Support activities for FLAGs functioning</td></tr>
<tr><td>3.B: Development and cooperation agency</td><td>Actions for spreading innovative thinking, inter-territorial cooperation</td></tr>
<tr><td>3.C: Territorial cohesion</td><td>Developing local partnerships, sharing and confrontation activities</td></tr>
</table>
</td></tr>
<tr><td>Concrete climate change adaptation measures foreseen (if any)</td><td>The FLAG strategy does not finance directly actions related to adaptation. However, opposition to climate change and sustainability are identified as key requirements in the selection and evaluation of projects as regards the actions A.3 “Innovation”; B.1 “Fish resources”; B.3 “Urban resources”.</td></tr>
<tr><td>Implementation and monitoring mechanisms/procedures</td><td>Monitoring activities will be conducted by the FLAG, possibly with the support of external experts to be selected through competitive procedures. The document describing the monitoring system will be drafted, discussed and formally approved by the FLAG management board.</td></tr>
<tr><td>Status of implementation</td><td>In progress</td></tr>
<tr><td>Associated funding (if any)</td><td>The overall Plan’s financial budget is 1.946.600 euros, of which 1.321.600 € from the European Maritime and Fishery Fund 2014-2020 (Priority 4 of the related Operational plan dedicated to “Community-Led Local Development strategies”) and the rest to be taken from private finance and other public funds.</td></tr>
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<tr><th rowspan="2">Costs category</th><th rowspan="2">Total amount</th><th colspan="2">Public funding</th><th colspan="2">Private funding</th><th colspan="2">Other public funding</th></tr>
<tr><th>€</th><th>%</th><th>€</th><th>%</th><th>€</th><th>%</th></tr>
<tr><td>Preparatory support</td><td>21.600</td><td>21.600</td><td>0%</td><td>---</td><td>0%</td><td>---</td><td>0%</td></tr>
<tr><td>Implementation of operations</td><td>1.525.000</td><td>900.000</td><td>59%</td><td>600.000</td><td>39,3%</td><td>25.000</td><td>1,6%</td></tr>
<tr><td>Cooperation activities</td><td>75.000</td><td>75.000</td><td>0%</td><td>---</td><td>0%</td><td>---</td><td>0%</td></tr>
<tr><td>Running cost</td><td>255.000</td><td>255.000</td><td>0%</td><td>---</td><td>0%</td><td>---</td><td>0%</td></tr>
<tr><td>Animation of the CLLD strategy</td><td>70.000</td><td>70.000</td><td>0%</td><td>---</td><td>0%</td><td>---</td><td>0%</td></tr>
<tr><td>Total</td><td>1.946.000</td><td>1.321.000</td><td>67,9%</td><td>600.000</td><td>30,8%</td><td>25.000</td><td>1,3%</td></tr>
</table>

The 70% of the programme as a whole addresses private recipients. As far as private resources a 2,3 leverage is envisaged in relation to the public ones (i.e. 650'000 euros for a 1'500'000 investment).
</td></tr>
<tr><td>Is the plan a good practice? If yes, why?</td><td>The FLAG strategy can be considered a good practice because of two main reasons:
a) its programming process was participated by different actors involved in a common strategy;
b) it deals with the fishing sector following an approach oriented to sustainable local development in a broad sense, as it provides for actions representing pre-conditions for the sustainable development of the sector and the territories.</td></tr>
<tr><td>Link</td><td>https://www.flagmarchesud.it/</td></tr>
</table>

Title	**LL.2 Sustainable Energy and Climate Action Plan – Municipality of San Benedetto del Tronto** [*Piano d'Azione per l'Energia Sostenibile e il Clima San Benedetto del Tronto]*
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Time scope 2019-2030 SECAP mitigation section was approved on April 2019, SECAP adaptation section is currently being drafted
Brief description (including objectives)	The Municipality of San Benedetto joined the Covenant of Mayors on 21/03/2011, then with the support received within the IEE project "City-SEC" drafted its first SEAP, providing for 20% emission reduction targets by 2020. The Municipal Council approved it on 24/01/2013. Later in 2016, the Municipality started collaborating with SVIM - the Marche region development agency - within the H2020 project "Empowering" funded under the 2015 Market Uptake call (https://www.empowering-project.eu/en/). As part of the project, the municipality joined the new "Covenant of Mayors for Climate and Energy", initiative born in 2015 from the merger of CoM and Mayors Adapt and committed to the update of its SEAP in line with the 2030 mitigation and adaptation objectives envisaged by the initiative. During 2018, with the technical support of SVIM, the municipality updated the mitigation section of the document adopting a 40% emissions reduction target by 2030. The revised action plan includes 28 actions, for a total saving of 117,520 tCO2, divided into 8 sectors (public building stock, public lighting, residential, tertiary, industry, transport, renewable electricity, waste).
Concrete climate change adaptation measures foreseen (if any)	Within the current SEAP, with specific regard to climate change adaptation, the municipality declared as priority objectives the reduction of the hydrogeological risk in the urban area and the preservation of the local agricultural sector, put to the test by extreme weather events in the last years. The integration of the plan with adaptation actions aimed at reducing climate vulnerability and increasing resilience will be addressed in the next 2 years, during the implementation of the Joint SECAP Interreg project. Nevertheless, some of the mitigation actions have positive effects also in terms of adaptation, in particular those aimed at increasing the energy efficiency of buildings, as contributes to the improvement of the thermal response, can be effective in terms of maintaining living comfort even in a temperature rise scenario.
Implementation and monitoring mechanisms/procedures	Implementation and monitoring procedures are specified in the SEAP per single action.

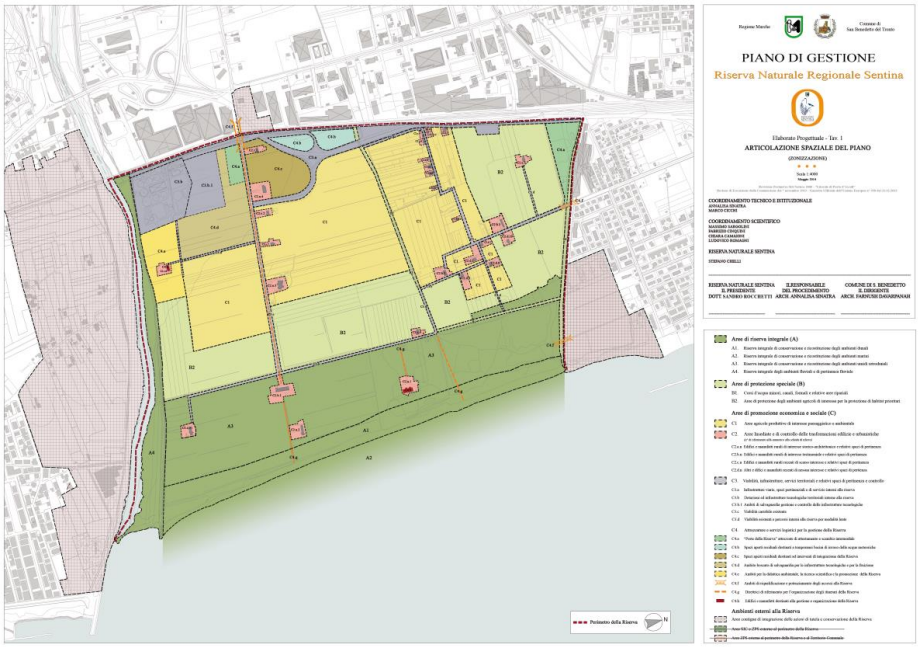
	The Monitoring Plan provides for the periodic drafting of a report on the progress of the implementation of the planned interventions, based on a list of performance indicators. Monitoring reports will be submitted to EU every 2 years from the approval of the SEAP: • Action Report: 2021, 2023; 2025; 2027; 2029 • Implementation Report, including Monitoring Emission Inventory: 2023; 2027.
Status of implementation	In progress
Associated funding (if any)	Specified for each action
Is the plan a good practice? If yes, why?	---
Link	

Title	**LL3. Civil Defence Municipal Plans - Municipalities of San Benedetto del Tronto, Grottammare, Cupra Marittima, Monteprandone** [*Piano comunale di protezione civile San Benedetto del Tronto, Grottammare, Cupra Marittima, Monteprandone*]
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Time scope: not specified San Benedetto del Tronto's Plan approved in 2018; Monteprandone's plan approved in 2018, Grottammare's plan approved in 2014, Cupra Marittima's Plan approved in 2013.
Brief description (including objectives)	Civil Defence municipal planning has been introduced in 1992 with L. 225/1992 (institution of the Civil Defence service) and L. 112/1998 (devolution of tasks to Regions and Municipalities). Civil defence municipal Plans are official documents that establish all the operative procedures for local population to follow in case of calamity or natural disaster. For any given – and applicable, according to the territory – type of natural risk geographical maps of spatial danger and emergency procedures are issued, and also the responsible personnel are indicated. For the purpose of this analysis, the most important types of risk are seismic, hydro-geological, flood, fire. Each plan should feature (note that municipalities' Civil Defence plans differ a lot in terms of detail, quality and scope) a **cognitive** part – what types of risk are more likely for each locality and to what degree – and an **operative** part, dealing more closely with concrete actions to be undertaken and by whom. Essential indications are the identification for each place of:

	- A Municipal operative centre (**C.O.C**): a collegial committee appointed with coordination tasks; - **Amassment Areas** where all the resources of the Civil defence will concentrate - **First Aid Areas** to be reached in the immediate aftermath of a calamity - **Hospitalisation Areas** to be equipped with provisional accommodation and basic services. With respect to the cognitive section of plans, analysis and risk mapping are delivered for each of the four municipalities at issue. Risks are divided into two categories: foreseeable risk (hydro-geological, snow risk) and unforeseeable risk (seismic, fire, ecological, transport). The territory of **Monteprandone** highlights: • **level 2** of seismic risk on the whole municipal territory (being level 1 the highest) • landslide area (code F-33) circumscribed in the Monterone Contrada The territory of **Cupra Marittima** highlights: • **R4** landslide risk (highest level) located in the old town (known as "Marano") • Diffused seismic risk in the rural areas of the municipality (old buildings built before anti-seismic legislation), and in the old town of Marano The territory of **Grottammare** highlights: • Scattered landslide risk (either **R1**, **R2** and **R3**) • Concentrated flood risk along the Tesino layout (**R1**, **R2**, **R3**, **R4**) • Seismic risk **level 3** on the whole municipal territory The territory of **San Benedetto del Tronto** highlights: • **E4** (high), **E3** (medium), and **E1** (moderate) hydrogeological risk covering the southern area bordering the Tronto river (Sentina natural reserve and surroundings) • Scattered landslide risk in the internal part of the municipality
Concrete climate change adaptation measures foreseen (if any)	These Plans do not deal with climate change adaptation measures directly, on the other hand they establish procedures and routines to adopt when a potentially catastrophic event takes place. Emergency procedures and facilities (amassment and first aid areas) are listed for each municipality. The municipality of San Benedetto del Tronto has also taken part (as one of the two pilot municipality in the Marche region) to the regional participatory project **CAAP (Civic AdaptAction Plan)** launched in order to strengthen citizens' resilience in case a calamity occurs. The CAAP is meant to be a training complement to the Emergency Plan, as it develops a bottom-up approach to risk adaptation. Specifically, the CAAP offers a number of workshops and tutorials for citizens to follow in order to improve their

	understanding risk and shape their capability to react. From this participation process emerged above all the perception of civil society that risk (especially hydrogeological) will grow over the next decades. Thanks to the indications gathered during the workshops, the Municipality already modified its Emergency Plan implementing novel approaches as regards evacuation modalities and coordination with school delegates.
Implementation and monitoring mechanisms/procedures	Not specified
Status of implementation	In force
Associated funding (if any)	Not specified
Is the plan a good practice? If yes, why?	All four Plans are recent, promptly updated and detailed in outlining binding procedures. Particularly, the Municipality of San Benedetto del Tronto proved successful in integrating bottom-up approaches to the Emergency Plan.
Link	

Title	**LL4. Sentina Regional Natural Reserve Management Plan** [Piano di Gestione della Riserva Naturale Regionale Sentina]
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Time scope: not specified Plan approved by the Municipal Council of San Benedetto del Tronto by resolution n. 31, 6/05/2014.
Brief description (including objectives)	According to the national framework law no. 394/1991 on natural reserves' protection, detailed, site-specific plans have priority over any other type of spatial planning, and represent, therefore, the chief planning tool for regulating the local environment. The Riserva Sentina is a natural protected area in the province of Ascoli Piceno, within the municipality of San Benedetto del Tronto, just above the Tronto river. The protected area has been established in December 2004, with an approximate coverage of 180 Ha. It is part of a larger conservation project: "Natura 2000". The main problem that threatens the ecological integrity of the area is the almost total **disappearance of humid zones** (once represented by a diffused system of ponds and small water basins) within the reserve, and the ensuing prevalence of seawater over freshwater. This condition is due to the intensive reclamation activity operated in the area in order to extend agricultural land during the 1950s and the 1970s. Together with these criticalities provoked by human agency comes the erosive action of the Adriatic Sea that is progressively reducing the beach interface. The interplay between this latter pressure and the lost contribution of solid material from inland hydrography (once abundantly ensured by the Tronto river discharge) is aggravating the hydrological condition of the Sentina Reserve as a whole.

	Ultimately, the physical reconfiguration described above results in a notable **habitat reduction** jeopardising the survival of the extremely rich and diverse fauna present in the area. 
Concrete climate change adaptation measures foreseen (if any)	Plan goals are organized into 4 main preservation sections, namely: **water**, **biodiversity**, **environment**, **cultural goods**. Within each category, a number of macro-objectives is enounced, each of them substantiated by actual concrete measures for countering the analyzed pressures. Below is a summary of the measures that can be labelled "**adaptive**" more appropriately. <u>Ecosystem conservation</u>: • Restoration of natural habitat for protected species (especially dunal and marshland) • Reintroduction of extinct species <u>Intensive agriculture's impact reduction</u>: • Interdiction of intensive agriculture and incentives to biological cultivations • Agricultural practices that enhance and preserve floral and faunal diversity <u>Coastal integrated management</u>: • Restoration of water edge / dunal equilibrium • Protection of the coasts from erosion (beach nourishment replenishment interventions and construction of new breakwaters) <u>Improving the quality of water resource (although hardly addressable at this spatial level)</u>: • Installation of a phytodepuration plant.

Implementation and monitoring mechanisms/procedures	Plan's attachment no. 15 consists in a monitoring programme including a number of **quantifiable indicators** related to each macro-objective. Periodic reports are issued in order to identify progress and/or regression, or to suggest a re-elaboration of macro-objectives.
Status of implementation	In force
Associated funding (if any)	Not specified
Is the plan a good practice? If yes, why?	---
Link	http://www.riservasentina.it/it/la-riserva-documenti.html

Title	**LL5. On going River Contracts and CREW Project** [Contratti di fiume in corso e Progetto CREW]
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Currently being drafted
Brief description (including objectives)	The River Contracts are voluntary tools for strategic and negotiated planning that pursue the protection, the correct management of water resources and the enhancement of river territories together with the safeguard from the hydraulic risk, contributing to local development. This definition applies also to water body categories other than the river, such as lake, coastal, transitional, mouth and groundwater contracts. The stakeholders involved in the RC define a shared Action Program (PA) and undertake to implement it by signing an agreement. In 2007, the "National River Contracts Table" was established by the Italian Local Agenda 21 Coordinating body with the aim of contributing to the improvement of intervention policies in river territories, and in 2015, specific guidelines were released. The implementation of River Contracts includes the following steps: - Sharing a document of intent containing the reasons and the general objectives; - Development of an appropriate preliminary cognitive analysis integrated on the environmental, social and economic aspects of the territory; - Elaboration of a strategic document; - Definition of an Action Program. - Implementation of open and inclusive participatory processes;

	- Signing of a formal commitment, the River Contract; - Activation of a system for monitoring and periodic monitoring of the contract to verify the status of implementation of the various phases and actions; - The data and information on the River Contracts must be made accessible to the public; The Marche Region at the ned of 2014 has adhered to the National Charter of River Contracts and in 2016 established the "Permanent Regional Technical Table for Coordination of River Contracts". Within the project area, the following River contracts have been activated: - the Tesino river contract (which involves the municipality of Grottammare as lead partner, other 9 municipalities and 25 public and private stakeholders); - 4 Torrent contracts in the territory of San Benedetto del Tronto. In addition, the Municipality of San Benedetto del Tronto, through an Italy-Croatia Interreg project called CREW: “Coordinated Wetland Management in Italy-Croatia cross border region”, has started the preparation of a Wetland Contract covering the Sentina area, where are the homonymous natural reserve and the Tronto River mouth.
Concrete climate change adaptation measures foreseen (if any)	At the current state of progress, the river contracts launched on the territory do not contain specific indications concerning adaptation actions. It is worth noting, however, that the Tesino River manifesto states that: "the need to start a path towards the River Contract is amplified by the fragility of the territory that periodically displays itself on the occasion of the extreme weather events, also in consequence of the climate change in progress and of the levels of soil sealing especially near the mouth "
Implementation and monitoring mechanisms/procedures	---
Status of implementation	Preliminary phase
Associated funding (if any)	The manifesto of the Tesino river contract explicitly mentions the use of European Structural and Investments Funds in particular the ERDF, ESF, EAFRD.
Is the plan a good practice? If yes, why?	---

PART 2: FUNDING TOOLS

Category	Notes
National funding	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities related to public-private partnership schemes.*
NF 1. National Plan for the Mitigation of Hydrogeological Risk, Restoration and Protection of the Environmental Resources	
The plan approved with Prime Ministerial Decree on 20/02/2019 aims to provide a unitary framework of intervention with indications on the needs, available financial resources, time schedule, responsibilities and governance system. In the short term, it aims to reorganize measures envisaged by current plans and distribute resources, triggering the works implementations whenever the projects are ready and the resources allocated. By summer 2019 an extract of this plan is expected to be issued listing the projects ready to start by 2019, the total budget amount to 3 billion euros. According to the 2017 program "Italia Sicura" prepared by the former government with the same aims, the plan should include at least 5 interventions on the project area. The interventions are: • *Hydraulic maintenance and consolidation of the left bank of the Tronto river from the ANAS bridge to the mouth (San Benedetto del Tronto);* • *Ragnola stream hydraulic system (San Benedetto del Tronto);* • *Securing of the stretch of the Tronto River in the territory of the municipality of Monteprandone;* • *Securing the stretch of the Menocchia stream in the municipal area of Cupra Marittima;* • *Securing the stretch of the Tesino torrent at the San Martino site (Grottammare).* The progress level for the abovementioned works suggests they will not be included in the 2019 extract.	
Regional funding	*Please describe any regional provision for funding climate change adaptation measures (if any), including funds deriving from European resources (e.g. structural funds allocated through specific actions of the Regional Operational Programmes) and opportunities related to public-private partnership schemes.*
RF 1. Marche Region ERDF ROP 2014-2020	
The Marche Region ERDF ROP 2014-2020, as modified after the 2016-2017 seismic events, has a total budget of 585 M€ split over 8 priority axis. The budget allocated on climate related objectives is around 140 M€ (23,4%). The budget on TO 5 "Promoting climate change adaptation, risk prevention and management" amounts to 80,8 M€ (13,8%). **AXIS 5 – ADAPTATION TO CLIMATE CHANGE, RISK PREVENTION AND RISKS MANAGEMENT** provides resources for 22,8 M€ and includes 2 different actions both under the investment priority "5b - Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems": **Action 15.1 Securing measures and resilience increasing on the most prone to hydrogeological risk and coastal erosion areas**: it provides for concerted interventions with the State Railways and in accordance with the priorities established by the Integrated Management Plan for Coastal Areas. it finances the following kind of interventions: • maintenance of existing coastal defence works • recovery and re-naturalization of the coast in order to adapt to climate change, • collection and laboratory analysis of sediment samples • execution of hydraulic and morphological studies • dredging and sediment handling	

- morpho-bathymetric surveys
- implementation, management and updating of territorial information systems.

The potential beneficiaries are Region, Provinces and municipalities in single or associated form, Public Works Department (Provveditorato OOPP), Italian Railway management company (R.F.I.).

Action 15.2 Extraordinary maintenance of the water network - including drainage, lifting and flooding systems - and the stabilization of the slopes, using, where possible, green infrastructures: it provides for pilot projects, on rivers with mouths in built-up areas or passing through industrial areas.

The Tronto river whose mouth covers the peripheral area of San Benedetto is one of the 7 rivers explicitly indicated. Extraordinary maintenance actions are foreseen to guarantee the regular flow of flood rates and to maintain hydraulic sections capable of letting out the maximum flow rates. Alongside this type of intervention, the requalification and re-naturalization of water bodies and their areas of relevance is fundamental.

The potential beneficiaries are Region, Provinces and municipalities in single or associated form, Public Works Department, Land Reclamation Consortia.

Further resources are available for the Municipalities located in the seismic crater or classified as high-very high seismic risk under the AXIS 8 – SEISMIC HYDROGEOLOGICAL PREVENTION, ENERGY RETROFITTING AND SUPPORT FOR THE SOCIO-ECONOMIC RECOVERY OF THE AREAS AFFECTED BY THE EARTHQUAKE. It is a multi-objective axis accounting for 58M€ and includes a wide range of actions under 5 TOs. Among these, the action 27.1 under TO5 is equal in title and content to the above-mentioned 15.2.

RF 2. Marche Region Rural Development Programme 2014-2020

The programme as per its last version, has a total budget of around 538 M€ split over 20 measures, dedicated to 6 priories and 3 crossing objectives: environment, climate change and innovation. Opportunities for adaptation actions can be found mostly under the following measures:

MEASURE 5 - RESTORATION OF CROP POTENTIAL DAMAGED BY NATURAL DISASTERS AND INTRODUCTION OF PREVENTION MEASURES. It includes 2 sub-measures:

Sub-measure 5.1 - Prevention and mitigation of the hydrogeological risks. It supports investments for the following purposes:

- Prevention of hydrogeological instability through the construction or enhancement of works for the regulation of water in agricultural lands
- Safeguard of the efficiency of the hydraulic network with the construction or improvement of works to contain the erosion through the consolidation of the banks (with works of naturalistic engineering and with a selective cutting of the vegetation of the embankment and in the riverbed and the following planting of autochthonous forest varieties) and maintaining an adequate flow section, also with riverbed interventions (with restoration works or expansion of the outflow sections)
- Realization of works, or improvement of the existing structures, to prevent flooding by favouring the removal of water from cultivated areas, even in cases of extreme weather events

The potential beneficiaries are farmers – single or associated, public bodies in charge of soil protection, the regional land reclamation consortium, public-private bodies in charge of the management of agro-forestry-pastoral goods. The funding rate varies from 70% to 80%.

Sub-measure 5.2 - Recovery measure after disasters. It can be granted only after the recognition of the state of calamity or the exceptional nature of the event by the competent national authority and allows the restoration of the productive potential damaged by the event, allowing the agricultural enterprise to resume production activity. The beneficiaries are exclusively farmers and the funding rate is 100%.

MEASURE 16 - COOPERATION. It explicitly includes:

Sub-measure 16.5 - Collective actions for climate change mitigation and adaptation and for environmental improvement.

It is aimed at supporting activities related to the implementation of Agri-Environmental Agreements (AEA), whose object is the identification and joint implementation of a plurality of projects both at company and inter-company level, aimed at addressing specific environmental problems in a specific territory. In particular, the operation is aimed at supporting the following activities:

1. participatory approach to the solution of local environmental problems, with specific actions of animation and involvement of the different actors of a given territory
2. planning of integrated interventions aimed at achieving environmental and climate objectives, based on the results of the participatory approach referred to in the previous point
3. coordination of the implementation phase of the agri-environmental agreement, both with regard to individual measures and system measures

The sub-measure includes three actions with 100% funding rate:

Action 1: soil protection and prevention of hydrogeological risk. Potential beneficiaries are: Municiapalities and their association, farmers associations, Land Reclamation Consortium, public-private bodies in charge of the management of agro-forestry-pastoral goods, Protected Areas managing bodies

Action 2: protection of biodiversity. Potential beneficiaries are Natura 2000 sites managing bodies

Action 3: protection of water quality. Potential beneficiaries are Municiapalities and their association, farmers associations, Protected Areas managing bodies.

Further opportunities can be found under the following RDP measures:

MEASURE 4 - INVESTMENTS, with special reference to:

Sub-measure 4.2.B Investments to reduce energy consumption: it supports agri-food enterprises that make tangible and intangible investments to reduce energy consumption by increasing the efficiency of plants and production facilities. The funding rate varies from 40% to 60%

Sub-measure 4.3.B Development, modernization and enhancement of irrigation infrastructures: It supports investments to build, modernize, upgrade and restore water collection, flooding, lifting, supply and distribution structures; to realize and improve structures, equipment and systems for the automation, measurement, monitoring and remote control of the plants. The beneficiary is the Regional Land Reclamation Consortium, the funding rate is 100%

MEASURE 8 - FORESTRY, with special reference to:

Sub-measure 8.3 Prevention of damage caused by forest fire and natural disasters: it includes three actions with 100% funding rate:

Action 1 - Investments to reduce the risk of forest fires, the potential beneficiaries are local authorities and non-economic public bodies

Action 2 - Investments to reduce hydrogeological risk, the potential beneficiaries are local authorities and non-economic public bodies

Action 3 - Investments for the monitoring of forest fires and other natural disasters, the beneficiary is the Marche Region

Local funding	*Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities, etc.)*

LF 1. EMFF 2014/2020 PO – Priority 4
[Programma operativo FEAMP 2014/2020, Priorità 4]

The EMFF is the EU's maritime and fisheries policy fund for the 2014/2020 period. It is one of the five European Structural and Investment Funds aiming at supporting job creation and a sustainable and healthy European economy and environment. In particular the fund aims to

- support fishermen in the transition towards sustainable fishing
- help coastal communities diversify their economies
- finance projects that create new jobs and improve the quality of life in coastal regions
- facilitate access to finance

Based on the experience of Coast Action Groups during the previous programming period, the EMFF National Operational Program of the EMFF funds under the priority 4, the preparation and implementation of Community Led Local Development strategies with the general objective of improving living conditions and employment of the most declining communities dependent on fishing.

The strategies and action plans - for which a spending program of between € 1 and € 5 million is envisaged - refer to specific sub-regional areas and are managed by public-private partnerships called FLAG (Fishery local action Group) with the supervision of Regional Authorities.

In the Marche Region 3 FLAGS were approved: Northern, Central and Southern Marche –and received a contribution for the development of their strategies action plans.

The Marche Sud FLAG, includes 5 Municipalities as public partners, among which San Benedetto del Tronto (lead partner), Grottamare and Cupra Marittima. The related local development strategy provides for a total budget of Euro 1.946.600 (refer for its objectives to the PART I of this document, LL 1).

At the moment, no specific action on climate adaptation is envisaged, however the climate change is explicitly indicated as an aspect to be considered in the definition of the calls for proposals and a preference factor in selecting projects. Further and more specific references to adaptation could be integrated following the revision of the document expected by the end of 2019

References: http://www.regione.marche.it/Regione-Utile/Agricoltura-Sviluppo-Rurale-e-Pesca/Fondo-Europeo-per-la-pesca

[PP3] Abruzzo Region

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**Italian National Adaptation Strategy to Climate Change (NAS) and Integrated National Energy and Climate Plan (NECP)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	After approval from the "State-Regions Unified Conference" on 30th October 2014, the Italian National Adaptation Strategy was finally adopted in June 2015 by a Directorial Decree of the Climate and Energy General Directorate, establishing specific objectives to be reached by 31st December 2016 (Directoral Decree no. 86 16/6/2015). The National Plan has been developed by a team of policymakers and technicians who are part of the Ministry of Economic Development, the Ministry of the Environment, Land and Sea Protection and the Ministry of Infrastructure and Transport, GSE, ENEA, RSE, ARERA, ISPRA and Politecnico di Milano.
Brief description (including objectives)	According to the European path for adaptation, in 2015 the Ministry for the Environment Land and Sea (IMELS) adopted the Italian National Adaptation Strategy to Climate Change (NAS). The NAS is a tool for encouraging adaptation actions in planning activities at national, regional and local levels. The Directorate General for Climate and Energy of IMELS is currently working for the implementation of the NAS through the Integrated National Energy and Climate Plan. Indeed, according to the governance of the energy union and climate action rules, which entered into force on 24 December 2018, EU countries are required to: • develop integrated National Energy and Climate Plans (NECPs) that cover the five dimensions of the energy union for the period 2021 to 2030 (and every subsequent ten year period) based on a common template; • submit a draft NECP by 31 December 2018 and be ready to submit the final plans by 31 December 2019 to the European Commission; • report on the progress they make in implementing their NECPs, mostly on a biennial basis The preparation of the NECPs is thus foreseen by the Governance Regulation of the Energy and Climate Action Union (Regulation (EU) 2018/1999). The new governance rules underline the importance of effective public participation and regional cooperation in the development and implementation of these NECPs, ensuring that the views of citizens and businesses as well as regional and local authorities are heard. The involvement of the Italian regions, including Abruzzo Region, in the elaboration of the NECPs is still ongoing.

	Targets and goals on adaptation will be set directly by Regions at local level, based on the principles and guidelines included in the Strategy and the Plan. The NECPs are a key element in achieving the objectives of the Paris Agreement, as well as those defined in the framework of the Energy and Climate Package of the European Union. They are also the tools to implement the National Strategy. The Italian NECP is a thorough and wide-ranging document that integrates energy and environment strategies, the National Strategy for Sustainable Development and the 2050 long-term strategy for GHG reduction. It is is divided into 5 dimensions: 1) Climate action-decarbonizing the economy; 2) Energy efficiency; 3) Security, solidarity and trust; 4) A fully-integrated internal energy market; 5) Research, innovation and competitiveness. Concerning the objectives, the first part of the Plan with the target that Italy aims to reach in terms of renewable energy, emissions and energy efficiency. The forecasts made by technicians in the energy field demand are encouraging: according to the experts consulted, in fact, as much as 30% of gross final consumption will be covered by renewable sources by 2030. The industrial sectors will contribute differently to the achievement of the target. In the electricity segment, 55.4% will be achieved, in transport 21.6% and in heating 33%. Another issue addressed in the Italian NECP is energy efficiency. In this case, specialists have estimated a reduction in primary energy consumption of 43% and final energy of 39.7% compared to what was reported in the PRIMES 2007 energy plan. The Plan also deals with emissions in the period 2020-2030. In this case, the target is a 33% reduction in greenhouse gases for all sectors not covered by the ETS.
Concrete climate change adaptation measures foreseen (if any)	The main measures established to achieve the objectives of the PNEC are organized into 13 scopes, that is: Emissions, Electric RES, Electric RES and thermal RES, thermal RES efficiency, RES in the transport sector, efficiency in the transport sector, efficiency in non-transport sectors, electricity security, gas security, electricity market, electricity and gas market, gas market, research, innovation and competitiveness. Each scope foresees a set of measures which are regulatory, planning, economic, informative, fiscal or research. The Plan highlights the climate impacts on the energy system and consequently, it details the measures needed to create a resilient energy system that remains reliable through short- and mid-term climate scenarios and is able to continuously evolve, even in long-term scenarios, such as: promoting the development of micro grids and smart grids; implementing programmes and instruments for managing and guiding demand (demand-side management); promoting the application, across all sectors, of best available technologies (BAT) for managing energy efficiency; improving interconnections with European networks to offset the use of discontinuous renewable sources. In general, the use of advanced technologies, is fostered as able to effectively contribute to the fight against and the adaptation to climate change, and at the same time to increase the competitiveness of the national production system consistent with the priorities of 'Industry 4.0'.

Implementation and monitoring mechanisms/procedures	Indicators for the monitoring-reporting-evaluation system are foreseen
Status of implementation	The Italian Plan is dated 31/12/2018. Once submitted, the NECPs were assessed and analysed by the Commission. On 18 June 2019, the Commission published a Communication assessing the 28 draft NECPs as a whole, together with specific recommendations and a detailed "Staff Working Document" for each Member State and two detailed annexes on methodology and national forestry accounting plans. Member States have until the end of 2019 to submit their final NECP. The draft Italian Plan, along with the comments and recommendations by the Commission, is available at https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/governance-energy-union/national-energy-climate-plans
Associated funding (if any)	The Plan lists subsidies and incentives in the field of energy and environment available for the past years, such as the feed-in tariff: incentive system dedicated to photovoltaic solar plants (from 2005 to 2012) or VAT reduction for urban transport taxi service.
Title	**The Italian National Adaptation Plan to Climate Change (NAP)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	The Directorate General for Climate and Energy of 2015 the Ministry for the Environment Land and Sea (IMELS) has worked for the implementation of the NAS through the Italian National Adaptation Plan for Climate Change (NAP), developed with the support of the Euro-Mediterranean Centre on Climate Change (CMCC). The Plan is in a draft status.
Brief description (including objectives)	The NAP provides institutional guidance to national and local authorities for the elaboration of regional strategies or plans and for the integration of climate change adaptation within spatial and sectoral planning. The areas for actions in the NAS were selected according to a sectorial approach, based on socio-economic relevance and vulnerability to the impacts of climate change. The sectors considered in the NAP are coherent with the NAS. The following 18 sectors are considered in the Draft NAP: water resources, marine environments, inland and transitional waters, coastal zones, hydrogeological instability, desertification, soil degradation and drought, terrestrial ecosystems, forest ecosystems, agriculture and food production, sea fishing, aquaculture, tourism, urban settlements, transport, industry, cultural heritage, energy, and health.
Concrete climate change adaptation measures foreseen (if any)	The Draft NAP provides a set of adaptation actions for the different sectors taken into consideration. The actions were evaluated through a set of selected criteria and a subset of relevant actions were identified. These actions are focused on: biodiversity, coastal zones, hydrogeological instability and urban settlements, even though they are connected to all sectors of the NAP. The IMELS supports adaptation actions trough the following measures: Notice on Small Landslides: hydrogeological risk reduction due to mountain municipality landslides in order to promote climate change adaptation.

	National programme on resilience increases of natural and semi-natural forestry systems, through the recovery, the structural and functional restoration of ecosystems and their service functionality and through consistent actions with the biodiversity protection and conservation (flora, fauna, vegetation and natural and rural landscape) in the protected areas crossed by the fire. Measures for energy efficiency, sustainable mobility and climate change adaptation in the small islands. Under the European cooperation for regional development programmes (ERDF) the IMELS coordinated a project to support the regional environmental authorities of four Italian regions (Convergence Objective Regions: Calabria, Sicily, Campania and Apulia) to implement the principles of the NAS in future regional adaptation plans. A report on the state of climate change adaptation for each region has been released on October 2016. Moreover, in the framework of CReIAMO PA Project: Skills and Networks for the Environmental Integration to better organise the Public Administration, in 2018 the IMELS started the activities of action L5: Strengthening of administrative capacity for climate change adaptation, with the aim to support regions and municipalities with guidelines for developing local adaptation strategies or plans and for training administrators on climate changes adaptation. Through these activities the IMELS started the mapping of the current state of adaptation in the Italian regions.
Implementation and monitoring mechanisms/procedures	The Draft NAP provides an indication of roles for implementing integrated adaptation actions. A monitoring system, in order to evaluate progress in implementing the NAS is not yet in place, neither at national nor at regional level. However, the process toward the National Adaptation Plan, started in 2016, was taking into consideration the need for a Monitoring, Reporting and Evaluation (MRE) System. Guidelines and indicators will be therefore defined in order to monitor the state of implementation and the effectiveness of adaptation actions. Furthermore, in 2016 the National System for Environmental Protection, which is composed of the National Institute for Environmental Protection and the Regional Environmental Protection Agencies (Law n. 132/2016), set up a national Working Group on “Impacts, vulnerability and adaptation to climate change” with the main objective to define a set of climate change impact indicators, according to the knowledge gaps currently existing in Italy. A first portfolio of 150 potential climate change impact indicators has been identified and a prioritization phase is currently being implemented. The resulting indicators will build therefore a quantitative knowledge base on the impacts of climate change as a reference framework for the MRE initiative on adaptation.
Status of implementation	The NAP was drafted in December 2016. During 2017 and the first half of 2018, IMELS carried out a check on the draft NAP by a consultative process involving national, regional and local authorities, universities, research centres and other stakeholders. The approval of the NAP should have occurred through an

	Agreement with the State-Regions Conference. However, there Plan is still in the status of the first public consultations dated July 2017.
Associated funding (if any)	The Plan defines the possible sources of funding and assess the necessary financial and human resources. A possible financial resource for adaptation can be obtained from the application of the Directive 2003/87/CE (art. 3) concerning the setting up of the "carbon market" for trading CO2 allowances. The revenues of the auctions can be used, up to the extent of 50% of the total, to support adaptation actions.
Title	**Italian National Energy Strategy 2017**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Approved in 2017

Brief description (including objectives)	The National Energy Strategy is the ten-year plan that the Italian Government drew up to anticipate and manage the change of the national energy system: a document looking beyond 2030, and laying the groundwork for building an advanced and innovative energy model. The document results from a participative process that involved the Italian Parliament, the Regions, and over 250 stakeholders, including associations, companies, public entities, citizens, and representatives of academia. The numerous contributions given to the process testify the priority that the public opinion assigns to energy and environmental issues. The objective of the Strategy is to make the national energy system more competitive, more sustainable, and more secure. The targets of the plan are: • enhancing Italy's competitiveness, by continuing to bridge the gap between Italian energy prices and costs and European ones, in a global context of rising energy prices; • attaining Europe's environmental and decarbonisation targets by 2030 in sustainable ways, in line with the future targets set by COP21; • continuing to improve the security of energy supply and the flexibility of energy systems and infrastructures: • narrowing the gap between Italian natural-gas costs and north-European ones; this gap amounted to about € 2/MWh in 2016; • narrowing the gap between Italian electricity prices and average EU ones; this gap was equal to roughly € 35/MWh in 2015 for an average household, and to about 25% on average for companies; • further promoting the dissemination of low-emission RES; • Furthering energy-efficiency projects that maximise sustainability benefits, and keeping system charges low; • curbing yearly energy consumption from 2021 to 2030 (10 Mton); • accelerating the decommissioning of coal-fired thermal power plants by 2025, based on a detailed plan of infrastructural actions; • doubling investments in research and development of clean-energy technologies: from € 222 million in 2013 to € 444 million in 2021; • changing sectoral energy mixes to promote the achievement of non-ETS2; • CO2 emission reduction targets, by focusing on the residential and transport sector.
Concrete climate change adaptation measures foreseen (if any)	The Strategy – a centrepiece of the future Energy and Climate Plan – sets out measures to achieve sustainable growth and environmental targets, as envisaged by COP21, contributing in particular to a low-carbon economy and to the fight against climate change. Renewables (RES) and energy efficiency will contribute not only to environmental protection, but also to energy security (by reducing the dependence of the energy system) and cost-effectiveness (by favoring the reduction of costs and prices).
Implementation and monitoring mechanisms/procedures	Energy is a cross-cutting issue, which requires a resolute action of coordination among the various parties involved (Central Government, Regions, scientific institutions) and cooperation with the energy regulator. Moreover, policies in

	the energy sector should be integrated with those in other sectors, so as to take a consistent approach, capture possible synergies, and offer new business opportunities. This is the reason why the Strategy provides for the setting-up of a special Steering Committee. The members of the Committee, coordinated by the Ministries of Economic Development and of the Environment, are representatives from the Ministries of Economy, Transport, and Cultural Heritage, as well as from the Regions; periodical consultations with local governments are also planned. Additionally, to ensure transparency in monitoring the implementation of the Strategy, the Government will have to present a yearly report to the Parliament on the status of implementation of the Strategy, and on the actions taken to achieve its targets, as well as to undertake a participative process of revision of the Strategy every three years. The Strategy also sets forth actions to streamline and rationalise the energy system, with a view to obtaining significant reductions in the costs of RES technologies, while abiding by the legislation and regulations on environmental, land and sea protection
Status of implementation	About two years
Associated funding (if any)	NA
Title	**Italian Energy Efficiency Action Plan (EEAP) 2017**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	EEAP contains a brief summary of the energy efficiency targets set by Italy for 2020. This is followed by a description of the results achieved as at 2016, in addition to the main measures implemented and planned in order to achieve the energy efficiency targets by 2020.The document provides an overview of the measures introduced by the decree transposing Directive 2012/27/EU and those currently in the pipeline; the cross-cutting measures adopted, such as the white certificates energy efficiency obligation scheme, tax relief on renovations to improve the energy efficiency of existing buildings, and the thermal energy account. It also provides an update on the current status and the measures planned for the energy services sector and metering and billing, as well as for energy audit and management tools, expert qualification and accreditation, and consumer information and training programmes; the energy efficiency of the national building stock in the public and private; the promotion of energy efficiency in government buildings; the measures promoting energy efficiency in industry; for the transport sector, it describes the energy savings expected from the main measures/programmes, composed of projects aimed at upgrading the road vehicle fleet, encouraging sustainable mobility, and developing rail infrastructure and advanced logistics management systems. Focus is provided also on heating and cooling efficiency and energy efficiency in energy transformation, transmission and distribution. Last but not least, it provides an overview of the available resources from the Structural Funds for the 2014-2020 programming cycle.

Concrete climate change adaptation measures foreseen (if any)	The Plan basically deals with energy issues, but it includes information and sections which are strategic for adaptation measures, such us the transport sector and buildings.
Implementation and monitoring mechanisms/procedures	As previously detailed, the Plan contains a description of the results achieved as at 2016 and the main measures implemented and planned.
Status of implementation	Ongoing
Associated funding (if any)	Structural Funds for the 2014-2020 programming cycle.
Title	**The National Sustainable Development Strategy 2017/2030 (NSDS)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	The Plan has been developed by the Italian Ministry for the Environment Land and Sea in October 2017. It is into force.
Brief description (including objectives)	The National Sustainable Development Strategy 2017/2030 (NSDS) has the objective to integrate I the 2030 Sustainable Development Goals to the economic, social and environmental programming. The NSD is organized in five core areas, corresponding to the so-called "5P" of sustainable development proposed by the 2030 Agenda: People, Planet, Prosperity, Peace and Partnership. The former four areas mainly cover the domestic dimension; the latter covers principles and purposes of international cooperation, as integrating and qualifying part of Italian foreign policy, draft by law 125/2014. Each area identifies a system of priorities (National Strategic Choices), delivering strategic goals. The goals are strongly integrated, as they embody and synthesize the most relevant issues emerged from the consultation process. A sixth area is dedicated to vectors for sustainability, to be considered as essential elements for achieving national strategic objectives. The Plan is available at https://www.minambiente.it/pagina/la-snsvs
Concrete climate change adaptation measures foreseen (if any)	The Plan focuses on adaptation measures and measure aimed at creating resilient territories and communities under the Planet and Partnership areas, that is:

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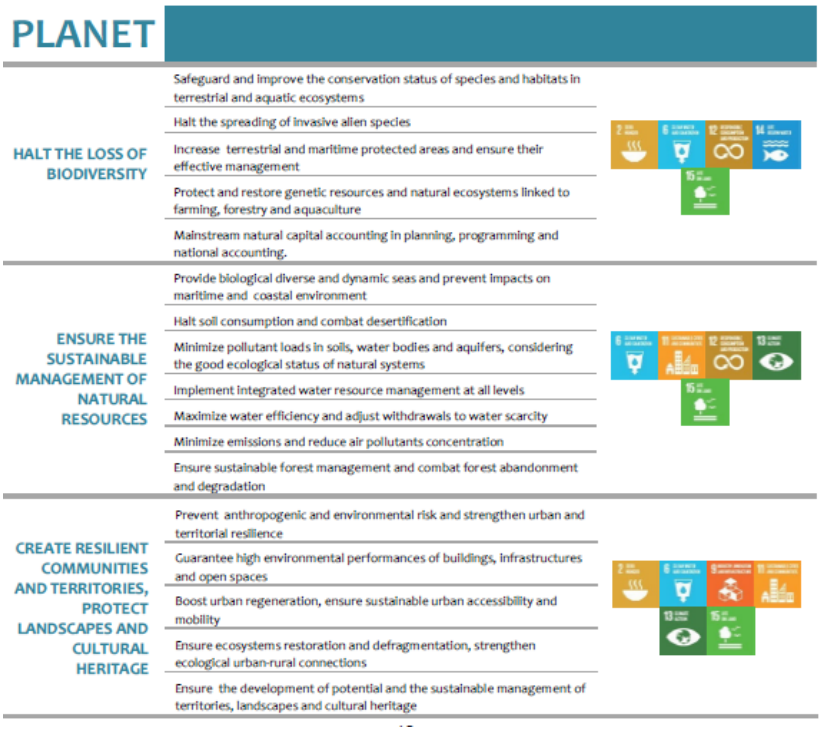

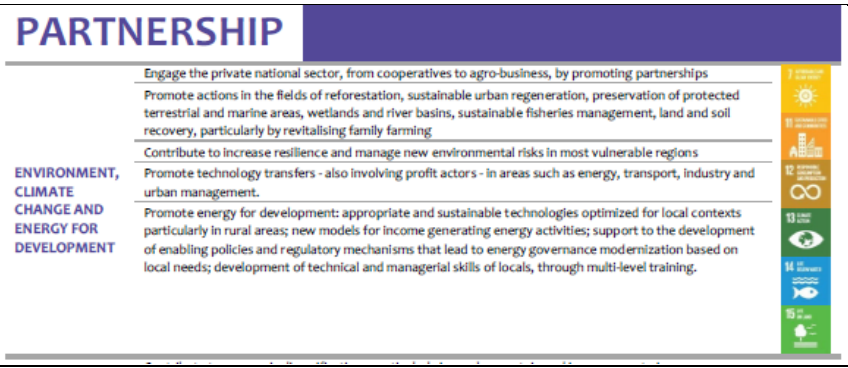

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<td>Implementation and monitoring mechanisms/procedures</td>
<td>The monitoring of the implementation of the strategy is foreseen in the plan. The National Institute of Statistics has published 173 SDG's indicators. They are associated with each strategic choice and objective. Between them, the ones referred to the climate adaptation measures are:
11.7.1 Impact of urban green areas on the urbanised cities surface
11.4.1 PRO CAPITE Public expenditure to protect biodiversity and landscape assets
11.2.1 Families by level of difficulty in connection with public transport in the area where they reside
14.5.1 Marine Protected Areas.
15.1.2 Extension of protected land areas</td>
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	15.1.2 Areas of particular natural interest included in the Natura 2000 network
Status of implementation	In progress
Associated funding (if any)	DD n. 417 del 21 dicembre 2018 - Sustainable Urban Mobility Incen2ve Programme (primus) - € 15.000.000,00 DD Prot .0006930.25-07-2019 - Call for implementa2on of the sustainable development strategy 3.000.000,00 DM SG/90 del 3 settembre 2019 –. Call for proposals on Environmental Educa2on 2019- € 330.000,00
Title	**The Strategic National Plan of Sustainable Mobility**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The Plan aims at renewing the bus fleet used for local public transport with less polluting means (electric, methane or hydrogen) and more modern ones to promote the improvement of air quality, using innovative technologies in line with international agreements and with the regulatory provisions of the European Union, as well as to relaunch the industrial chain of bus production.
Concrete climate change adaptation measures foreseen (if any)	All foreseen measures are to be considered as climate change adaptation measures. Individual transport modes and their infrastructure - seaports, airports, rail routes, roads, inland waterways - have a collective interdependence on each other. This means that transport is a 'system of systems' and resilience of each transport mode to the impact of future weather patterns along the entire network of global supply chains warrants consideration so that impacts, risks and vulnerabilities across transport modes are identified and addressed.
Implementation and monitoring mechanisms/procedures	The resources of the Plan will be disbursed in 3 five-year periods starting from 2019, based on pre-established criteria (which will take into account, for example, the number of passengers transported and the number of vehicles circulating) on three different rankings: - one for the municipal capitals of the metropolitan cities and provincial municipalities with high pollution of PM10 and nitrogen dioxide (to which 398 million euros will be assigned only for the first five years of application); - - one for municipalities and metropolitan cities with more than 100,000 inhabitants (1.1 billion euros); - one for the Regions (to which 2.2 billion euros will be distributed).
Status of implementation	Adopted by the Ministry of Infrastructures and Transport through the Dpcm of 24 April 2019, no. 1360
Associated funding (if any)	3,7 billion euros over a period of 15 years, from 2019 to 2033.

Regional level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as*

	possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.
Title	**The Guidelines for the realization of the Regional Plan of Adaptation to Climate Change and the Regional Climate Profile**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	With the Decree of the Regional Executive no. 308 of 29 April 2015, Abruzzo Region has launched the activities related to realization of the Regional Plan for Adaptation to Climate Change (PACC). The official logo is the following: The main phases are: RoadMap for Climate Change Adaptation; Regional Climate Profile; Participatory Process; Communication & Awareness Campaign; Tools of Governance; Adaptation Strategy; Monitoring. So far, the Climate profile of the Abruzzo Region and Guidelines for the Regional Plan of Adaptation to climate Change are completed. The participatory approach has been implemented for the realization of both documents. The Region is currently working at the realization of the plan with the regional universities (RD no. 1037 of 28/12/2018) and a permanent task force (RD no. 1038 of 28/12/2018) made up by all regional departments, ARTA (regional agency for the environmental protection) and ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development). The Climate Profile, the guidelines and the participatory approach, have been developed in collaboration with CDCA (Documentation Centre on Environmental Conflicts) and the DISPUTER Department of the University 'G. d'Annunzio' of Chieti-Pescara.
Brief description (including objectives)	The Abruzzo Region, due to its intrinsic orographic, territorial and socio-economic characteristics and location, is one of the regions of the entire Italian territory with the highest vulnerability to climate change. This is due to the fact that the region is characterized by the highest climatic diversity of peninsular Italy, passing from the temperate-warm climate of the coastal strip to the cold temperate of the major Apennine mountains. PACC has the following objectives: ▪ To realize a regional climate change adaptation plan that involves the main local actors through an active process and which represents a monitoring tool of the whole regional territory; ▪ To develop an innovative information system on climate change and its effects at local scale. The information system will support the participatory planning process, the selection of the best strategies and actions as well as the monitoring of the plan; ▪ To define pilot actions that involve both public and private sectors; ▪ To raise citizens and stakeholders awareness about the risks and vulnerabilities connected to climate change;

	▪ Integrate Regione Abruzzo in the network of European Regions involved in climate change adaptation policies.
Concrete climate change adaptation measures foreseen (if any)	The climate change adaptation measures have not been defined yet since the Region is currently working at the Plan. Indeed, according to the Guidelines, the Plan will: - Outline the climate profile and assess the risks and vulnerabilities to climate change in the Abruzzo Region; - realize the Information system on: local climatic scenarios, census / risk maps and vulnerability to heat islands, risk assessment / maps and vulnerability to flooding and flooding, assessment of water scarcity risks, resilience risks and updated adapta2ons; - Profiling of climate data over the last 50 years; - Develop a replicable bottom-up participatory process for the transfer of technical-scientific informa2on to the iden2fied actors; - realize a road map for the treatment of climate change with the aim of mapping resources and useful tools.
Implementation and monitoring mechanisms/procedures	PACC foresees: the **monitoring in the long term** of climate change risks and vulnerabilities; **the evaluation** of the whole process to promote different adaptation measures (planning, investments, analysis of risks, information management); **Information** on project results, involvement of citizens and stakeholders. **2 different protocols** are expected: **Monitoring of climate change impact** (risk and vulnerability) on the basis of the Regional Climate Profile; **Monitoring of implementation level** of actions provided by the Adaptation Plan.
Status of implementation	Through RD no. 860 of 13/11/2018, the guidelines for the realization of the Regional Plan of Adaptation to Climate Change and Regional Climate Profile have been approved.
Associated funding (if any)	Not yet available
Title	**Covenant of Mayors for Climate and Energy (Com)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Abruzzo Region has joined the CoM as territorial coordinator in 2010 thus committing to the 2020 EU energy objectives. The Region of Abruzzo became involved with the CoM as it strongly believes in the key role of local governments in promoting energy efficiency and tackling climate change, role which is remarked and highlighted by the CoM initiative. The involvement of the whole territory in the planning, management and monitoring of the territory itself through the support and coordination of the regional government is absolutely strategic. The regional body acts as an intermediate body that is aware of the different needs and approaches at local level and

	coordinates the actions in order to meet these specific needs. It is the multilevel governance that involves regions, provinces and municipalities. Actually, in Regione Abruzzo all the three hundred and five municipalities and the four provinces that have signed the covenant of mayors agreement are part of the multilevel governance. As such, 309 SEAPs have been submitted- A dedicated body of governance has been set up, that is a body named "Control Room" and made up by the presidents of the four provinces, the regional branch of the National Association of Italian Municipalities (ANCI) and the regional and provincial directors of energy policy. In 2015 Abruzzo Region has endorsed the new CoM for climate and energy, thus supporting the implementation of the EU 40% greenhouse gas-reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. It is now working with its municipalities and provinces to update the already submitted SEAPs into SECAPs.
Concrete climate change adaptation measures foreseen (if any)	
Implementation and monitoring mechanisms/procedures	All SEAPs of all municipalities and provinces have been realized and implemented. More specifically, 664 interventions have been carried out by big (> 5000 inhabitants) and small (< 5000 inhabitants) municipalities and provinces mainly interventions of energy efficiencies in schools, energy efficiency in public buildings and public lighting. Going deeply into details, the following interventions have been performed: installation of photovoltaic plants, installation of thermodynamic solar plants, installation of temperature controllers on heating systems, construction of insulating walls, replacement of boilers, replacement of light sources, replacement of casings and windows, installation of cogeneration plants. The implementation of the initiative has been really successful in the Abruzzo territory as the following results have been obtained: 60% of the electricity consumed in 2013 was produced from renewable sources and 71% of electricity produced comes from renewable sources. The CoM itself foresees monitoring actions of SEAPs, thus all SEAPs submitted by municipalities and provinces are under monitoring. Moreover, Abruzzo Region is reporting its energy and climate data, plans, initiatives and strategies on yearly basis on the official CoM platform, that is CDP (Carbon Disclosure Project). In 2019, it has reported its data with its 4 provinces and this has been recognized as a best practice since it is the only region making the climate disclosure with all its provinces (https://www.cdp.net/en).
Status of implementation	Implemented and under monitoring. As stated before, Abruzzo Region is now working with its municipalities and provinces to updated all SEAPs into SECAPs.
Associated funding (if any)	The Region has earmarked a whole priority Axis – Axis II "energy sustainability" - of the 2007-2013 ERDF Operational programme amounting to € 35.239.821,00, to the implementation of the interventions planned by the CoMs in the territory. Actions in the following areas have been supported:

	activities for the promotion of renewable energy sources and energy savings (€ 3.293.821), promotion of energy saving systems (€ 28.000.000) and promotion of energy production from renewable sources (€ 4.000.000).
Title	**Under2 MoU (Memorandum of Understanding) - a climate agreement for subnational governments**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	In 2016 Abruzzo Region has signed the Under2 MOU (Memorandum of Understanding), a climate agreement that brings together subnational governments willing to make a number of key commitments, including either reducing greenhouse gas emissions equivalent to 80 to 95 percent below 1990 levels or to less than 2 annual metric tons per capita by 2050. "Under2" refers to the MOU's goal of limiting global warming to below 2 degrees Celsius, which Intergovernmental Panel on Climate Change (IPCC) scientists say is needed to avert catastrophic climate change impacts, as well as to the goal of limiting greenhouse gas emissions to below 2 annual metric tons per capita by 2050. The Region has thus committed to the target of reducing greenhouse gas emissions 80 to 95 percent below 1990 levels, or to less than 2 metric tons per capita, by 2050. By signing the agreement, Abruzzo Region agrees to undertake is own unique set of actions and plans to reach 2030 reduction goals and related targets, also in coordination and cooperation with all signing parties. These actions are farmed in the following areas: energy, traffic and transport, natural resource protection and waste reduction, science and technology, communication and public participation, short-lived climate pollutants.
Concrete climate change adaptation measures foreseen (if any)	This MOU focuses on adaptation and resilience since it states that: A. The Parties agree to collaborate on actions to promote adaptation and resilience, with an eye toward maximizing benefits for both GHG emission reduction and climate adaptation. B. Parties will share best practices in modeling and assessment to understand projected climate impacts, especially at the regional and local scale. Entities will share best practices in integrating these findings into planning and investment. C. Parties will work together to build metrics and indicators that can help to track progress in reducing the risk of climate change to people, natural systems, and infrastructure. D. In working to reduce climate risk, Parties will look to natural or "green" infrastructure solutions that maximize ecological benefits while providing protection. Parties will share best practices in designing and deploying these solutions.

	E. Parties to this MOU will work to share innovative models for financing and supporting climate adaptation, including public-private partnerships, resilience funds, and competitive approaches. To reach the objectives of Under2MOU, Abruzzo Region has signed, between the others, an agreement on public transport (Regional Decree no.684 of 07/09/2018) titled "Efficient urban mobility and adequate actions to enhance environmental actions by local transport systems". The document focuses on the promotion and development of all the necessary initiatives relating to the Under2-Zero Emission project and in particular: • Organization of meetings to share experiences, good local practices, highlight specific territorial actions to be undertaken to promote awareness and local use of ZE Vehicles; • Implementation and activation of programs and innovative policies and technical support; • Communication actions relating to significant global events (GCAS, COP24) in order to promote awareness of the operations taking place in the field of zero-emission vehicles by the members of the Under2 Coalition; • Activation of additional similar networks such as EV100 and ZEV Alliance; • Promoting coordination, planning and communication, as well as seminars, project activities, advertising and preparation of information content for citizens
Implementation and monitoring mechanisms/procedures	By signing the agreement, Abruzzo Region agrees to work towards consistent monitoring, reporting, and verification across jurisdictions, and will work through mechanisms such as the Compact of States and Regions and the Compact of Mayors to that end. It reports its energy and climate data on yearly-basis thus sharing them with all parties.
Status of implementation	Ongoing
Associated funding (if any)	
Title	**Regional Plans in the following areas: waste protection; water management; hydrogeological asset; flood protection; flood risk management; air quality; energy; waste management; quarrying and mining activities, transport; landscape; maritime domain**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	**Several Plans** in the field of energy, environment and management of the territory have been realized and implemented at Regional level, namely: • Water Protection • Water management • Hydrogeological Asset • Flood Protection • Flood risk management • Air Quality • Energy • Waste management • Quarrying and mining activities

	• Tran sport • Landscape • Maritime domain
Brief description (including objectives)	All plans are in line with the national strategies as well as the EU initiatives in the field and have the objective to reach the 2020 and 2030 EU energy ad climate goals. Each Plan has then its own objective. As an example: The **Regional Energy Plan**, which is into force since 2009, is the fundamental dynamic tool at the disposal of the Region of Abruzzo for the management of energy policy in the area. The fundamental objectives of the Plan are: – design and implementation of energy and environmental policies; – economic management of primary energy sources available in the area; – development of alternatives to the consumption of hydrocarbons; – limiting the impact on the environment and harm to public health, resulting from the use of fossil fuels; – participation in activities aimed at sustainable development. The Plan is going to be updated into the regional integrated energy and climate plan. The **Regional Plan for Quarrying and Mining activities (P.R.A.E.)** is a regulatory tool whose main objectives is to achieve in the short and medium period a better level of environmental, social and economic sustainability of mining and quarrying activities, through the containment of the land use, rationalization of the farming methodologies, qualification of environmental recovery, valorization of mining and quarries. As such, it is not a “urban plan” but a tool for the sustainable planning and management of the territory as it aims to: • Restrict the opening of new quarries and mines; • Give priority to the completion and expansion of existing activities; • Increase the number and quality of environmental restoration measures of disused and not recovered quarries; • Increase the use of "best practices" and improve the quality of environmental recovery; • Encourage the use of environmental certifications; • Promote the economic development of industries. The objectives of the **plan of Air Quality** are: - Zoning of the regional territory according to the pollu2on levels of the ambient air quality; - Develop plans to improve air quality in areas and agglomerations where the levels of one or more pollutants exceed the concentration limits; - Draw up plans for maintaining air quality in the area where the levels of pollutants associated with legal limits; - Improve the regional monitoring network; - Develop shared strategies aimed at respecting the limits imposed by the legislation and the reduction of climate-altering gases.

Concrete climate change adaptation measures foreseen (if any)	All Plans have indeed impact on adaptation to climate change since they are all aimed at the management and governance of the territory. It is worth to highlight that the Region of Abruzzo has established a regional task force, made up by all departments, with the aim to jointly work at adaptation to climate change and integrate all plans and strategies as regards as climate change issues. As an example: PRAE PRAE establishes the parameters of compatibility/acceptability of mining activities in respect to the contraints of the territory, thus scaling possible interventions depending on the presence or absence of impeding and conditioning constraints. Quarrying and mining activities are thus evaluated in relation to the features of the environment and territory according to the principle of case-by-case assessment. The Plan does not identify specific areas where to allow or ristrict mining and quarrying activities but foresees the definition of common rules to follow. Because of its features, PRAE is a tool to map and manage the whole territory according to the principle of sustainability. Air Quality Interventions on diffuse sources; Traffic operations; Interventions on point sources
Implementation and monitoring mechanisms/procedures	
Status of implementation	Into force
Associated funding (if any)	
Title	**River contracts**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	RC are into force. Decree of the Regional Executive no. 915 of 10 November 2015 establishes the governance of RC (appointing of: the regional assembly of RC, the «Think Thank» made up by representatives of universities; «cabina di regia» for each RC made up by representatives of the municipalities involved; technical secretariat and observatory) and approving the template of RC MoU.
Brief description (including objectives)	The RC is a process of negotiated governance (TDFA - Territorial Development Framework Agreement) to restore the eco-landscape of river basins through multi-sector actions. The objective is the consolidation of the governance within the full basin, where actions to lower hydraulic risks are integrated with the protection and valorization of the river, the reduction of pollution of both surface and groundwater, the restoring of the landscape and historical cultural sites and the protection of biodiversity. The process is developed in stages: construction of the network; definition of rules and tools; building the vision and prioritization of shared objectives;

	execution of the agreement; implementation and performance monitoring; communication and training. Regione Abruzzo has implemented 17 initiatives, including Tordino, Sagittario, Tavo-Fino, Alento, Aterno, Arielli, Liri, Nora, Piomba, Sangro, Saline,Trigno, Pescara, Vomano-Mavone and Feltrino. The application of river contracts for managing water and the surrounding territories as well as involving the wide range of stakeholders related to water topic, or affected by management choices, provides significant opportunities for the implementation of adaptation strategies and plans on the local level that deserve to be explored.
Concrete climate change adaptation measures foreseen (if any)	Not yet available
Implementation and monitoring mechanisms/procedures	From the critical analysis of the several experiences of the River Contract already started, some common phases can be recognized that constitute peculiar nodes of the negotiated programming process. - Network animation and construction; - Definition of rules and tools; - Construction of the vision and choice of shared priority objectives; - Formalization of the agreement; - Performance implementation and monitoring; - During the entire journey, two transversal and continuous activities closely linked to each other are developed.
Status of implementation	Agreements and protocols have been signed; activities are ongoing
Associated funding (if any)	Not available

Local level plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	**Sustainable Energy Action Plans – SEAPS by all municipalities of Abruzzo Region (305) and provinces (4)**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Under monitoring
Brief description (including objectives)	All the three hundred and five municipalities and the four provinces of the region of Abruzzo have joined the covenant of mayors under the coordination of Abruzzo Region. Thus, 309 PAES have been submitted and implemented. 664 interventions have been carried out by big (> 5000 inhabitants) and small (< 5000 inhabitants) municipalities and provinces mainly interventions of energy efficiencies in schools, energy efficiency in public buildings and public

	lighting. Going deeply into details, the following interventions have been performed: installation of photovoltaic plants, installation of thermodynamic solar plants, installation of temperature controllers on heating systems, construction of insulating walls, replacement of boilers, replacement of light sources, replacement of casings and windows, installation of cogeneration plants.
Concrete climate change adaptation measures foreseen (if any)	
Implementation and monitoring mechanisms/procedures	All SEAPs have been implemented and they are currently under monitoring.
Status of implementation	As above
Associated funding (if any)	The Region has earmarked a whole priority Axis – Axis II "energy sustainability" - of the 2007-2013 ERDF Operational programme amounting to € 35.239.821,00, to the implementation of the interventions planned by the CoMs in the territory. Actions in the following areas have been supported: activities for the promotion of renewable energy sources and energy savings (€ 3.293.821), promotion of energy saving systems (€ 28.000.000) and promotion of energy production from renewable sources (€ 4.000.000).
Is the plan a good practice? If yes, why?	Yes, this is a good practice since Abruzzo is the only region which has joined CoM with all its municipalities and provinces. This has been recognized as a EU good practice and the Abruzzo Region staff has been invited in several meetings to talk about this initiative. Moreover, the implementation of the initiative has been really successful in the Abruzzo territory as the following results have been obtained: 60% of the electricity consumed in 2013 was produced from renewable sources and 71% of electricity produced comes from renewable sources.
Title	**C.E.T.S. – European Charter for Sustainable Tourism – Municipality of Silvi**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	The 2015 European Sustainable Tourism Charter is a tool that implements the A.M.P. Torre del Cerrano established by decree of the Ministry of the Environment and Protection of the Territory and the Sea of 10/21/2009, published in G.U. of the Italian Rep. n.80 of 07-04-2010.
Brief description (including objectives)	The European Charter for Sustainable Tourism is a practical management tool that allows protected areas to constantly improve sustainable development and tourism management taking into consideration the needs of the environment, the community and local tourism businesses. The objectives underlying the European Charter of Sustainable Tourism in Protected Areas have been consecrated in 10 Principles of the Charter of Sustainable Tourism: 01 – Involve all those involved in the tourism sector, in the protected area and in the surrounding areas, in its development and management. 02 – Prepare and implement a sustainable tourism strategy and action plan for the protected area.

	03 – Protect and enhance the natural and cultural heritage of the area, for and through tourism, and protect it from excessive tourism development through 04 – Provide all visitors with a high quality experience in all respects 05 – Effectively transmit information to the visitors on the specific qualities of the area 06 – Encourage the promotion of specific tourism products that allow the discovery and knowledge of the area 07 – Increase knowledge about the protected area and sustainability issues of all those involved in the tourism sector 08 – Ensure that tourism supports and does not worsen the quality of life of local communities 09 – Increase the benefits of tourism to the local economy 10 – Monitor and influence visitor flows to reduce negative impacts
Concrete climate change adaptation measures foreseen (if any)	Not available
Implementation and monitoring mechanisms/procedures	The definition of the strategy based on the one hand on the need to strengthen the institutional partnership of the young MPA and on the other hand on the need to make a pact with private subjects. The two attentions are referenced on the one hand in the need for the AMP to increasingly tune its actions with the two municipal Administrations of Pineto and Silvi with the Province of Teramo and the Abruzzo Region and on the other hand that it interfaces more directly with the bathing establishments and accommodation facilities able to offer quality experiences to the visitors of the WAP. In par2cular, these four strategic lines were immediately reconnected to the 10 principles of the CETS: **1.** Sharing of the Tourist Development Project “Riviera dei Borghi Acquaviva” **2.** The enhancement of the “Protocol of Understanding” for the environmental characteriza2on of the bathing establishments **3.** The recognition of the tourist potential of nature conservation activities.
Status of implementation	Planning of interventions
Associated funding (if any)	The commitments resulting from the definition of the general strategy and the three strategic points mentioned above have therefore been reported below. Commitments of the WAP represents over 25% of the total budget. While over half of it is given by valuations (with an important contribution by private individuals) of the activities that will be put in place for the realization of the Plan.
Is the plan a good practice? If yes, why?	
Title	**Comune di Roseto “Piano D'Assetto Naturalistico P.A.N. della Riserva Naturale Regionale Borsacchio”** **Municipality of Roseto – Plan of the “Borsacchio” Regional Natural Reserve**

Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	The plan has already by passed a verification of liability of the updated version to the VAS strategic environmental assessment (Directive 2001/42/CE). The The Municipality of Roseto is now evaluating the plan and if some changes are required. Afterwards it will take care of: - verification of liability of the updated version to the VAS strategic environmental assessment (Directive 2001/42/CE) - adoption by the Municipality of Roseto (foreseen January 2020) - approval by Abruzzo Region
Brief description (including objectives)	The plan identifies the regional and programmatic lines for the sustainable development of the Reserve, with the proposal of a series of project-actions. The document will define the objectives of safeguarding and of enhancing the naturalistic and historical-cultural components of the protected area, and also defines the transformations of the territory. The aims of the "Borsacchio" Guided Nature Reserve Plan are: a) the conservation, preservation and enhancement of natural emergencies (geological, floristic-vegetational, faunistic and landscape); b) the enhancement of the qualitative and quantitative characteristics of the naturalistic components of the territory (with particular reference to the re-naturalization of coastal and hill areas (dune system, vegetation apparatus, etc.); c) the implementation of links between natural and semi-natural spaces; the improvement of the function carried out by agricultural space also as a widespread ecological connective; d) the protection, enhancement, recovery and qualification of the cultural heritage and the rural landscape, also aimed at the naturalistic and tourist use of the territory; e) the promotion of scientific research; f) To enhance the environmental function of the Reserve as instrument for the dissemination of knowledge and the correct use of the territory. The PAN Plan and Projects have the following objectives: a) conservation of zoocenosis and phytocenosis of the ecosystems present; b) application of environmental restoration methods aimed at ensuring the integration between the natural environment and traditional agro-silvo-pastoral activities; c) incentive for compatible productive activities; d) development of education, training and scientific research activities; e) compatible recreational activities; f) development of eco-sustainable and accessible tourism; g) defense and reconstruction of hydraulic and hydro-geological equilibrium; h) monitoring the effects of the implementation of management tools
Concrete climate change adaptation measures foreseen (if any)	In general terms, PAN is a plan for environmental protection and sustainable development, therefore it will have positive environmental effects. These benefits could induce positive indirect effects for climatic and atmospheric conditions, such as for example interventions related to sustainability of agricultural enterprises or those necessary to solve specific territorial problems, through:

	- proposals for responsible business management systems; - active participation in sustainable economic development processes in the territory; - sustainable means of transport through slow mobility; - use of innovative technologies with low energy consumption from renewable sources. Furthermore, PAN encourages sustainable transport infrastructures such as cycle paths (Prog. Organic n.4 - Bicigrill "Casello 318"), trail network (Prog. Priority n.2 - The system of access and Penetration), implementation of green corridors (Strategic Projects n.2 - Implementation of the Ecological Network and n.3 - Implementation of connections and ecological connections of the Reserve). PAN supports the connection to a regional ecological network, also proposing the "Viaverde "(Strategic Prog. N.4 - La Viaverde), an ecological corridor that crosses the boundaries of the protected area to the entire municipal territory, connecting the two rivers, Tordino and Vomano, respectively the northern and southern borders of Roseto degli Abruzzi. Finally, very significant positive environmental effects will be generated by the specific interventions planned for environmental information-education, the creation of sustainable consumption models, the improvement of governance and biodiversity (education, dissemination and naturalistic awareness). Even if in a very small part, all these actions will have a positive influence on the global scale of climatic variations.
Implementation and monitoring mechanisms/procedures	PAN foresees the need to implement an integrated environmental and socio-economic monitoring system, capable of detecting the effects of eco-sustainable and eco-efficient behavior of the different areas of intervention.
Status of implementation	To be implemented
Associated funding (if any)	a) Regional funds for protected areas b) European Regional Development Fund (ERDF); c) The European Agricultural Fund for Rural Development (EAFRD) - and the European Fund for Maritime Affairs and Fisheries (EMFF) for the obvious connections with policies related to the protected area; d) The European Social Fund (ESF) for economic and social cohesion (specific projects related toeducation, skills and lifelong learning); e) National ad European Funds related to environmental matters, including initiatives aimed at protecting and enhancing the environmental specificities of the Reserve, as well as those relating to hydro-geological and integrated management of the coastal area, to the reclamation of areas (SIN, landfills, waste, etc.); f) Eu co-funded projects (LIFE, Interreg Adrion, etc.).
Is the plan a good practice? If yes, why?	The cultural context of the Protected Area, foreseen by the PAN, also characterized by the participation of citizens and stakeholders, is a fertile ground for the birth of new projects that can represent exemplary and significant experiences, knowing how to combine concrete actions with innovation and allowing to obtain results in different contexts and with different objectives.

	In fact, through the "Pan Projects", the Reserve plan foster good practice initiatives for the conservation, preservation and enhancement of natural emergencies present in the Reserve, as well as strengthening the qualitative and quantitative characteristics of its naturalistic components. The PAN also proposes the development of good practices also in the field of environmental education / training, in the sustainable development of tourism, mobility and agriculture. Regarding its effects on the climate and the atmosphere, the PAN provides "good practices" that could induce positive indirect effects, such as interventions in favor of the sustainability of agricultural companies. It will be important to inform experts and stakeholders, but above all to citizenship and young people. Therefore, it will be easier to replicate and improve new good practices.
Title	**Comune Pineto - PIANO DI GESTIONE DEL SIC IT7120215 "Torre del Cerrano" Municipality of Pineto - Plan of Management of the SIC IT7120215 "Torre del Cerrano"**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Adopted 2015 By Management Consortium of the Marine Protected Area
Brief description (including objectives)	The Management Plan of the Natura 2000 site (European Commission Habitats Directive (92/43/EEC)) has been integrated with existing legislation already present on that same geographical area. The management plan measures aim at achieving the general objectives of the directive, that is "…. The maintenance or restoration in a satisfactory state of conservation, of natural habitats and species of fauna and flora of interest, taking into account also economic, social and cultural needs, as well as regional and local particularities. The plan foreseen 81 actions: - 28 from Eco-sustainable Tourism European Chart - 53 from Site of Community Importance (SCI) measures) divided into the following categories - MONITORING: of species, habitats, effectiveness of measures - active intervention -information: dissemination, awareness and training -ACTIVE MANAGEMENT: guidelines, action programs or direct interventions that can be carried out by public administrations or by private individuals
Concrete climate change adaptation measures foreseen (if any)	Dune defense actions to protect the coasts from erosion due to rising sea levels (Conference 7th November 2019).
Implementation and monitoring mechanisms/procedures	Foreseen as action of the plan
Status of implementation	All action foreseen are going on

Associated funding (if any)	Italian environment ministry, EU direct EU co funded project) and indirect funds (Es Regione Abruzzo Calliope EU project)
Is the plan a good practice? If yes, why?	Yes, because it boosted: - integration with existing legislation -Dune defense actions to protect the coasts from erosion due to rising sea levels (Conference 7th November 2019). -Participatory process (citizen and stakeholders) before approval
Title	**Comune di Penne - Piano di assetto naturalistico Riserva naturale regionale Lago di Penne** **Municipality of Penne – Plan of Regional Natural Reserve "Lago di Penne"**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Approved by Regione Abruzzo (Regional Council Decree n. 173/11 del 15/02/2005)
Brief description (including objectives)	The Regional Nature Reserve has developed 4 naturalistic asset plans approved by both the Municipal Council of Penne and the Regional Council, currently the 5th PAN is going to be approved and includes the introduction of the management plan of the SCI Lago di Penne of the Natura 2000 Network related to the climate change. Moreover, the Reserve already carried out environmental mitigation action to stimulate the growth of new natural forests. Over twenty thousand trees have been planted in the floristic area and a new natural wood has been set up in Collalto, with the collaboration of the University of Florence. Finally, to foster organic farming, the PAN currently in force indications and rules, established by law, which certainly represents a good practice for climate change. In the experimental company of the Collalto Reserve, spelt is mainly cultivated (the reserve is the leading spelt producer in Abruzzo), a resilient species that adapts greatly to climate change. The natural reserve is taking part in an international project on Mediterranean mosaics which aims also at strengthening the resilience of Mediterranean landscapes to climate and socio-economic change.
Concrete climate change adaptation measures foreseen (if any)	Yes, in example spelt cultivation, tree planting, enhance/restore the resilience of rural and natural areas of southern Europe, whose natural and cultural heritage are threatened by sharp socio-economic changes leading to land-use modifications, and by the disrupting influence of climate change.
Implementation and monitoring mechanisms/procedures	Yes. Moreover the project on the Mediterranean mosaics foresees the Mediterranean Mosaics Paper and Development of Indicators and Monitoring System. The IUCN Office for Mediterranean Cooperation will develop a background paper on Mediterranean mosaic landscapes, including guidelines to strengthen/favour the resilience to climate change and land use, and a set of standard indicators to measure and monitor ecological and social diversity. The purpose of the document will be to inspire local actors and provide a solid rationale and guidance for the implementation of the programme. The document will include a bibliography of useful/recommended literature, and references to successful case studies. T

Status of implementation	Current plan operative, the measures of the new PAN will be implemented as soon as the PAN will be approved
Associated funding (if any)	Regional funds including ROD ERDF and UE co funded projects
Is the plan a good practice? If yes, why?	Yes as above mentioned in the Brief description.
Title	**Municipal Emergency Plans – all municipalities**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force for all municipalities of the Region.
Brief description (including objectives)	The Municipal Emergency Plan is the planning and organization of all the activities and procedures that will have to be adopted to face a calamitous event in the territory of interest, an articulated system of procedures, organization, resources and exchange of information. It is the operational tool that rationalizes and organizes the intervention procedures in emergencies of the municipal apparatus, of the companies providing public services and the intervention of the voluntary service, in order to obtain the maximum efficiency in case of overt emergency, with operations of first aid to the population, use of volunteering, information to the population on the risks of the territory, restoration of the functionality of public services and infrastructure of strategic networks, administrative management of the community, to face the most urgent needs with the use of resources necessary for the return to normal.
Concrete climate change adaptation measures foreseen (if any)	The Plan takes into consideration the risks and variations of the expected scenarios that may affect a specific territory and its characteristics such as watercourses, mountainous or flat land, valleys, hamlets placed in disadvantaged localities, railway infrastructures, roads, airports, schools, hospitals, through the collection of data and cartography and the preparation of appropriate risk scenarios, evaluating the consequences that may affect, based on the vulnerability of the place, the type of housing, sensitive sites such as schools and hospitals, industrial settlements or even the number of inhabitants and their heterogeneity, considering the presence of children and the elderly and the various disabilities.
Implementation and monitoring mechanisms/procedures	According to the National Decree, it is mandatory for each municipality to adopt the emergency plan. It has to be approved by the City Council, reviewed periodically and updated with Acts of the Mayor, the Executive or the competent administrative structure, provided they are included in the council resolution of approval and transmitted to the Region, the Prefecture-Territorial Office of the Government and the territorially competent Province. The preparation of the Plan, apart from being binding, is an essential tool for the optimal management of the territory, because it is an instrument of intervention in a situation of crisis given by possible calamitous events, in consideration of the characteristics of the territory in question. It must be drawn up observing the guidelines provided by the National and Regional Department of Civil Protection according to the criteria and methods reported

	in the operational indications, providing for the verification and periodic updating of the same, in order to make homogeneous, on the whole Italian territory, all the plans drawn up, so as to be easy to read and immediately understandable to any rescuers coming even outside the municipal territory.
Status of implementation	Into force
Associated funding (if any)	The Plan is made up of five sections (Data - Risks - Resources - Procedures and Training / Information). It must be presented to citizens through public meetings and published on the internet on the official page of the municipality and, through excerpts, communicated to the media.
Is the plan a good practice? If yes, why?	

PART 2: FUNDING TOOLS

Category	Description	Notes
European funding		*Please describe any European provision for funding climate change adaptation measures (EU projects, technical assistance, etc.) that you deem relevant, i.e. which have influenced regulations or practices in your country/region.*
The multi-annual financial framework 2014-2020	The Multiannual Financial Framework for 2014-2020 is accompanied by a number of sector-specific proposals. The policy fiche on Climate Change outlines its mainstreaming into policies and funds for cohesion, energy, transport, research and innovation, agriculture, external relations, etc. Between them it is worth to highlight: • The European Regional Development Fund (ERDF) which among other promote energy efficiency in small- and medium-sized enterprises, housing and public buildings; production and distribution of renewable energy; low-carbon strategies for urban areas; and resilience to climate change and extreme weather events. Furthermore, the ERDF support European Territorial Cooperation (ETC), for example cross-border co-operation between Member States, including on climate action. • The European Agricultural Fund for Rural Development (EAFRD)will among other support climate action in relation to forest area development, establishment of agro-forestry systems, investments improving the resilience and environmental value of forest ecosystems, organic farming, Natura 2000 and Water management. Climate change is further mainstreamed into Maritime and Fisheries policy: • The European Maritime and Fisheries Fund (EMFF) which among other promote climate action in relation to the energy efficiency of fishing vessels as well as energy audits and schemes, insurance of aquaculture stock with regard to extreme weather events, and the implementation of local development strategies including operations to mitigate climate change. Research and development on climate change adaptation is financed through Horizon 2020, with 35% dedicated to climate-related research. The LIFE programme contributes to improving the implementation of EU environment and climate policy and legislation. LIFE includes a sub-programme for Climate Action which covers the following priority areas: 'Climate Change Mitigation' - focus on reducing greenhouse gas emissions; 'Climate Change Adaptation' - focus on increasing resilience to climate change; 'Climate Governance and Information' - focus on increasing awareness, communication, cooperation and dissemination on climate mitigation and adaptation actions.	Abruzzo Region participates to several EU projects both as partner and lead partner and thus, all EU funding, have a huge impact on the regional activities, programmes and strategies. Here below, we report the main projects/funding on climate change on regional basis.

Name of the project	Programme	Object	Statuss	Project location	Overall budget
LIFE PRIMES "Preventing flooding RIsk by Making resilient communitiES"	LIFE	The LIFE PRIMES project has been approved within the LIFE 2014-2020 programme concerning the adaptation strategies to climate change. It aims to build resilient communities by engaging them in early warning and flood risk prevention measures. The project planned to meet the European challenge of adaptation management by: standardizing the procedures of risk management and flood prevention at trans-regional level, enhancing the coordination and management at civil protection level; establishing a user-friendly web platform where all necessary information is collected and organised; encouraging a proactive approach to risk management and flood prevention among local communities by involving them in implementing soft adaptation measures and actions, to strengthen their resilience against flood risk; and establishing and spreading innovative forms of collaboration among civil protection agencies and civil society, raising awareness on adaptation to climate change and on the	Closed: 01-OCT-2015 to 31-DEC -2018	3 Italian regions: Emilia-Romagna, Marche, Abruzzo	2,366,767.00 €

		impact of risk alert patterns. Results: An integrated baseline scenarios up to 2050 using data from 1961 to 2015, achieving a common baseline climate scenario for three Italian Regions. a toolkit for resilient communities, which included tutorials, guidelines for the development of local adaption action plans, best practices, guidelines for the compilation of local civic adapt action plans and reports on climate scenarios. A web-portal, with an interactive map, for sharing information from the three regions was also created. Using these tools, more than 2 500 local adaption action plans were developed. A participatory approach was adopted, engaging around 2 800 people through workshops, alert simulations and demonstration actions. The plans proposed 108 adaptation actions, 27 of which were implemented. Finally, the beneficiary has drawn up a memorandum of understanding approved by the beneficiaries and the municipalities involved in the project to continue the technical activities after the project end, including the proper management and update of the warning platform.			

Name of the project	Programme	Object	Statuss	Municipalities	Overall budget
PARIDE (Provincial Technical Assistance Resources for Investments & Development on Sustainable Energy)	IEE 2011 «Mobilising Local Energy Investments»	The Province of Teramo and the local energy agency AGENA retrofitted the public lighting facilities of 32 municipalities. The project organised joint procurement of energy performance contracts, which resulted in investments of €30 million and 70% guaranteed savings, thus improving safety and quality of life for 239,000 inhabitants of the province.	Concluded – public lighting currently managed by ESCO	Giulianova, Roseto, Castiglione, Castilenti, Pineto, Silvi	€ 1.087.228,00 (including € 815.421,00 from EU)

ERDF ROP 2014-2020 of Abruzzo Region	The ERDF ROP managed by Abruzzo Region, through the axis mentioned here below, afford climate change adaptation:			
Axis IV – Eco-efficiency and reduction of energy consumption in public buildings	ERDF ROP 2014-2020	Abruzzo Region	Calls and funding of projects concluded – projects ongoing	Municipalities involved (as of the pilot areas) Elice (100.000 euro) Mosciano (100.000)
Axis V – Mitigation of hydrogeological risk	ERDF ROP 2014-2020	Abruzzo Region	Calls and funding of projects concluded – projects ongoing	Municipalities involved (as of the pilot areas) Roseto

Strenghtening of coastal defense devices	Par fsc Abruzzo 2007-2013	Abruzzo Region	Ongoing	Reduce costs linked to coastal erosion and improve environment.

The Rural Development Programme 2014-2020

The Plan contains measures aimed at contrasting the climate change effects and making territories more resilient to their effects.

Between them it is worth to highlight:

- M13.1.1 of the RDP Abruzzo, "Compensation payments for mountain areas", aimed at countering the abandonment of agricultural mountain areas which, only if used and governed, can contribute to ensuring a real defense of the territory, the protection of biodiversity, the prevention of the hydrogeological risk of soil erosion; the maintenance of mountain agriculture therefore contributes to environmental protection and adaptation to climate change.
- M10 - 10.1 - Payments for agro-climatic-environmental commitments. With an agronomic management that includes the addition of soil improvers, manures and other valuable palable fractions, it is intended to counterbalance the tendency, highlighted in the analysis, to the reduction of organic substance in agricultural soils and improve the chemical-physical-biological characteristics of the soils with consequent reduction in erosion and increase in water retention in soils.

National funding	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities related to public-private partnership schemes.*

Name of the tool	Main scope	Type of funding	Amount	Municipalities
Financial Resources for mitigating hydrogeological instability (Decree of the President of the Council 27th feb 2019)	To mitigate the effect of the hydrogeological instability. 129 interventions in the Abruzzo Region	Subsidy	€ 203 millions	Elice, Penne, Castiglione, Castilenti, Mosciano

Name of the tool	Main scope	Type of funding	Amount	Time-span
DECRETO-LEGGE 30th april 2019, n. 34 Urgent measures for economic growth and	Contributions to municipalities for energy efficiency and sustainable territorial development	Subsidy	€ 210.000,00	Activities must begin by October 31, 2019.

for the resolution of specific crisis situations				

Name of the tool	Main scope	Type of funding	Amount	Municipalities
LA BUONA SCUOLA (PON 2014-2020)	Axis 2 - infrastructures	Subsidy	800 millions ERDF for interventions in school buildings	Pineto, Giulianova, Mosciano, Silvi, Roseto, Castiglione, Penne

Name of the tool	Main scope	Type of funding	Municipalities
Decreto incentivi 2017	Bonus for photovoltaic sector	Tax deduction and bonus	Penne, Castiglione, Elice, Pineto, Roseto, Mosciano

Name of the tool	Main scope	Type of funding	Amount	Municipalities
Sustainable Urban Mobility Incentive Program (PrIMUS)	With the directorial decree n. 417 of 21 December 2018 of the General Directorate for Climate and Energy was approved and the "Sustainable Urban Mobility Incentive Program (PrIMUS)" is now underway aimed at financing sustainable mobility projects in Municipalities with a population of no less than 50,000 inhabitants.			No municipalities of Abruzzo Region

Name of the tool	Main scope	Type of funding	Amount	Municipalities

The National Energy Efficiency Fund (NEEF).	The fund, envisaged by Legislative Decree 102/2014, foresees the financing of energy efficiency measures implemented by companies and the Public Administration on buildings, district heating plants and production processes. NEEF is managed by Invitalia, the National Agency for inward investment and economic development, owned by the Italian Ministry of Economy. It is a revolving fund which offers guarantees and loans at reduced rates, promoting the involvement of financial institutions and private investors, on the basis of adequate risk sharing.	It is the first Italian equity fund entirely devoted to investment projects in the energy efficiency sector.	For the launch of the operational phase, 150 million euros were made available by the Ministry of Economic Development, which will also allocate a further annual income of about 35 million euros in the 2018-2020 period.	Beneficiaries are citizens, thus it covers all municipalities
The Thermal Account	It is managed by GSE, the state-owned company managing renewable energy incentives, Gestore dei Servizi Energetici. The Thermal Account, launched in july 2013 by the M.D. 28 december 2012, has been updated with M.D. 16 february 2016. Thus, the thermal account 2.0 entered into force in May 31 2016. Apart from introducing simplified access mechanisms and higher reimbursement limits, which reach 65% of the	It is a set of measures to support small energy efficiency measures for private and public administration.		Beneficiaries are citizens, thus it covers all municipalities

	total expense incurred, the Thermal Account 2.0 provides that private entities should receive reimbursement of up to €5,000 in one single instalment within two months from the request submission. Moreover, the new modes of incentive booking introduced by the TA 2.0 allow the PA to carry out more significant and efficient energy upgrading interventions. The Thermal Account is an important instrument to offer a contribution to the improvement of the air quality, on the one hand reducing the energy demand of buildings and on the other hand, favoring the diffusion of technologies and devices marked by a higher efficiency. Between May 31, 2016 and October 1, 2017 GSE received 35,400 applications to access the Thermal Account, of a total of 157 million euros worth of incentives requested. Of this amount, €79 M refer to the applications submitted by private entities and €78 M by the Public Administration. These are some figures published in the recent update of GSE on the			

	incentive mechanism regulated by MD of February 16, 2016. In further detail, from launching of the Thermal Account until October 1, 2017 around 51,700 applications were admitted to benefit from the mechanism that committed about €185 M worth of incentives, including €162 M granted directly. Overall, the Operator explains, €130 M regard measures undertaken by the private entities and €54 M by the PA.			

Name of the tool	Main scope	Type of funding	Amount	Municipalities
2020 tax deductions: bonus earthquake, ecobonus, and restructuring bonus				Beneficiaries are citizens, thus it covers all municipalities

Regional funding	*Please describe any regional provision for funding climate change adaptation measures (if any), including funds deriving from European resources (e.g. structural funds allocated through specific actions of the Regional Operational Programmes) and opportunities related to public-private partnership schemes.*

Title	Programme	Institution providing the financing	Status	Municipalities and funding
Installation of e-charging stations		Abruzzo Region / Italian Ministry		20 charging stations for a total amount of € 358.000

Local funding	*Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing*

	climate change adaptation measures (own funds, resources from other local and supra-local authorities, etc.)

THE PROJECT FINANCING OF PUBLIC LIGHTING OF THE MUNICIPALITY OF ROSETO

Published and awarded by the municipality of Roseto the tender for the assignment of the project financing of Public Lighting.

The amount of the works is around 2 million and a half euros which will be used to carry out work on the rose garden and hamlets. The project involves the replacement of 400 poles and the maintenance of a further 200 piles. In addition, 111 out of 171 electrical panels will be installed, and six kilometers of power lines will be rebuilt in addition to one kilometer of the overhead line.

MOVETE PROJECT

MoveTe, project to promote sustainable mobility, promoted by the Municipality of Teramo and Adsu, the Company for the right to university studies. The decree allocated a total of 35 million euros to be allocated to projects to encourage sustainable mobility: MoveTe, on the total estimated amount of 1.6 million euros, 960 thousand euros were allowed to co-financing. The remaining part of the funds needed for the implementation and experimentation will be funded by the participating entities and partner companies that have joined the initiative. The municipalities of Roseto will fund 20.000 euros.

Highlights of the initiative: fewer motor vehicles on the road, resulting in reduced pollution, use of, velostations and parking spaces for bikes in central points of the 10 municipalities that have joined; bike lanes and road connections to be built. Common partners of MoveTE are Martinsicuro, Alba Adriatica, Giulianova, Roseto Degli Abruzzi, Pineto, Atri, Mosciano Sant'Angelo, Bellante and Castellalto, all of the Teraman province and covering the territory from the capital to the Adriatic coast, passing through the interior areas, through the industrial areas of Mosciano Sant'Angelo, Scerne di Pineto and Notaresco-Atri.

The initiative also includes the involvement of local companies, consortia, trade associations and individuals, and is part of the Ministry's National Experimental Programme for Sustainable Mobility, provided for by Ministerial Decree 282 of 17 October 2017 Environment.

In detail: estimated about 183 thousand inhabitants with a forecast of 273 thousand car trips avoided each year and about 1830 fewer vehicles on the road every day.

Thanks to the collaboration with the unique Abruzzo transport company Tua, the MoveTe project involves the creation of velostations, which will be of three types: Closed metal structures, capable of holding up to 100 bike seats, open with 40 bike seats available, spaces made inside existing buildings, again with a capacity of up to 100 stalls.

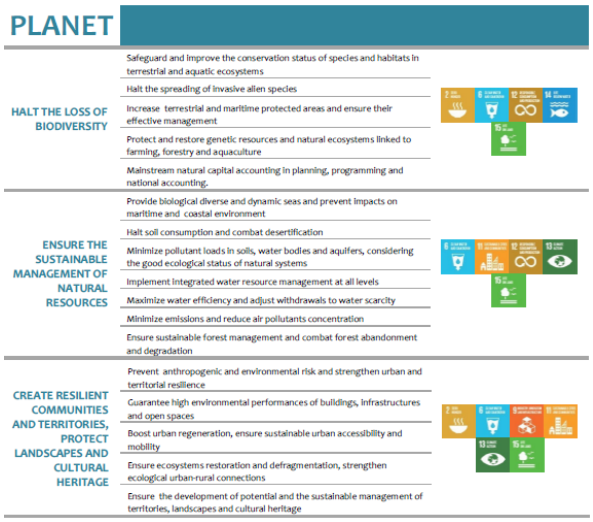
"This is not a bike sharing, but the user will have at the disposal places to leave their bike with video surveillance, alarm systems, lockers and a small wardrobe to change after a bike ride or in case of bad weather, charging stations for cars, mopeds and even wifi zones."

There will also be structures and roadworks connected such as bike lanes, adjustments of railway underpasses, junctions and interconnections between bike stations, rest areas and pedestrian paths alongside the tracks.

Other funding schemes	*Please describe any other sources of funding available in your country other than public funding (public-private partnerships schemes, Bank loans, etc.)*
	-

[PP4] Municipality of Pescara

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**NL 1. The National Strategy for Sustainable Development** *[Strategia Nazionale per lo Sviluppo Sostenibile]*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	2020 -2030 MISE October 2017 - into force
Brief description (including objectives)	The national strategy for sustainable development is structured in five areas, corresponding to the so-called "5P" of sustainable development proposed by the 2030 Agenda: People, Planet, prosperity, Peace and Partnership.A sixth area is dedicated to vectors for sustainability, to be considered as essential elements for achieving national strategic objectives. The Objectives have a strongly integrated nature.
Concrete climate change adaptation measures foreseen (if any)	The plan includes specific adaptation and resilience measures, in particular under the issues: 
Implementation and monitoring	SDG'S indicators, produced by Istat, can be associated with each strategic choice and objective. In particular referred to climate adaptation measures: 11.7.1 Impact of urban green areas on the urbanized cities surface

mechanisms/ procedures	11.4.1 PRO CAPITE Public expenditure to protect biodiversity and landscape assets 11.2.1 Families by level of difficulty in connection with public transport in the area where they reside 14.5.1 Marine Protected Areas. 15.1.2 Extension of protected land areas 15.1.2 Areas of particular natural interest included in the Natura 2000 network
Status of implementation	In progress
Associated funding (if any)	*DD n. 417 del 21 dicembre 2018* - Sustainable Urban Mobility Incentive Programme (primus) - € 15.000.000,00 DD Prot .0006930.25-07-2019 - Call for implementation of the sustainable development strategy 3.000.000,00 **DM SG/90 del 3 Septembre 2019** –. Call for proposals on Environmental Education 2019- € 330.000,00
Link	https://www.minambiente.it/pagina/la-snsvs
Title	**NL2. National Climate Change Adaptation Strategy and Plan** [Strategia e Piano Nazionale di Adattamento ai Cambiamenti climatici]
Time scope (currently being draped , approved, into force, upgrading, under revision, expiring	Strategy adopted by Ministry of Environment Directoral Decree n. 86 16/6/2015 Plan draped in 2017, currently under revision (to be submitted to SEA)
Brief description (including objectives)	The National Climate Change Adaptation Strategy aims to be a tool to support national, regional and local institutions in defining their own adaptation paths, also in relation to the specific characteristics of the territories. It outlined the impacts of climate change on environmental resources and processes and on the socio- economic systems of the Italian territory and proposed a vision of the path to tackle them. The subsequent Plan has been issued to implement the Strategy: its general goal is declined in four specific objectives: limiting the vulnerability, increasing the adaptation capacity, improving the exploitation of any opportunities and facilitating the coordination of actions at different levels. The Plan includes a context analysis of the current and future climatic condition, a description of the risk propensity and the expected impacts per sectors, an extended list of possible adaptation actions at national level with indications about tools for monitoring and evaluating their effectiveness. According to the plan's climate analysis, the project area falls within the macro-region 2 "Po Valley, high Adriatic coast and coastal areas of central-southern Italy". It is characterized by high number of "summer days" high average temperature and high number of "dry days", the pluviometric regime is medium-ranged both considering seasonal and extreme values. According to the IPCC scenarios adopted by the plan (COSMO RCP4.5, COSMO RCP8.5), the climatic anomalies expected in period 2021-2050 compared to the period 1981-2010 are: a reduction in both summer and winter precipitation, an increase in extreme precipitation events, a significant increase in summer days. Moreover, the Adriatic Sea is expected to undergo an increase of the average temperature around +1.5°C, with peaks of +2°C increase in winter and spring, while the estimated sea level rise is around 7

	cm. The risks analysis conducted by the plan combines information about the potential impacts and the adaptive capacity (both evaluated combining several socio-economic and environmental indicators) into a synthetic risk index applied at provincial level. The province of Ascoli results as characterized by a medium-low "aggregate potential impact" and by a medium-high adaptive capacity. The plans contain also the description of the sectorial risks per macro-region.
Concrete climate change adaptation measures foreseen (if any	The second part of the plan identifies 376 adaptation actions both cross-sectional and sectorial (also provided in the form of a databases). Sectorial actions are associated with the impacts identified in the first part, related adaptation objectives and homogeneous climate areas. The sectors considered are the following: Water resources Marine environments: biodiversity and ecosystem services Ecosystems and biodiversity in internal and transition waters Coastal areas Geological, hydrological and hydraulic risks Desertification, soil degradation and draught Land ecosystems Forests Agriculture and food production . Maritime fishing . Aquaculture . Tourism . Urban settlements . Critical infrastructure - transport . Critical infrastructure - dangerous industries and infrastructures . Critical infrastructure - cultural heritage . Energy . Health. The adaptation actions identified by the plan are classified per categories (see table below), then evaluated based on the following criteria: effectiveness, economic efficiency, second order effects, performance in the presence of uncertainty, and considerations for political implementation.
Implementation and monitoring mechanisms/ procedures	The plan includes a preliminary set of indicators of progress and effectiveness of the adaptation actions, elaborated with the contribution of sectorial experts and organized according to the above-mentioned classification. Guidelines for the development of a monitoring-reporting-evaluation system are also included, even if operational details are not provided.
Status of implementation	Not formally in force/not implemented
Associated funding (if any)	Not specified
Link	www.minambiente.it/sites/default/files/archivio_immagini/adattamenti_climatici/documento_pnacc_luglio_2017.pdf
Title	**NL 3. 2030 framework on climate and energy**

	[Quadro 2030 su Clima ed Energia]
Time scope (currently being draped , approved, into force, upgrading, under revision, expiring)	2020 -2030 The Commission is currently evaluating proposals for plans submitted by the Member States.
Brief description (including objectives)	The Plan is structured in 5 issues: 1) decarbonisation, 2) energy efficiency, 3) energy security, 4) internal energy market, 5) research, innovation and competitiveness. The main objectives of the instrument are: -30% renewable energy sources production -21.6% renewable energy sources in final gross energy consumption in transport -4 3% -32.5% reduction in primary energy consumption compared to the PRIMES 2007 scenario of compared to an EU target of -33% reduction of GHG (GreenHouse Gases), 3% higher than the target set by Brussels.
Concrete climate change adaptation measures foreseen (if any)	The plan includes specific adaptation and resilience measures, in particular under the issues: *decarbonisation* pag.115 **Mobility management** 1. development of cycling paths 2.promotion of shared mobility 3. integration of sustainable mobility services and interchange parking 4. promotion of smart working tools 5. promotion of car pooling 6. ITS development (smart roads, traffic management, infomobility) 7. urban plans for sustainable mobility (PUMS) *research, innovation and competitiveness* pag. 85 **main objectives** 1. developing product strategies essential for energy transition 2. to promote the introduction of systems and organizational models for energy transition and security
Implementation and monitoring mechanisms/ procedures	Regarding urban plans for sustainable mobility (PUMS) Obligation for Municipalities (more than 100.000 inhabitants) taking Plan, time scope 2021 Obligation for Municipalities (more than 50.000 inhabitants) taking Plan - time scope 2025 (to achieve financial resources)
Status of implementation	In progress
Associated funding (if any)	Pag. 162 **Funding** — **Financial Programme** Fund for the research of the electrical system — National plan of the electrical system research Structural Fund and Cohesion

	Fund measure PON - POR Agreements for the innovation Horizon 2020
link	https://energiaclima2030.mise.gov.it/index.php/il-piano
Title	**NL 4. Three-year plan of the electrical system research** *[Piano triennale di ricerca sul sistema elettrico]*
Time scope (currently being draped , approved, into force, upgrading, under revision, expiring)	2019-2021 draped - DM 9 AUGUST 2019
Brief description (including objectives)	The Plan is the instrument of a very important function: the strategy wich sets priorities, objectives and resources of research and development activities within the national electrical system. The activities will be realized through both programme agreements with public entities and competition procedures for the selection of research project; Programme agreements are requested to be actuated by the adoption of three-year implementation plans, one for each agreement.
Concrete climate change adaptation measures foreseen (if any)	The plan includes specific adaptation and resilience measures, in particular according the following issues: 1.3 frontier materials for energy use 1.4 components and materials for safety and resilience 1.6 energy efficiency for industrial products and processes 2.5 models and instruments for network security and resilience
Implementation and monitoring mechanisms/ procedures	It'll be regulated into programme agreements with public entities and competition procedures for the selection of research project
Status of implementation	The three-year implementation plans are currently being built
Associated funding (if any)	The planned budget for the three-year period is EUR 210 million. Following the focused issues: **Themes Programme Agreement M€ selection of research project M€** 1.3 frontier materials for energy use 4,2 1.4 components and materials for safety and resilience 18 1.6 energy efficiency for industrial products and processes 14,5 8 2.5 models and instruments for network security and resilience 6,6

link	https://www.mise.gov.it/index.php/it/normativa/decreti-ministeriali/2040132-decreto-ministeriale-9-agosto-2019-relativo-al-piano-triennale-della-ricerca-di- sistema-elettrico-relativo-al-triennio-2019-2021
Regional level climate adaptation policies/ strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**PACC Abruzzo - Adaptation Plan to Climate Change of the Abruzzo Region** *[Piano di Adattamento ai Cambiamenti Climatici della Regione Abruzzo]*
Time scope (currently being draped , approved, into force, upgrading, under revision, expiring	The Abruzzo Region, in collaboration with CDCA and Climalia, has launched the PACC Abruzzo project. The Abruzzo region, due to its intrinsic orographic, territorial and socio-economic characteristics and location, is one of the regions of the entire Italian territory with the highest vulnerability to climate change. This is due to the fact that the region is characterized by the highest climatic diversity of peninsular Italy, passing from the temperate-warm climate of the coastal strip to the cold temperate of the major Apennine mountains. The Abruzzo PACC project - Climate Change Adaptation Plan of the Abruzzo Region has as its first commitment the formulation of a climate profile of the Abruzzo Region from which to then develop a specific adaptation plan for the Region. For the formulation of an adaptation plan that is effective involvement of the various stakeholders is absolutely essential. The PACC Abruzzo intends to ensure, for this purpose, an active process of stakeholder participation. Their involvement, in fact, will guarantee the identification of resilient skills in order to favor their systematization in the future strategy. 
Brief description (including objectives)	The PNACC aims to give impetus to the implementation of the SNAC with the general attention of offering a support tool to national, regional and local institutions for identifying and choosing the most effective actions in the different climatic areas in relation to the criticalities that the connotation mainly and for the adaptation criteria in the already existing procedures and instruments. **Specific objectives:**

	- **Implement an innovative information system on climate change** and their effects on a local scale. The information system will support the participatory planning process, the selection of the best strategies and actions and the monitoring of the plan; - **To reach the definition and design of pilot actions** to involve both the public and private sectors; - Increase the concern of the main stakeholders, citizens and policy regarding the risks and vulnerabilities associated with climate change; Insert the Abruzzo Region in the **network of European Regions** to engage in climate change adaptation policies.
Concrete climate change adaptation measures foreseen (if any)	The Plan proposes the actions that can be most effective in terms of adaptation and provides indications on the timing of implementation and on the bodies and the reference bodies for their implementation, providing decision-makers with scientifically rigorous elements, useful for the relative choices: - Outline the climate profile and assess the risks and vulnerabilities to climate change in the Abruzzo Region; -Information system on: local climatic scenarios, census / risk maps and vulnerability to heat islands, risk assessment / maps and vulnerability to flooding and flooding, assessment of water scarcity risks, resilience risks and updated adaptations; -Profiling of climate data over the last 50 years; - Develop a replicable boPom-up participatory process for the transfer of technical-scientific information to the identified actors; - PACC road map for the treatment of climate change with the aim of mapping resources and useful tools.
Implementation and monitoring mechanisms/ procedures	Monitor long-term risks and vulnerability to climate change. Evaluate the contribution of the project in the promotion of the various adaptation measures (planning, investments, risk analysis, information management). Information on project results, involving citizens and stakeholders. There are two different protocols: A - **Monitoring the impact of climate change** (risk and vulnerability) based on what is defined in the Regional Climate Profile B - **Monitoring of the level of implementation** of the actions envisaged by the Adaptation Plan.
Status of implementation	Adopted in September, 2015
Associated funding (if any	Abruzzo Region - Deliberation of the Regional Council n. 308 of April 29, 2015
Title	**PAI - Plan for Hydrogeological Structure** *[Piano per l'AsseNo Idrogeologico]*

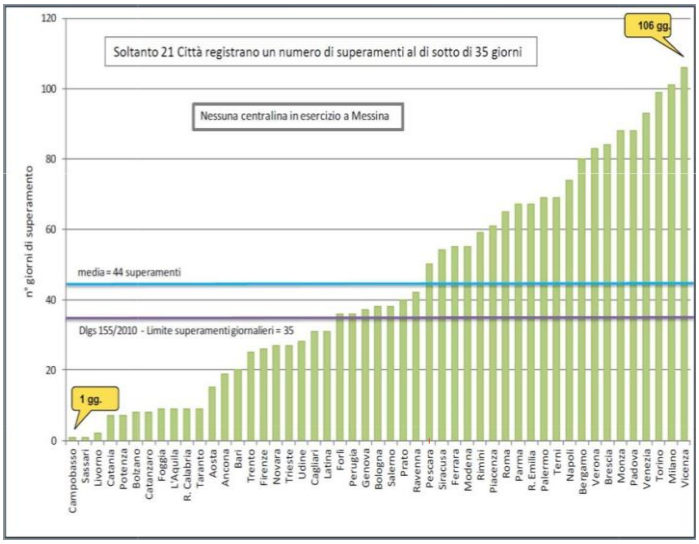
Time scope	In force - approved variant 19 June 2019
Brief description (including objectives)	The Exchanging Basin Plan for the Hydrogeological Structure of the Abruzzo Regional Basin and the Sangro River Interregional Basin "Gravitative Phenomena and Erosive Processes" is defined by the legislator as a "cognitive, normative and technical-operative tool through which they are planned and planned actions and rules of use aimed at the conservation, defense and enhancement of the soil, based on the physical and environmental characteristics of the territory concerned (see art. 17 of Law 183/89, Framework Law on the subject of soil protection). The Basin Extract Plan has the following objectives: • **plan according to the public spending** constraints that the State and the Region impose on themselves, making the Administrations all responsible for the pursuit of the objectives set within the established times; • **set the conditions for se[ng the relationship** between central power and local powers on new bases, and therefore giving concrete effect to the principles of subsidiarity, efficiency and cost-effectiveness; • **combining structural interventions and non-structural interventions**, complementary to each other and competing to reduce the level of risk deriving from the hydrogeomorphological dynamics; **place the relationship between development and protection** on a different basis in the process leading to the realization of the necessary structural works, overcoming the separation between technical knowledge and between economic and environmental issues in the design phases of each physical transformation of the territory.
Concrete climate change adaptation measures foreseen (if any)	Not found
Implementation and monitoring mechanisms/ procedures	The draping of the Implementation Rules is of particular importance for the pursuit of the legal objectives and for the definition of procedural guidelines for the conservation of the soil. This preventive "non-structural" intervention defines the guidelines, requirements, constraints and application criteria according to the different administrative and planning levels. In general terms, the legislation implementing the Plan is aimed at regulating the destinations of use of the territory, through specific prescriptions on what is allowed and what is forbidden to realize, in terms of works and activities, in areas of very high danger. (P3), elevated (P2) and moderate (P1).
Status of implementation	In force for over 10 years (first adoption on December 29, 2004)

Associated funding (if any	Not specified
Title	**Covenant of Mayors** *[Patto dei Sindaci]*
Time scope	On 10 May 2010, the Abruzzo Region signed in Brussels the adhesion to the Covenant of Mayors - Covenant of Mayors, as a Supporting Body. The Covenant objectives commonly summarized with the "twenty-twenty-twenty" term, consist in the achievement by 2020 of a production of energy from renewable sources equal to 20% of the total, with a 20% reduction in greenhouse gas emissions, in particular CO2.
Brief description (including objectives)	The plan contains a series of directives on the greenhouse gas emissions trading system; on the capture and geological storage of carbon dioxide; the renewable energy agreement; car CO2 reduction; the reduction of greenhouse gases in the fuel life cycle. Specifically, the regulation sets the following objectives: • **reduce greenhouse gas emissions by 20%** (being aware of which and how much energy we consume is the first step to reducing CO2 emissions, reducing pollution and helping to save our planet); • **increase energy savings to 20%** (the purchase and use of low-consumption appliances, summer and winter air-conditioning, the choice of lighting systems and structural interventions on homes, are sectors that contribute to improving efficiency energy); **increase the use of renewable energies by 20%** (investing in the growth of renewable energies in our country allows not only to reduce CO2 emissions but also to create many new jobs and renew the world). In order to translate their political commitment into practical measures and projects, the Covenant Signatories undertake to present, within two years from the date of the decision of the local council, an Action Plan for Sustainable Energy and Climate (PAESC) which indicate the key actions they intend to take.
Concrete climate change adaptation measures foreseen (if any)	Concrete measures taken to combat climate change are: - Promotion of energy production from renewable sources; - Promotion of energy saving systems; Animation for the promotion of renewable sources and energy saving;
Implementation and monitoring mechanisms/ procedures	The plan will contain a Basic Emission Inventory to monitor mitigation actions and the Assessment of Vulnerability and Climate Risks. The adaptation strategy can be part of the PAESC or be developed and integrated into a separate planning document. This bold political commitment marks the beginning of a long-term process that sees cities committed to reporting every year on the progress of their plans.
Status of implementation	Ending in 2020

Associated funding (if any	Direct funds are grants or payments of a non-commercial nature, which must be supplemented by the beneficiaries' own resources. This type of funding requires the establishment of transnational partnerships. In direct funds the European Commission transfers the amounts directly to the project beneficiaries. The indirect funds are programmed and supplied directly by the national and regional governments of the member countries, while the directly managed funds are programmed and supplied by the various Directorates General of the European Commission (research, education, environment, transport, etc.) or by Agencies delegated by it.
Title	**RIVER CONTRACTS** *[ContrattidiFiume]*
Time scope	DGR 14 July 2015 n. 603 - Regional Council Resolution 4 November 2014 n. 716 "River Contracts, Conferral of the task of setting up and coordinating the Working Group.
Brief description (including objectives)	The River Contracts, through the integration of policies and stimulating the capacity for cooperation and sharing between different levels of government and between different subjects of the same level, pursue multiple objectives: safety, mitigation and prevention of risks, environmental rebalancing and landscape enhancement, sustainable use of resources, sustainable tourism use, diffusion of water culture. Upon completion, these participatory processes allow the consolidation of governance within the entire extent of a basin where the system of actions for the mitigation of hydraulic risk is integrated with the protection and enhancement of the river, of the usability conditions, of the ecosystems, historical-cultural places present, biodiversity, both surface and underground water resources and so on. The creation of a shared vision allows to guide the process towards a hierarchization of the objectives and the reorientation of programming and financial resources, also because of the common recognition that the territory is not a homogeneous unicum, but declines in numerous structural characteristics, which express different needs and functions. The River Contracts thus stimulate the territorial planning from the bottom up, because they involve the communities in the valorisation of their territory, promoting direct and concrete actions by the various components of society and institutions.
Concrete climate change adaptation measures foreseen (if any)	Not found
Implementation and monitoring mechanisms/ procedures	**The methods of the process** From the critical analysis of the various experiences of the River Contract already started, some common phases can be recognized that constitute peculiar nodes of the negotiated programming process. - Network animation and construction; - Definition of rules and tools; - Construction of the vision and choice of shared priority objectives; - Formalization of the agreement;

	- Performance implementation and monitoring; During the entire journey, two transversal and continuous activities closely linked to each other are developed.
Status of implementation	Planning of interventions
Associated funding (if any	Not specified
Title	**Regional Plan for the Protection of Air Quality** *[Piano Regionale per la Tutela della Qualità dell'Aria]*
Time scope	The Plan was draped in compliance with the legislative provisions of the Decree of the Ministry of the Environment and of the Protection of the Territory October 1, 2002, n. 261 containing the "Regulation containing the technical directives for the preliminary assessment of ambient air quality, the criteria for drawing up the plan and the programs referred to in articles 8 and 9 of the legislative decree 4 August 1999, n. 351 "(Official Gazette No. 272 of November 20, 2002). The current Plan was approved with Regional Council Resolution n.79 / 4 dated 09/25/2007 and published in the B.U.R.A. Special n. 98 of 05/12/2007. Being updated.
Brief description (including objectives)	The objectives of the plan are: - **Zoning of the regional territory** according to the pollution levels of the ambient air quality; - **Develop plans to improve air quality** in areas and agglomerations where the levels of one or more pollutants exceed the concentration limits; - **Draw up plans for maintaining air quality** in the area where the levels of pollutants associated with legal limits; - **Improve the regional monitoring network**; **Develop shared strategies** aimed at respecting the limits imposed by the legislation and the reduction of climate-altering gases.
Concrete climate change adaptation measures foreseen (if any)	Interventions on diffuse sources Traffic operations Interventions on point sources
Implementation and monitoring mechanisms/ procedures	Strategies and scenarios for the reduction of emissions have been identified by paying particular attention to the remediation areas resulting from the zoning of the regional territory and keeping in mind the other objectives of the plan. The measures will allow to: - achieve compliance with air quality objectives, established by the most recent European regulations with reference to the following pollutants: sulfur oxides, nitrogen oxides, carbon monoxide, suspended particles with a diameter of less than 10 microns, benzene;

	- avoid deterioration of air quality with reference to the following pollutants: sulfur oxides, nitrogen oxides, carbon monoxide, suspended particles with a diameter of less than 10 microns, benzene; - achieve an improvement in the quality of the air relative to ozone and tend to achieve the target values; - contribute to compliance with the national emission limits for sulfur oxides, nitrogen oxides, volatile organic compounds and ammonia; - achieve compliance with emission limits, with reference to sulfur, nitrogen and dust oxides, for large combustion plants; - achieve a considerable reduction in the emissions of ozone precursors and lay the foundations for compliance with air quality standards for this pollutant; - contribute with energy saving initiatives, development of electricity production with renewable sources and through the production of electricity from plants with greater energy efficiency to achieve, by 2010, the percentage of emissions reduction planned for Italy in application of the Kyoto protocol.
Status of implementation	In force
Associated funding (if any	https://www.google.it/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwii06ma9JblAhUxMuwKHQtDC28QFjABegQIABAB&url=http%3A%2F%2Fleggi.regione.abruzzo.it%2Fasp%2FredirectApprofondimenti.asp%3FpdfDoc%3DdelibereRegionali%2Fdocs%2Fdelibere%2FDGR708_20161.pdf&usg=AOvVaw3LHZ1Pz1vjl1WhS6R7RPmH
Local level plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	**PUMS - Urban Sustainable Mobility Plan - "Verso Pescara 2027"** *[PUMS - Piano Urbano Mobilità Sostenibile - "Verso Pescara 2027"]*
Time scope	On February 20, 2017, the municipal administration of Pescara approved the document of strategic directions for the Government of the territory called Pescara city of knowledge and well-being, constituting the "director's scheme" of the government of the territory and of urban policies to which every general planning and programming act, including the general urban traffic plan (PGTU) and the urban plan for sustainable mobility lPUlVlS), in particular having the value of Guidelines for the PUMS; With GC resolution 568 of 11 / 08/2016 the "procedure for the formation of the Urban Plan for Sustainable Mobility (PUMS) and the related process of Strategic Environmental Assessment (SEA)" was started;
Brief description (including objectives)	The PUMS (Urban Sustainable Mobility Plan) is a strategic plan aimed at satisfying the demand for mobility of people and businesses in urban and peri-urban areas, in order to improve the quality of life. It is based on a long-term vision and on a sustainability-oriented approach in a broad sense (that is, taking into consideration, in addition to environmental aspects, also social costs and benefits). At the same time, the PUMS must take on local issues and global issues (such as climate change and energy efficiency goals). It must also integrate with other existing plans, enhancing the principles of integration, participation, evaluation and monitoring. According to the "guidelines" on the PUMS developed by the European Commission in 2014,

	the minimum objectives that a PUMS should be set are: - to **ensure that all citizens have real transport options** that allow access to services and major urban destinations; - **improve the safety, efficiency and cost-effectiveness** of transporting people and goods; - **reduce air and noise pollution, greenhouse gas emissions and energy consumption**; **raising the quality of the urban environment** for the benefit of citizens, the economy and society as a whole.
Concrete climate change adaptation measures foreseen (if any)	The policies and measures proposed by the PUMS must cover all modes and forms of transport throughout the urban system: public and private, passengers and goods, circulation and parking, motorized and muscular. At the same time, the PUMS must address urban planning issues related to sustainable mobility, according to a structured process that includes analysis of the state of affairs, construction of the strategic vision, identification of the aims and objectives, selection of policies and intervention measures, communication active and listening, monitoring and evaluation.
Implementation and monitoring mechanisms/ procedures	Many of the effects of the PUMS are qualitative in nature and can hardly be monitored by measuring specific indicators. It is not easy, for example, to measure the improvement of the quality of life, the decrease in traffic stress, the increase in the possibility of having social relations. However, there are some effects that can be monitored by using specific quantitative indicators capable of assuming the role of "sensors" indicative of the state of effectiveness of a given intervention action. Below, for example, an image taken from the 2016 Euromobility report that shows how Pescara, in 2015, exceeded both the limit identified by Legislative Decree 155/2010 and the national average in terms of annual days exceeding the limit of presence in the air of fine dust. To achieve the expected result, the PUMS must define a system of indicators capable of fully representing the current state of the mobility system, to be placed at the base of a monitoring process. To this end, this PUMS identifies a first set of indicators that will be monitored to verify any changes (for better and for worse), in order to put in place possible corrective actions during the implementation of the plan. 

	They relate to both aspects of economic sustainability (functional performance indicators), environmental sustainability (environmental quality indicators) and social sustainability (social value indicators).
Status of implementation	Adopted in 2017
Associated funding (if any	http://versopescara2027.comune.pescara.it/wp-content/uploads/2017/06/2017-GC-0358.pdf
Title	**Strategic project SIR SALINE - Montesilvano** *[ProgeNo strategico SIR SALINE - Montesilvano]*
Time scope	Ministerial Decree 3 March 2003, published on the G.U. n. 121, general series, of 27 May 2003. National program for the reclamation and environmental restoration of the Site of National Interest called Fiumi Saline-Alcole - D.M. 468/01 - Law 289/02 - Approval of guidelines for the preparation of the Plans and the subsequent characterization of the private production areas falling within the SIN "Saline Rivers and Alcohol".
Brief description (including objectives)	The Characterization Plan approved by the Ministry of the Environment and the Protection of the Territory, General Directorate for Quality of Life (MATT), consists of two Projects: one relating to the river auctions prepared by the APAT and the ARTA, and the another pertaining to the marine-coastal area, drawn up by the ICRAM. Furthermore, the PDC was integrated in order to comply with the indications contained in the document drawn up by the APA T called "Proposal for the evaluation of the qualitative status of river sediments".
Concrete climate change adaptation measures foreseen (if any)	Not found
Implementation and monitoring mechanisms/ procedures	In order to ensure the safety, remediation and recovery of polluted sites, included in the perimeter of the SIN of "Fiumi Saline and Alento", the following interventions are carried out: - Prevention measures and safety measures; - Additional characterization surveys; - Planning and execution of interventions; - Preliminary investigation, verification of interventions; Inspection activities and controls.
Status of implementation	Programmatic phase
Associated funding (if any	Resources MATTM - D.M. 18 September 2001, n. 468 Resources Region Abruzzo cap. 292210, U.P.B. 05.02.010

Title	**S.E.A.P. - ADOPTION PLAN FOR SUSTAINABLE ENERGY - Francavilla al Mare** *[S.E.A.P. - PIANO D'ADOZIONE PER L'ENERGIA SOSTENIBILE - Francavilla al Mare]*
Time scope	On Friday 30 November 2012, the Sustainable Energy Action Plan (SEAP) was approved with a resolution by the Municipal Council of Francavilla al Mare.
Brief description (including objectives)	With the adhesion to the Covenant of Mayors, the Municipality of Francavilla al Mare committed itself to elaborate and implement its own Action Plan for Sustainable Energy to reduce its own CO2 emissions. On the basis of the European Action Plan on energy efficiency, the "Covenant of Mayors" is established in order to engage the cities (city council resolution) in: - reaching and **exceeding the CO2 emissions** reduction targets by 2020; - adopt an **Action Plan** (SEAP) to achieve these objectives; - **provide a two-year report**; **organize dedicated events** (social aspects, citizens' awareness).
Concrete climate change adaptation measures foreseen (if any)	Reduction of CO2 emissions by 20%
Implementation and monitoring mechanisms/ procedures	Targeted interventions in the following areas: BUILDING AND TERTIARY TRANSPORT LOCAL PRODUCTION ENERGY TERRITORIAL PLANNING GREEN PURCHASE PARTICIPATION AND DISSEMINATION
Status of implementation	Expiring in 2020
Associated funding (if any	Internal resources of the City, any private capital through project finance tools (Project Financing, Third-Party Financing, etc.), European calls for tenders, ESCO.
Title	**PUMS - Urban Sustainable Mobility Plan - Chieti Green** *[PUMS - Piano Urbano Mobilità Sostenibile. Chieti Green]*
Time scope	Approval of the PUMS - Urban Sustainable Mobility Plan - 2010
Brief description (including objectives)	The PUMS (Urban Sustainable Mobility Plan) is a strategic plan aimed at satisfying the demand for mobility of people and businesses in urban and peri-urban areas, in order to improve the quality of life. It is based on a long-term vision and on a sustainability-oriented approach in a broad sense (that is, taking into consideration, in addition to environmental aspects, also social costs and benefits). At the same time, the PUMS must take on local issues and global issues (such as climate change and energy efficiency goals). It must also integrate

	with other existing plans, enhancing the principles of integration, participation, evaluation and monitoring. According to the "guidelines" on the PUMS developed by the European Commission in 2014, the minimum objectives that a PUMS should be set are: - to ensure that all citizens have real transport options that allow access to services and major urban destinations; - improve the safety, efficiency and cost-effectiveness of transporting people and goods; - reduce air and noise pollution, greenhouse gas emissions and energy consumption; raising the quality of the urban environment for the benefit of citizens, the economy and society as a whole.
Concrete climate change adaptation measures foreseen (if any)	Reduction of particulate levels in the air
Implementation and monitoring mechanisms/ procedures	The PUMS identifies a first set of indicators that will be monitored to verify any changes (for better and for worse), in order to put in place possible corrective actions during the implementation of the plan. They relate to both aspects of economic sustainability (functional performance indicators), environmental sustainability (environmental quality indicators) and social sustainability (social value indicators).
Status of implementation	In the implementation phase
Associated funding (if any	POR FESR Abruzzo 2014-2020
Title	**C.E.T.S. - European Charter for Sustainable Tourism - Silvi** *[C.E.T.S. - Carta Europea del Turismo Sostenibile - Silvi]*
Time scope	The 2015 European Sustainable Tourism Charter is a tool that implements the A.M.P. Torre del Cerrano established by decree of the Ministry of the Environment and Protection of the Territory and the Sea of 10/21/2009, published in G.U. of the Italian Rep. n.80 of 07-04-2010.
Brief description (including objectives)	The European Charter for Sustainable Tourism is a practical management tool that allows protected areas to constantly improve sustainable development and tourism management taking into consideration the needs of the environment, the community and local tourism businesses. The objectives underlying the European Charter of Sustainable Tourism in Protected Areas have been consecrated in 10 Principles of the Charter of Sustainable Tourism: 01 - Involve all those involved in the tourism sector, in the protected area and in the surrounding areas, in its development and management. 02 - Prepare and implement a sustainable tourism strategy and action plan for the protected area. 03 - Protect and enhance the natural and cultural heritage of the area, for and through tourism, and protect it from excessive tourism development through 04 - Provide all

	visitors with a high quality experience in all respects 05 - Effectively transmit information to the visitors on the specific qualities of the area 06 - Encourage the promotion of specific tourism products that allow the discovery and knowledge of the area 07 - Increase knowledge about the protected area and sustainability issues of all those involved in the tourism sector 08 - Ensure that tourism supports and does not worsen the quality of life of local communities 09 - Increase the benefits of tourism to the local economy 10 - Monitor and influence visitor flows to reduce negative impacts
Concrete climate change adaptation measures foreseen (if any)	Not specified
Implementation and monitoring mechanisms/ procedures	The definition of the strategy based on the one hand on the need to strengthen the institutional partnership of the young MPA and on the other hand on the need to make a pact with private subjects. The two attentions are referenced on the one hand in the need for the AMP to increasingly tune its actions with the two municipal Administrations of Pineto and Silvi with the Province of Teramo and the Abruzzo Region and on the other hand that it interfaces more directly with the bathing establishments and accommodation facilities able to offer quality experiences to the visitors of the WAP. In particular, these four strategic lines were immediately reconnected to the 10 principles of the CETS: **1.** Sharing of the Tourist Development Project "Riviera dei Borghi Acquaviva" **2.** The enhancement of the "Protocol of Understanding" for the environmental characterization of the bathing establishments **3.** The recognition of the tourist potential of nature conservation activities.
Status of implementation	Intervention planning
Associated funding (if any	The commitments resulting from the definition of the general strategy and the three strategic points mentioned above have therefore been reported below. Commitments of the WAP represents over 25% of the total budget. While over half of it is given by valuations (with an important contribution by private individuals) of the activities that will be put in place for the realization of the Plan.

PART 2: FUNDING TOOLS

Category	Notes
European funding	*Please describe any European provision for funding climate change adaptation measures (EU projects, technical assistance, etc.) that you deem relevant, i.e. which have influenced regulations or practices in your country/region.*

The EU budget supports EU climate objectives through most budget programs. DG Climate Action focusses on two aspects:

- Supporting the lead services in integrating climate action into the various EU spending programs, including the achievement of the target of making at least 20% of the EU budget climate related.

- Managing a €864 million programme (LIFE climate action) to develop and implement innovative ways to respond to climate challenges.

In addition to the EU budget resources, DG CLIMA also manages the NER 300 programme for innovative low-carbon energy demonstration projects.

The LIFE Programme for the Environment and Climate Change 2014-2020 is divided into two sub-programs: environment and climate action. LIFE Climate Action supports projects in the development of innovative ways to respond to the challenges of climate change in Europe.

LIFE Climate Action supports public authorities, non-governmental organizations and private actors, especially small and medium-sized enterprises, in implementing low-carbon and adaptation technologies and new methods and approaches. The programme focuses on three priority areas:

Priority area Focus

Climate change mitigation Reducing greenhouse gas emissions Climate change adaptation Increasing resilience to climate change

Climate change governance and information Increasing awareness, communication, cooperation and dissemination on climate change mitigation. There are two programming periods: 2014-2017 and 2018-2020.

Grants and private financing opportunities Funding are made available through:

- grants for traditional, integrated and preparatory projects.

financial instruments that leverage private finance through loans and guarantees.

European funding 2021-2027	*Please describe any European provision for funding climate change adaptation measures (EU projects, technical assistance, etc.) that you deem relevant, i.e. which have influenced regulations or practices in your country/region.*

THE NEW LIFE PROGRAMME:

INVESTING MORE IN ENVIRONMENT AND CLIMATE ACTION

In the proposal for a new LIFE programme for 2021-2027 the European Commission intends to allocate **€ 5.450 billion** to projects supporting the environment and climate action. This is an **increase by EUR 1.950 billion**.

1. **NATURE AND BIODIVERSITY** (€ 2.150 BILLION)

The Nature and Biodiversity sub-programme will include support for standard action projects for developing, applying and promoting best practice in relation to nature and biodiversity, as well as «Strategic Nature Projects». These new projects are designed to support and boost the implementation of EU nature rules, and biodiversity policy objectives through mainstreaming.

2. **CIRCULAR ECONOMY AND QUALITY OF LIFE** (€ 1.350 BILLION) Actions supported will help reaching major EU policy objectives such as the transition to a circular economy, and protecting and improving the quality of EU's air

and water.

3. CLIMATE CHANGE MITIGATION AND ADAPTATION (€ 0.950 BILLION) Actions supported will help implement the 2030 energy and climate policy framework and meet the Union's commitments under the Paris Agreement on Climate Change.

. CLEAN ENERGY TRANSITION (€ 1 BILLION)

The new Clean Energy Transition sub-programme will build capacity, stimulate investments and support policy implementation activities focusing on energy efficiency and small-scale renewables that contribute to climate mitigation and/or environmental objectives.

. MORE IMPACT, MORE FLEXIBLE AND SIMPLER

The new programme will focus on developing and implementing innovative ways to respond to environment and climate challenges thereby catalysing changes in policy development, implementation and enforcement. It will also ensure sufficient flexibility to address new and critical priorities as they emerge during the programme's duration. Programme implementation will be made easier for applicants and beneficiaries, and there will be measures to achieve a more balanced territorial coverage.

https://ec.europa.eu/commission/publications/natural-resources-and-environment_en

National funding M.A.T.T.M.	NF1	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities*

DECRETO CLIMA - Green New Deal ITALIAN Policy - "Urgent measures for the respect of the obligations previewed from the directive 2008/50/Ce for the quality of the air" October 2019 Reforestation: EUR 30 million euros for the planting of trees, replanting and forestry, the creation of urban and peri-urban forests, in metropolitan cities.

Renewable Energy: EUR 20 million euros for the school transport service 'green', with hybrid means, electric or not inferior to Euro 6

Slow mobility: EUR 40 million for the financing of projects for the creation, extension, modernisation and upgrading of priority lanes for local public transport which may be submitted by one or more municipalities (with more than 100,000 inhabitants),

National funding M.A.T.T.M.	NF2	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities*

Sustainable Urban Mobility Incentive Programme (primus)

DM SG/90 del 3 sePembre 2019 Co-financing is available for Detailed Operational Projects (P.O.D.) related to the following actions: a) school and home-work; b) development of urban sharing mobility; c) development of mobility management activities at the offices of the State Administrations (central and peripheral offices), of schools and universities

Each P.O.D. is co-financed by the Ministry between Euro 300.000,00 and Euro 600.000,00 up to the maximum of 75% of the total cost

National funding M.A.T.T.M.	NF3	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities*

Call for the promotion of research projects in support of the implementation of the National Strategy for Sustainable Development - Legislative Decree no. 152/2006 DD Prot .0006930.25-07-2019 - **"Snsvs 2"**
CATEGORY 1 - Research projects to support the processes of elaboration and implementation of

regional and provincial strategies for sustainable development: € 2.100.000,00
CATEGORY 2 - Research projects on priority themes for the implementation of the National Strategy for Sustainable Development: € 900,000.00

Call to metropolitan cities for the presentation of expressions of interest for activities on the implementation of the National Sustainable Development Strategy - Legislative Decree no. 152/2006
DD Prot .000334.26-07-2019
€ 2.500.000,00
Category A. Building governance of metropolitan agendas for sustainable development
Category B. Involvement of civil society
Category C. Definition of metropolitan agendas for sustainable development and integration with the metropolitan strategic plan

National funding M.A.T.T.M.	NF4	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities*

Memorandum of Understanding signed digitally on 6 December 2018 between M.A.T.T.M. and M.I.U.R Every year each year, proposals for environmental education activities are selected and funded.
DM SG/90 del 3 sePembre 2019 –. Call for proposals on Environmental Education 2019
The grant is up to 80% of eligible expenditure (in proportion to available resources). The total amount of the individual contribution may not exceed Euro 15,000.00 (Euro 15,000/00).

Regional funding	*Please describe any regional provision for funding climate change adaptation measures (if any), including funds deriving from European resources (e.g. structural funds allocated through specific actions of the Regional Operational Programmes) and opportunities related to public-private partnership schemes.*

Five main objectives will drive EU investments in 2021-2027. Regional development investments will strongly focus on objectives 1 and 2. 65% to 85% of ERDF and Cohesion Fund resources will be allocated to these priorities, depending on Member States' relative wealth: - Smarter Europe, through innovation, digitisation, economic transformation and support to small and medium-sized businesses - a Greener, carbon free Europe, implementing the Paris Agreement and investing in energy transition, renewables and the fight against climate change
Specific Objective Specific objective Outputs
(i) Promoting energy efficiency measures CCO 06 – Investments in measures to improve energy efficiency CCR 05 – Beneficiaries with improved energy classification
(ii) Promoting renewable energy CCO 07 - Additional renewable energy production capacity CCR 06 – Volume of additional renewable energy produced
(iii) Developing smart energy systems, grids and storage at local level CCO 08 - Digital management systems developed for smart grids CCR 07 - Additional users connected to smart grids
(iv) Promoting climate change adaptation, risk prevention and disaster resilience CCO 09 - New or upgraded disaster monitoring, warning and response systems CCR 08 - Additional population benefiting from protection measures against floods, forest fires, and other climate related natural disasters
(v) Promoting sustainable water management CCO 10 - New or upgraded capacity for waste water treatment CCR 09 - Additional population connected to at least secondary waste water treatment
(vi) Promoting the transition to a circular economy
CCO 11 – New or upgraded capacity for waste recycling CCR 10 - Additional waste recycled
(vii) Enhancing biodiversity, green infrastructure in the urban environment, and reducing pollution CCO 12 - Surface area of green infrastructure in urban areas CCR 11 - Population benefiting from measures for air quality

A STRONGER FOCUS ON SUSTAINABLE URBAN DEVELOPMENT

Cities are engines of growth and innovation but are also faced with pressing challenges: air pollution, unemployment, social exclusion, to name a few. 6% of the ERDF will be earmarked for investments in sustainable urban development. In addition, the 2021- 2027 framework creates the European Urban Initiative, a new tool for city-to-city cooperation, innovation and capacity-building across all the priorities of the Urban Agenda for the EU (integrating migrants, housing, air quality, urban poverty or energy transition, among others).

ERDF, CF and ESF+ envelopes for 2021-27 in millions

Cohesion policy total 330 624 European Regional Development Fund (ERDF) 200 629

· Investment for jobs and growth 190 752 European territorial cooperation 8 430 Outermost regions and sparsely populated areas 1 447 Cohesion Fund (CF) 41 349

· of which contribution to CEF Transport 10 000 European Social Fund+ (1) 88 646

Local funding	LF1	*Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities…)*

Interreg MED Project

SHERPA – Shared knowledge for Energy renovation in buildings by Public Administrations / Outputs

The expected changes as a consequence of SHERPA can be properly measured by means of the project outputs at the benefit of future EEB projects:

- Roadmap to develop and implement EEB strategies;
- Regional EEB strategies supporting SEAPs implementation;
- Regional and local EEB Policy Agreements and governance structures;
- Shared information system;
- Public awareness strategies, including planning and implementation of specific trainings in EEB;
- Innovative combination and optimization of EEB financial models;
- Capitalisation plan;
- SHERPA Online Capitalisation Forum;
- Capitalisation set of toolkits;
- Joint Action Plan integrating all SHERPA EEB projects.

Interreg Mediterranean SHERPA

REGIONE ABRUZZO

Local funding	LF2	Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities…)

CReIAMO PA
Per un cambiamento sostenibile

PON GOVERNANCE E CAPACITÀ ISTITUZIONALE 2014-2020

Cohesion Policies 2014-2020 » CReIAMO PA – Competences and networks for environmental integration and improvement of PA organizations » L5– Strengthening of administrative capacity for adaptation to climate change

The Project promoted by MATTM, intends to carry out activities aimed at the definition of guidelines and methodologies and the development of skills in the field of adaptation to climate change.
2018 Abruzzo Region hosted the activities "coaching on the job", both with plenary sessions of discussion, and with thematic tables
2018 Pescara Municipality hosted a series meeting on sustainable mobility in the metropolitan and middle Adriatic.

Local funding	LF3	Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities…)

PROGRAMMA SPERIMENTALE NAZIONALE DI MOBILITÀ SOSTENIBILE CASA-SCUOLA E CASA-LAVORO

MINISTERO DELL'AMBIENTE E DELLA TUTELA DEL TERRITORIO E DEL MARE

MOBILITÀ SOSTENIBILE VERSO PESCARA 2027

pesos

Città di Pescara

National Experimental Programme of Sustainable Mobility Home-School and Home-Work.
PESOS (Pescara Sostenibile) aims to promote the use of alternative transports in the journey home-work, encouraging the workers who choose to move togreen mobility; to do so, it shall deploy long-term integrated actions and services involving cycling, shared mobility and public transport.
http://versopescara2027.comune.pescara.it/progetto-pesos/

Local funding	LF4	Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities…)

STRATEGY FOR SUSTAINABLE URBAN DEVELOPMENT ("SUS") OF THE MUNICIPALITY OF PESCARA (Asse VII del POR FESR 2014-2020) € 6.900.000,00
The planned works have been divided into four MEASURES:

ACTION 1–TO REALIZE INTELLIGENT MANAGEMENT SYSTEM OF URBAN TRAFFIC AND PUBLIC MEANS –Tot. Action € 698 651,60 (municipal funding € 48 651,60) ACTION 2– CONSTRUCTION OF AN ECOLOGICAL PUBLIC TRANSPORT SYSTEM– Tot. Action € 4 494 606.42 (municipal financing € 194.606,42).
ACTION 3– POTENTIAL CICLABLE AND PEDESTRIAN MOBILITY– Tot. Action € 2 945 927,12 (Financing ROP ERDF € 500.000,00– municipal funding € 1.695.927,12– private funds TERNA 750.000,00

ACTION 4–ASSESSMENT OF EXISTING CULTURAL AND ENVIRONMENTAL RESOURCES–Tot. Action € 1 557 033,53 (municipal funding € 107 033,53)

[PP5] SDEWES Centre

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	Draft Climate Change Adaptation Strategy in the Republic of Croatia for the period to 2040 with a view to 2070 (White book)
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Upgrading and under revision
Brief description (including objectives)	Climate Change Adaptation Strategy was defined as a process that "... implies assessment of adverse impacts of climate change and taking appropriate measures to prevent or reduce the potential damage they may cause." The definition of adaptation to climate change in the act is also the cornerstone of the Adaptation Strategy. Adapting to climate change implies undertaking a set of activities to reduce the vulnerability of natural and social systems to climate change, increasing their ability to recover after the impact of climate change, as well as exploiting the potential positive impacts that may also be a consequence of climate change. The main, long-term goal of the Adaptation Strategy is the reduction of the vulnerability of social and natural systems to the adverse impacts of climate change, i.e. to strengthen their resilience and the ability to recover from these impacts. Finally, taking into consideration the possible positive effects of climate change, by implementing the Adaptation Strategy the systems should be stronger and more resilient than they are today, and thereby contribute to achieving long-term sustainable development of the Republic of Croatia.
Concrete climate change adaptation measures foreseen (if any)	***Priority 1. Ensuring sustainable regional and urban development*** Adaptation to climate change, prevention and risk management is set as the backbone of future regional and urban development. Disaster prevention and management, as well as adaptation to climate change, is a response to local/regional issues that local/regional administrations need to deal with in order to reduce the potential disaster impact in their area. Natural disasters and climate change impacts can have a significant impact on the socioeconomic development and competitiveness of the individual Croatian regions as well as the entire country and have far- reaching cross-border implications. Investments in prevention and adaptation contribute to the preservation of existing assets and bring a high economic return, where cost of action is far lower than the cost of inaction. Therefore, it is important in the approach to

	solving and implementation of adaptation measures to identify local/regional measures that will best respond to the vulnerability of a given area. Cities and urban areas are particularly exposed to the influence of climate change (heat waves, extreme precipitation, floods). In this sense, adaptation to climate change and prevention and risk management become a priority when cohesion policy supports urban development projects. Cities and urban areas, especially in coastal areas along rivers and the sea, show vulnerabilities that are usually larger than in the surrounding areas (e.g. to floods, to effects of urban heat islands). Because of concentration of population and economic activities in cities, special attention is paid to investments in climate-resistant urban infrastructure and activities aimed at strengthening local level resilience to climate change. Priority 1. - 1.1. Measures of very high importance - strengthening the capacity for the implementation of non- structural measures for protection against the harmful effects of water in case of occurrence of extreme hydrological conditions whose increase in intensity and frequency of occurrence is conditioned by climate change. - strengthening the capacity to build, reconstruct and upgrade the system for protection against harmful effects of water and related multi-purpose hydro-technical systems (structural measures) and lowland natural floodplains flooded in a controlled fashion. - strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions - incorporation of adaptation measures into key documents pertaining to forests and forestry sectors - integration of climate change into the tourism development strategy - raising awareness of persons involved in the tourism sector on the possibilities of adaptation to climate change - strengthening the competencies of high school and university students - strengthening the resilience of tourism infrastructure to different weather extremes - strengthening of the knowledge base, as well as the monitoring and evaluation system - strengthening the human and institutional capacities of professional stakeholders in the spatial planning system - integration of adaptation measures into the spatial planning system - raising awareness of the public and decision-makers at all levels Priority 1 - 1.2. Measures of high importance - strengthening the capacities for effects of the sea on the coastal water-communal infrastructure and coastal water resources in conditions of sea level rise caused by climate change (non-structural measures)

	- strengthening urban areas' resilience to anthropogenic pressures conditioned by climate change - implementation of the green infrastructure concept - integrating knowledge about the effects of climate change into a system of nature protection - strengthening endangered habitats and species - strengthening the resilience of local communities in the tourism sector - development of sustainable tourism with included adaptation to climate change - preparation of programs and rehabilitation projects Priority 1 - 1.3. Measures of medium importance - strengthening the capacity for exploration and sustainable management of groundwater - strengthening the resilience of coastal water utility infrastructure and coastal water resources (structural measures) - strengthening the protection capacity of particularly valuable aquatic ecosystems - afforestation - improving sustainable management and infrastructure in natural ecosystems - strengthening the human and financial capacities of the nature protection system - strengthening the awareness of public and key stakeholders within health and other priority professions (e.g. educational and preschool institutions, facilities for elderly and helpless people, home care etc.) - integration of climate change subject into the national school curriculum ***Priority 2. Ensuring preconditions for the economic development of rural areas, coastal areas and islands*** Adaptation of rural areas, coastal areas and islands to key climate challenges becomes a prerequisite for the survival of the economy and further economic development of these areas. The lack of moisture in the soil makes it difficult for the development and ripening of agricultural cultures, decreasing their yield, as well as cattle productivity. High air temperatures hinder or completely inhibit the development of agricultural crops and increase evapotranspiration. Long dry periods can completely destroy the harvest of agricultural crops. Existing research points to frequent lack of water in Croatian agricultural soils, and climate models suggest that this problem will become even more pronounced in the future. Spring frosts and thunder damage agricultural cultures and often destroy their crops, especially in fruit growing, vineyards and vegetable growing. Many agricultural areas have poor soil permeability. With abundant rainfall on such soils, water saturation and surface water stagnation quickly endanger soil fertility and agricultural crops. Damages from sea level rise on the narrow coastline and low coasts of the Croatian Adriatic will be reduced by applying appropriate measures to plan new and remediate existing vulnerable parts of settlements and infrastructure. In coastal areas and islands preconditions must be met for fisheries and aquaculture based on the results of climate modelling that predicts

	sea temperature rise, resulting in the migration of cold-water species (shrimp, hake) to colder or deeper sea and in the increase in the number of foreign species and impacts on domestic species. Changes in water circulation due to thermohaline causes decrease primary production with the decrease of the number of pelagic fish, and due to increase of acidity of the sea there is less growth and greater mortality of shellfish. Priority 2 - 2.1. Measures of very high importance - increasing the water absorption capacity of agricultural soil - application of soil conservation tillage - breeding of species and cultivars of agricultural crops and breeds of domestic animals that are more resilient to climate change - construction of reservoirs for irrigation - strengthening the capacity for systematic monitoring of forest ecosystem conditions as a prerequisite for informed planning and implementation of climate change adaptation - strengthening the sector by investing in development of new markets and expanding the range of products offered - strengthening capacities to assess the future state of the sector due to climate change impacts - increasing the involvement of fishermen in the tourism sector - strengthening aquaculture capacity by breeding more organisms at lower trophic levels and new forms of breeding - strengthening aquaculture capacity through breeding in recirculation systems - strengthening aquaculture capacity by breeding new species of fish - preservation of traditional agriculture in natural ecosystems - improvement of knowledge and creation of databases of natural ecosystems and biodiversity - integrated management of freshwater resources for the conservation and revitalization of natural ecosystems and biodiversity Priority 2 - 2.2. Measures of high importance - application of irrigation - application of anti-erosion measures - reconstruction and construction of drainage systems - exploitation of alien fish species - increasing the involvement of fishermen in the tourism sector - insurance of agricultural production from production losses caused by adverse climatic conditions bringing awareness to the participants in the forestry sector on climate change and the adaptation measures - strengthening awareness and sensitization of private forest owners for sustainable forest management as a prerequisite for adapting to climate change - strengthening aquaculture capacities by adapting the quantity and quality of food to changed climate conditions Priority 3. – 3.1. Measures of very high importance

	- strengthening the resilience of production facilities through the storage of electrical energy - strengthening the capacities and ensuring of an - incentivizing legal framework to increase the capacity of renewable energy and distributed sources - strengthening development of the monitoring capacity and rapid elimination of negative effects of climate impacts on the electrical energy system (ees)g the resilience of existing electricity and heat production capacity - strengthening the electrical energy system's resilience (ees) Priority 3. – 3.3. Measures of medium importance - strengthening the distribution network's resilience - strengthening the distribution network's resilience ***Priority 4. Strengthening of the management capacities through a networked monitoring and early warning system*** Adapting to climate changes and preventing and managing risk is a horizontal theme, which means that a solid and efficient administration needs to be established to ensure the quality of investment. Responsibilities of the ministries, especially for aspects of cohesion policy, need to be clear and need to include regional and local authorities in the implementation. Namely, weak implementation and administrative capacities at the local and regional levels are the main obstacles to the successful implementation of the measures. Therefore, it is necessary to plan investment in training and capacity-building and adaptation-based expertise, especially for those local units that are most vulnerable to climate change. Priority 4. – 4.1. Measures of very high importance - strengthening human and technical capacities for implementing research and applied activities in the area of climate modelling, analysis, and interpretation of observed and expected climatic changes - development of impact indicators of the implementation of the adaptation strategy for vulnerable sectors and society - strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions - strengthening capacity for fire protection - establishment of a climate monitoring and early warning system for protected areas and ecological network of the republic of Croatia and monitoring of protected wild habitat types and wild species - establishment of a system for calculating health-economic indicators for climate change- related conditions - integration of various information systems within healthcare to monitor indicators associated with climate change

	- strengthening of the knowledge base, as well as the monitoring and evaluation system - mapping of water sources outside the public water supply system - multi-sectoral risk assessment for various threat / risk scenarios associated with climate change - expansion of the Croatian platform for disaster risk reduction to include climate change-related indicators for the development of an early warning system Priority 4. – 4.2. Measures of high importance - strengthening the management capacities of responsible institutions to act on the occurrence of extreme hydrological conditions - implementation of health impact assessments and health assessments of risks related to climate change - networking and upgrading of monitoring system of environmental indicators related to climate change - increasing the number of secure points in case of extreme meteorological conditions - strengthening the capacities to assess dangers and responses during disasters, major accidents, extraordinary events or incidents/crisis situations related to climate change Priority 4. – 4.3. Measures of medium importance - strengthening the allergen species monitoring system ***Priority 5. Ensuring continuity of research activities*** The main obstacle to successful adaptation to climate change is the lack of knowledge to plan adaptation measures in all sectors. Key support for tackling climate change vulnerability concerns the building of a knowledge base and data-monitoring and data-processing capacity, information exchange mechanisms and local and sector-specific action plans for adapting to climate change, risk prevention and management plans at national, regional and local level. The development of the necessary ICT tools (geographic information systems - GIS, detection and monitoring systems, early warning system, risk mapping and assessment) is a necessity and is crucial to their development. Priority 5 – 5.1. Measures of very high importance - strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions - implementation of an experimental climate change adaptation programme in agriculture

	- research on species and provenance of forest trees that are more resilient to climate change - strengthening aquaculture capacity through breeding in recirculation systems - establishment of a framework for the implementation of human biomonitoring for tracking environmental factors related to climate change - strengthening of the knowledge base, as well as the monitoring and evaluation system Priority 5 – 5.2. Measures of high importance - implementation of the green infrastructure concept - prediction (forecast) of change in the distribution of harmful organisms
Implementation and monitoring mechanisms/procedures	Possible indicators for monitoring the impact of the measures in the Adaptation Strategy are as follows (some of the indicators are already monitored or partially monitored, but most of them are not systematically monitored and for most indicators a development is needed to determine the methodology for monitoring and measuring the data required for the calculation of indicators): •***Hydrology, water and sea resources management*** - the number of inhabitants in the area declared for which the state of the elemental disaster of extreme droughts has been declared - the number of areas designated for flood protection as precautionary measures - the number of developed and tested tools - the number of experts who passed the adaptation courses - the number of inhabitants in the area declared for which the state of the elemental disaster of floods has been declared - the number of areas with declining drinking water quality - the percentage of areas of particularly valuable aquatic ecosystems that are endangered by the effects of climate change - total length of wastewater and rainwater network threatened by climatic risks in the coastal area - mean water levels and flow rates at state network stations - extreme water levels and flows at state network stations - mean sea level - extreme sea levels •***Agriculture*** - increase of agricultural production due to irrigation - percentage of cultivated land sown with cultures and varieties resistant to climate change - mass (in thousands of tons) of eroded agricultural soil - capacity of newly built accumulations - area of agricultural land with functional drainage system - quantity (in thousands of tons) of cubic meters of irrigation water saved through improved methods of agricultural production • ***Forestry*** - number of forest fires

	- burnt areas of forests - the length and density of fire-fighting roads - annual loss of wood mass caused by extreme meteorological events (e.g. icebergs, wind) - the number of species investigated and the provenance of forest trees that are more adaptive to climate change and are of economic importance - the forest area and/or the number of trees affected by forest pests occurring as a result of climate change - the number of areas where a comprehensive monitoring of the state of the forest ecosystems is carried out - the number of cities in which green infrastructure is established - the number of private forest owners and other forestry stakeholders who are familiar with climate change issues in forestry and adaptation measures •***Fisheries*** - number of areas with declining seawater quality - increase in seawater acidity - distribution of invasive species - loss of habitat due to sea temperature rise - reduced annual catch as a result of temperature changes - percentage of coastal and marine areas under protection • ***Biodiversity*** - list, share and categorization of protected habitats endangered by the effects of climate change - list, share and categorization of protected species threatened by climate change - share of the total biodiversity of the Republic of Croatia endangered by climate change - list and share of protected areas under constant climate monitoring - assessment of the negative impact of climate change on protected habitats and species - a list of invasive species whose spreading is potentiated by climate change with the ranges and populations - the share of protected areas with mitigation measures and adaptation to climate change •***Energy*** - the number of time events that caused power outages - GDP losses arise as a result of the reduced amount of water for the production of electricity - the percentage of new energy facilities that incorporate climate change adaptation measures - the number of water saving measures used in the production of electricity - the number of new energy facilities located in risky areas • ***Tourism*** - the GDP losses generated by tourism as a result of extreme weather and climate events - percentage of coastal and maritime protected areas (monitored by HAOP) - amount of water and energy consumed in tourist facilities per one overnight stay

	- surfaces protected as particularly valuable landscapes (areas) that are degraded by climate change - number of areas with declining drinking water quality (monitored by county public health institutes) - number of areas with declining seawater quality (monitored by HAOP) •***Health*** - the number of experts who have passed the adaptation training - the number of households in the area for which the state of elemental disaster has been declared by extreme droughts - the number of inhabitants in the area for which the state of elemental disaster has been declared by floods - the number of people with a high risk of health consequences due to hot weather and extreme weather events - number of hospital beds in risky zones - the number of households with poor financial standing in risky areas - indicators of the prevalence and mortality of chronic non-infectious diseases - indicators of abnormality and mortality from acute infectious diseases - number of inter-sectoral indicators (monitoring indicators in the environment compatible with monitoring in the health-ecological / health system) - the share of non-conforming results of water analysis for human consumption - percentage of purified sewage - the share of households connected to the public wastewater collection system •***Spatial Planning and Management of Coastal Areas*** - number of JLP(R)Ss within the coastal area for which vulnerability assessments and adaptation measures have been implemented in spatial plans by SPUOs - the number/proportion of spatial plans for which adaptation measures contained and prescribed in spatial plans are implemented or applied - increase of green infrastructure in settlements estimated as vulnerable to extreme weather conditions (heat islands, extreme precipitation) - length of the coast (proportion of coastline estimated as vulnerable to floods), where the planned flood protection measures have been implemented - trend of annual damage from extreme weather events for which the Adaptation Strategy has planned adaptation measures (floods and floods in settlements) - the number of people living in risky areas - the number of flood-affected properties - percentage of households living in areas with a reduced risk of extreme weather and climate events - the number of new infrastructure facilities located in risky areas - the percentage of areas of particularly valuable ecosystems that are endangered by the effects of climate change - coastal areas covered by coastal and marine environment management plans - percentage of coastal and marine areas under protection •***Risk management*** - number of experts who have undergone training (training, courses) on adaptation, i.e. risk management and recovery - the number of cross-sectoral extended guidelines for action

	- the area of the area with mapped sources of water outside the public water supply system - number of studies on health impact and health risk assessment - number of newly developed risk reporting systems related to climate change developed at regional and local level - the share of real estate, legal entities and other entities subject to premium insurance against climate change related events In addition to the above-mentioned indicators, a set of climatic indicators will be used to monitor the implementation effects of the Adaptation Strategy and the Action Plan. Climate indicators are geared towards monitoring the climate and are essential for evaluating impacts and vulnerabilities in the observed sectors and thematic areas. Possible indicators for monitoring the climatic parameters in the implementation of the Adaptation Strategy are as follows: • Mean air temperature trend • Mean maximum air temperature trend • Mean minimum air temperature trend • Warm temperature extremes index trend • Cold temperature extremes index trend • Precipitation trend • Trend of dry indices of precipitation extremes • Trend of wet indices of precipitation extremes • Standardized Precipitation Index (SPI) • Evaluation of anomalies of air temperature and precipitation quantities by percentile • Assessment of aridity. These climate indicators are included in the National List of Indicators (NLPs) prepared by Ministry of Environmental Protection and Energy, and the legal basis for the development of indicators is defined by the Environmental Protection Act (Official Gazette 80/13, 78/15) and the Regulation on the environmental information system (Official Gazette 68/08). In addition to the above-mentioned climatic indicators, it is recommended that additional climatic indicators be developed which are relevant to the assessment of impacts and vulnerabilities in several vulnerable sectors: • Mean wind speed trend • Mean maximum wind speed trend • Evapotranspiration • Solar irradiance (inflow solar energy flux).
Status of implementation	
Associated funding (if any)	***Financial framework for the implementation of climate change adaptation measures*** In defining priorities and priority measures for adaptation to climate changes in the Republic of Croatia, the existing strategic framework of the European Union for

	financing climate change adaptation and prevention and risk management through the European Structural and Investment Funds (ESI Funds) was taken into account, as regulated by a series of EU regulations and defined as one of the eleven thematic priorities of the European Union for the period 2014-2020. Within the strategic framework of the EU for the period 2014-2020, for the first time, there was an obligation introduced to member states to devote 20% of the total budget within the seven-year period 2014-2020 for planning and spending on investment related to climate change. For this purpose, a number of EU regulations provide for direct access to funds within: 1.European Fund for Regional Development (EFRR) for financing of: -investment in social, health, research, innovation, business and education infrastructure -investment in equipment and small capacity infrastructure; including cultural infrastructure and sustainable tourism infrastructure, subsidy for research and innovation and investment in technology and applied research 2.Cohesion Fund (KF) for financing infrastructure investments in the environment, including areas related to sustainable development and energy 3.The European Maritime and Fisheries Fund (EFPR) and the European Agricultural Fund for Rural Development (EPFRR) to supplement investment activities in these areas by integrating adaptation of climate change into operational programs 4.The European Social Fund (ESF) to support targeted education, training and improvement of the workforce with regard to risk prevention, risk management and adaptation to climate change. ***Financing Climate Change Adaptation Measures in the period up to 2040*** The implementation of climate change mitigation measures and activities will be long-term funded from a variety of sources - public and private -. The financial mechanisms for adaptation to climate change will be established by using national and supranational (European) funds from three sources: •State budget •European Structural and Investment Funds (ESI Funds) •Private sector (including public-private partnership - PPP). The state budget includes funds collected via the tax system, as well as the funds collected from the auction of emission units managed and disposed by the Environmental Protection and Energy Efficiency Fund (FZOEU). State Budget funds will not be used for larger infrastructure projects, but primarily for measures and activities related to public awareness, capacity building, project documentation preparation, pilot projects, etc.

	ESI funds will be the main source of funding for infrastructure measures and activities for which funds will be planned and allocated on the basis of action plans for adaptation to climate change. Private sector investments in climate change adaptation measures and activities require coordination of the public and private sectors primarily for identifying those measures whereby the private sector will find an interest in investing in climate change adaptation projects that benefit the wider society in the communities in which this sector is operable, and at the same time reduce risk and increase business resilience. The total amount of investment needed to implement the Adaptation Strategy at this point can be estimated at around 27 billion kuna, or just over 3.6 billion euros. The greatest part of this amount will be provided from the EU funds, while state budget funds will amount for only 0.23% of the total investment amount and will be used for implementation of regulatory and administrative measures (RE). More than half of the estimated amount refers to implementation of "structural" measures, particularly in the sectors of agriculture and forestry and to a lesser extent of energy and tourism. Investments in the first two sectors can be treated as "no regret measures", i.e. measures that are already planned to be implemented, and their effects will be positive also for adapting to climate change. The average annual cost of implementing the Adaptation Strategy will amount to around 520 million kuna, or around 70 million euros (through a period of 52 years), counting also significant capital investments. This may seem like a large sum, but it should be compared to the average annual damage (in the period from 1980 to 2015) in the Republic of Croatia, and that only as a result of extreme weather and climate events (around 80 million EUR per year). Assuming that these measures will contribute to positive economic impacts, it can be concluded that the benefits of implementing the Adaptation Strategy, despite high costs, will be significant. ***Financing climate change adaptation measures within the OP Competitiveness and Cohesion 2014 – 2020*** - ***Support for investment to adapt to climate change, including ecosystem approaches (30.396,147 EUR)*** •Measures to improve the quality and availability of data for climate monitoring purposes, data collection, modelling, and analysis and forecasting of climate related information, including warning system as a key precondition for appropriate planning and implementation of adaptation measures. This includes applied research related to climate change impacts and adaptation needs. •Strengthening the administrative and technical capacities of public institutions dealing with climate change (primary training of administrative officers with the aim of enhancing expertise). •Building awareness of climate change impacts at the national and local level, enabling more effective adaptation measures to be introduced. This will include communication strategies, workshops and public events, preparation and sharing

of educational materials, counselling of the population, internet information portals, etc.

•Integration of climate change into the planning process by preparing action plans for adapting climate changes at local levels, integrating adaptation measures into all strategic and development documents, developing plans to prevent climate changes impacts in sectors sensitive to climate change and developing methods and standards to implement adaptation measures

Promoting investment related to special risks, disaster resilience and disaster management system development (215.000,000 EUR)

•Prevention

Risk awareness programs, promotion and education programs, creating a resilient community;

Preparation of a specific project in the sectors affected by the most commonly disastrous events and identified in existing national strategy documents (Risk Assessment).

•Preparedness

Measures to develop organizational systems and disaster protection capacity and management organizations, including the development and establishment of an early warning system, creating preconditions for appropriate disaster prevention, responsiveness and management measures (i.e. before ending risk assessment, raising awareness of the importance of knowing that the risks are priority).

•Response

Procurement and construction of equipment and infrastructure to reduce disaster damage, i.e. disaster response, but not limited to the communication system used for rescue services and mitigating consequences in the areas covered.

•Flood risk management measures (by category of measures defined by the State Flood Defence Plan):

Planning measures, preventive and preparatory measures and measures for natural water retention.

Table 1. Proposed climate change adaptation measures for the period 2019-2020. financed by the State Budget

State Budget 2019 – 2020	
Climate change adaptation measures	**Total cost (in mil. EUR)**
RP-01-01/02 Development of indicators of effects of the implementation of the adaptation strategy for vulnerable sectors and society	0,129
Agriculture	
P-02-01. Development of an operation for increasing the water containment capacity of agricultural soil and inclusion in the Rural Development Program of the Republic of Croatia 2014 – 2020	0,013

P-04-01. Development of an operation for the breeding of species and sorts of agricultural crops and breeds of farm animals that are more resilient to climate change and its inclusion into the Rural Development Programme of the Republic of Croatia for the Period 2014–2020	0,013
Forestry	
ŠU-01-01. Incorporate measures of adaptation to climate change into Forestry Sector Strategy and Forest Act as well as other legal regulations concerning forests and forestry sector, including implementation indicators	0,067
Fisheries	
RA-03-01. Creating the amendments and additions to the legislative framework related to the cultivation of new (alien) fish species	0,00
RA-03-03. Market research to determine the possibility of accepting new (alien) fish species by consumers	0,135
Tourism	
T-01-01. Definition of the impact of climate change on tourism	0,202
T-01-02. Definition of guidelines for the development of Croatian tourism in accordance with adaptation to climate change	0,107
T-01-05. Continuous monitoring of the state of tourism infrastructure	0,269
Risk management	
UR-02-01. Expansion of relevant working groups and persons responsible for certain types of threats / risks related to climate change	0,067
UR-02-02. Development of algorithms and action guidelines for handling various scenarios at all levels	0,034
UR-02-03. Amendments to the legislative framework related to decentralisation and centralisation of management functions depending on the type of threat / risk	0,0134
UR-02-04. Linking of information systems of key stakeholders	2,756
UR-02-05. Connection of civil, security, and defence services in interventions	4,043
TOTAL	**7,853**

Table 2. Proposed climate change adaptation measures for the period 2019-2020 financed by the OP Competitiveness and Cohesion 2014 – 2020.

OP Competitiveness and Cohesion 2014 – 2020	
Climate change adaptation measures	**Total cost (in mil. EUR)**
Hydrology, water and sea resources management	

	HM-01 Strengthening the capacity for the implementation of non-structural measures for protection against the harmful effects of water in the occurrence of extreme hydrological opportunities whose increase in intensity and frequency of occurrence is conditioned by climate change	2,628
	HM-03 Strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water systems	11,456
	Forestry	
	ŠU-04 Strengthening capacity for fire protection	12,53
	Energy	
	E-01 Strengthening the resilience of production facilities through the storage of electrical energy	8,827
	E-02 Strengthening the capacities and ensuring of an incentivizing legal framework to increase the capacity of renewable energy and distributed sources	2,426
	E-03-01. Development of preliminary analysis on the vulnerability of existing thermal power plants to the occurrence of extreme weather and climate hazards and reduced precipitation in order to define the most vulnerable power plants and create a list of priorities	0,539
	E-03-03. Development of preliminary analysis of the vulnerability of existing hydro power plants related to the occurrence of extreme weather and climate hazards and the reduction of rainfall in order to define the most vulnerable hydro power plants and to create a list of priorities	0,808
	E-03-05. Development of project documentation for the revitalisation of parts of settlements in urban areas connected to the central heating system (CHS) by introducing a low-temperature regime to heating pipes, increasing cost-effectiveness of the CHS	0,808
	E-03-06. Revitalization of urban areas connected to the central heating system (CHS) through introducing a low-temperature regime in hot-water pipelines, thus increasing the profitability of CHS	40,431
	Tourism	
	T-01-03. Development of tourism infrastructure protection plans against the effects of climate change and weather extremes	0,269
	Spatial planning and management of the coastal area	
	PP-01-01. Implementation of targeted research on the impact of sea level rise on the most vulnerable parts of the coast as a basis	0,53

for the preparation of priority intervention plans	
PP-01-02. Implementing integrated multidisciplinary assessment of coastal areas vulnerability to extreme sea levels including socio-economic aspects and cost estimates and benefits of adaptation options	0,943
PP-01-04. Implementation of an assessment of vulnerability to the occurrence of thermal islands and extreme precipitation in settlements, with emphasis on connection with spatial planning solutions	0,53
Risk management	
UR-01-01/02/03 Mapping of water sources for human consumption outside the public water supply system	4,447
UR-02-05. Connection of civil, security, and defence services in interventions	16,17
TOTAL	**103,405**

Table 3. Proposed climate changes adaptation measures for the period 2019-2020 within the Rural Development Program 2014 - 2020

Rural Development Program 2014 – 2020	
Climate change adaptation measures	**Total cost (in mil. EUR)**
Agriculture	
P-02-03. Implementation of operations for increasing the water absorption capacity of agricultural soil	100,00
P-03-02. Implementation of conservation soil treatment	100,00
P-04-03. Implementation of the operation for cultivating species and varieties of agricultural crops and breeds of domestic animals that are more resilient to climate change	10,00
P-05-03. Implementation of reservoir construction for irrigation	40,431
Natural ecosystems and biodiversity	
B-01 Preservation of traditional agriculture in natural ecosystems	9,703
Energy	
E-02-03. Making a study on the possibilities of using renewable energy sources in rural areas such as agricultural micro-installations	0,539
TOTAL	**260,81**

Table 4. Proposed climate change adaptation measures for the period 2019-2020 within the Operational Program for Maritime and Fisheries 2014 - 2020

Operational Program for Maritime and Fisheries 2014 – 2020	
Climate change adaptation measures	**Total cost (in mil. EUR)**
Fisheries	
RR-01 Strengthening the sector by investing in development of new markets and expanding the range of products offered	0,134
RR-02 Strengthening capacities to assess the future state of the sector due to climate change impacts	0,202
RR-03 Strengthening the resilience of natural resources through adaptive fisheries management	1,1
RR-04 Increasing the involvement of fishermen in the tourism sector	0 ,135
RA-01 Strengthening aquaculture capacities by greater breeding of organisms at lower trophic levels and new forms of breeding	1,752
RA-02 Strengthening aquaculture capacity through breeding in recirculation systems	0 ,135
RA-03 Strengthening aquaculture capacity by breeding new species of fish	0,0336
TOTAL	**3,378**

Table 5. Estimate of the amount of the proposed adaptation measures that would be covered by the revision of the operational programs for the period 2014-2020

Revision of operational programs in the period 2014 – 2020	
Operational programs in the period 2014 – 2020	**Total cost (in mil. EUR)**
Operational Program Competitiveness and Cohesion 2014 – 2020	73,584
Rural Development Program 2014 – 2020	260,107
Operational Program for Maritime and Fisheries 2014 – 2020	3,378
TOTAL	**337.095**
State budget	**0,735**
GRAND TOTAL	**337,831**

Table 6. Overview of the amount and sources of funding for adaptations to climate change by sectors (in million kuna) for the entire implementation period of the Adaptation Strategy

Sector	State budget	European Regional Development Fund	European Fund for Maritime Affairs and Fisheries	European Agricultural Fund for Rural Development	European Social Fund	TOTAL (mil. EUR)
Supra-sectoral measures	0,95	0,00	0,00	0,00	7,50	**1,138**
Hydrology, water and sea resources management	0,00	5.443,00	0,00	0,00	6,00	**734,36**
Agriculture	0,20	9,10	0,00	12.569,15	10,00	**1.696,5566**
Forestry	0,50	132,50	0,00	5.107,90	0,00	**706,32**
Fisheries	1,00	0,50	45,25	0,00	2,50	**6,637**
Biodiversity	0,00	169,50	0,00	72,00	10,00	**33,89**
Energy	0,00	1.876,50	0,00	4,00	0,00	**253,369**
Tourism	4,30	670,80	0,00	0,00	13,00	**90,04**
Health / health system	1,00	335,78	0,00	0,00	1,00	**45,52**
Spatial planning and management of the coastal area	4,00	56,00	0,00	0,00	4,50	**8,695**
Risk management	51,32	217,46	0,00	0,00	105,00	50,37
TOTAL	63,27	8.911,44	45,25	17.753,05	159,50	**3.629,677 EUR**
TOTAL in %	**0.23%**	**33.09%**	**0,17%**	**65,92%**	**0,59%**	**(~ 3.6 billion EUR)**

Regional level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	Program for the protection of air, the ozone layer, climate change mitigation and adaptation to climate change for the area Dubrovnik-Neretva Region for the period from 2017 to 2020
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The aim of the Plan is definition and development of goals and measures by sectors of influence with defined priorities, time frames and responsibilities. The main goal is to protect and continuously improve the quality of air in the area of Dubrovnik-Neretva Region.
Concrete climate change adaptation measures foreseen (if any)	**Measures for adaptation to climate change** ***Carry out measures to increase energy efficiency and the use of renewable energy sources envisaged by the county programs and plans***.

	- energy-Sustainable Development of the County on the principles of rational energy management and the use of renewable energy sources is one of the main priorities in the County's work. - by adopting the Development Strategy, the County has set the main development targets for improving environmental protection through the promotion of the use of renewable energy sources and the continuous implementation of energy efficiency measures in all sectors of human activity. - this measure is cross-sectoral, as apart from contributing to the reduction of greenhouse gas emissions and the consequent mitigation of climate change, contributes to the reduction of emissions of other pollutants. ***Carry out educational activities to raise public awareness of climate change.*** - educational activities such as flyers, posters, workshops, etc. should be available and organized in public places, in schools, healthcare facilities and other places with a large population flow.
Implementation and monitoring mechanisms/procedures	According to Article 14 of the Law on Air Protection for the purposes of monitoring the achievement of the objectives and the implementation of the measures under this Program, a four-year report is prepared, which in accordance with Article 13 of the Act in particular contains: - air quality status: areas and levels of contamination, duration of certain significant levels of pollution, general information on the area, types and pollution ratings, source of contamination, analysis of the factors causing air pollution, details of measures taken and projects for improving air quality - evaluation of the measures taken and their effectiveness - Implementation of the Air Protection, Ozone Layer and Climate Change Measures in the Republic of Croatia for the period 2013-2017, programs and other documents for the protection of air quality, ozone layer and mitigation of climate change - Implementation of obligations under international agreements on the protection of air, ozone layer and mitigation of climate change - information on imposed penalties - data on the use of financial means to protect and improve the quality of air proposed amendments to existing documents and other data relevant to the protection of air quality, ozone layer and mitigation of climate change.
Status of implementation	
Associated funding (if any)	County and local funding for climate change adaptation measures
Local level plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	Program for the protection of air, the ozone layer, climate change mitigation and adaptation to climate change for the City of Dubrovnik 2016-2020.q
Time scope (currently being drafted , approved, into	Into force

force, upgrading, under revision, expiring)	
Brief description (including objectives)	Objectives for climate change mitigation: - reduction of greenhouse gas emissions - increase the share of renewable energy sources in all sectors - improving energy efficiency in all sectors. - ensure funding for the preparation and implementation of measures to reduce and limit emissions of pollutants into the air, mitigation and adaptation to climate change, and the upgrading and strengthening of administrative and administrative, scientific and professional institutions and their capacities. - ensure the availability of public information regarding air quality and measures to mitigate and adapt to climate change.
Concrete climate change adaptation measures foreseen (if any)	***Measures for adaptation to climate change*** ***1. Carry out educational activities to raise public awareness of climate change.*** With educational activities influence citizens awareness of all the effects of climate change and more responsible behaviour towards using energy and environment relation. ***2. The measure of maintaining forests in a way to reduce the probability of occurrence of fire*** ***3. Encourage educational campaigns of drivers for eco driving and replacing old vehicles with new vehicles*** In order to reduce emissions from transport and measures to stimulate energy efficiency, one of the measures is the implementation of a pilot project and the establishment of training for road vehicle drivers for eco-driving. Also, in order to reduce emissions in traffic and better road safety, encourage the replacement of old vehicles with vehicles of a larger EU standard. ***4. Expand and improve the bicycle infrastructure*** Better bicycle infrastructure will speed up the routing of residents and visitors to reduced use of personal cars, thereby reducing air pollution, greenhouse gas emissions, noise, but also reducing their own costs, and indirectly raising the level of public health and reducing public health costs. ***5. The measure of planning to introduce new ecological bus lines or increase the frequency of existing ones according to needs.*** ***6. Encourage and plan the procurement of vehicles with reduced concentrations of exhaust gases in public urban transport and vehicles of the city administration and vehicles of city institutions and companies.*** ***7. Build charging stations for electric vehicles.*** ***8. Provide a collection and treatment system for landfill gas at the "Grabovica" landfill*** ***9. Create the energy sustainable development action plan of the City of Dubrovnik.*** ***10. Continue to implement energy efficiency measures.***
Implementation and monitoring	For the purpose of monitoring the achievement of the objectives and the implementation of the measures, the City of Dubrovnik is required to produce a report on the implementation of the Program for a period of four years.

mechanisms/procedures	The report contains: - air quality in the area of the City of Dubrovnik, - evaluation of the measures implemented and their effectiveness, - implementation of the Program Measures, - implementation of commitments from international agreements on the protection of air, ozone layer and mitigation of climate change, - data on sentencing punishments, - data on the use of financial means for protection and improvement of air quality, - proposed amendments to existing documents and other data important for the protection of air quality, ozone layer and mitigation of climate change,
Status of implementation	-
Associated funding (if any)	Sources of funding are: - City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund, - EU funding, - Hrvatske šume (public enterprise for forest and woodland management in the Republic of Croatia) - HEP Group (national energy company) - The Dubrovnik-Neretva Region 1.**Carry out educational activities to raise public awareness of climate change** - City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund, - EU funding. the amount of funding: 7000 kn 2. **The measure of maintaining forests in a way to reduce the probability of occurrence of fire** - City of Dubrovnik - Hrvatske šume (public enterprise for forest and woodland management in the Republic of Croatia) 3. **Encourage educational campaigns of drivers for eco driving and replacing old vehicles with new vehicles** - City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund. 4**.Expand and improve the bicycle infrastructure** - City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund. 5.**The measure of planning to introduce new ecological bus lines or increase the frequency of existing ones according to needs**. -City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund. 6. **Encourage and plan the procurement of vehicles with reduced concentrations of exhaust gases in public urban transport and vehicles of the city administration and vehicles of city institutions and companies**. -City of Dubrovnik,

	- The Environmental Protection and Energy Efficiency Fund. 7.**Build charging stations for electric vehicles** -City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund, - HEP Group (national energy company) the amount of funding: 140.000,00 Kn 8. **Provide a collection and treatment system for landfill gas at the "Grabovica" landfill** -City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund. 9**.Create the energy sustainable development action plan of the City of Dubrovnik** -City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund. the amount of funding: 200.000,00 Kn 40% (The Environmental Protection and Energy Efficiency Fund) 10. ***Continue to implement energy efficiency measures*** -City of Dubrovnik, - The Environmental Protection and Energy Efficiency Fund, - The Dubrovnik-Neretva Region
Is the plan a good practice? If yes, why?	

PART 2: FUNDING TOOLS

Category	Notes
European funding	In defining priorities and priority measures for adaptation to climate changes in the Republic of Croatia, the existing strategic framework of the European Union for financing climate change adaptation and prevention and risk management through the European Structural and Investment Funds (ESI Funds) was taken into account, as regulated by a series of EU regulations and defined as one of the eleven thematic priorities of the European Union for the period 2014-2020. Within the strategic framework of the EU for the period 2014-2020, for the first time, there was an obligation introduced to member states to devote 20% of the total budget within the seven year period 2014-2020 for planning and spending on investment related to climate change. For this purpose, a number of EU regulations provide for<a< direct access to funds within: 1. European Fund for Regional Development (EFRR) for financing of: - investment in social, health, research, innovation, business and education infrastructure - investment in equipment and small capacity infrastructure; including cultural infrastructure and sustainable tourism infrastructure, subsidy for research and innovation and investment in technology and applied research 2. Cohesion Fund (KF) for financing infrastructure investments in the environment, including areas related to sustainable development and energy 3. The European Maritime and Fisheries Fund (EFPR) and the European Agricultural Fund for Rural Development (EPFRR) to supplement investment activities in these areas by integrating adaptation of climate change into operational programs 4. The European Social Fund (ESF) to support targeted education, training and improvement of the workforce with regard to risk prevention, risk management and adaptation to climate change. ***Financing climate change adaptation measures within the OP Competitiveness and Cohesion 2014 – 2020*** - **Support for investment to adapt to climate change, including ecosystem approaches (30.396,147 EUR)** •Measures to improve the quality and availability of data for climate monitoring purposes, data collection, modelling, and analysis and forecasting of climate related information, including warning system as a key precondition for appropriate planning and implementation of adaptation measures. This includes applied research related to climate change impacts and adaptation needs. •Strengthening the administrative and technical capacities of public institutions dealing with climate change (primary training of administrative officers with the aim of enhancing expertise). •Building awareness of climate change impacts at the national and local level, enabling more effective adaptation measures to be introduced. This will include communication strategies, workshops and public events, preparation and sharing of educational materials, counselling of the population, internet information portals, etc. •Integration of climate change into the planning process by preparing action plans for adapting climate changes at local levels, integrating adaptation measures into all strategic and development documents, developing plans to prevent climate changes impacts in sectors

	sensitive to climate change and developing methods and standards to implement adaptation measures - **Promoting investment related to special risks, disaster resilience and disaster management system development (215.000,000 EUR)** •Prevention Risk awareness programs, promotion and education programs, creating a resilient community; Preparation of a specific project in the sectors affected by the most commonly disastrous events and identified in existing national strategy documents (Risk Assessment). LIFE Climate Change Adaptation (sub-programme for Climate Action) will co-finance action grants for best practice, pilot and demonstration projects that contribute to supporting efforts leading to increased resilience to climate change; that contribute to the development and implementation of Union policy on climate change adaptation, including mainstreaming across policy areas, in particular by developing, testing and demonstrating policy or management approaches, best practices and solutions for climate change adaptation, including, where appropriate, ecosystem-based approaches; that improve the knowledge base for the development, assessment, monitoring, evaluation and implementation of effective climate change adaptation actions and measures, prioritising, where appropriate, those applying an ecosystem-based approach, and to enhance the capacity to apply that knowledge in practice; that facilitate the development and implementation of integrated approaches, such as for climate change adaptation strategies and action plans, at local, regional or national level, prioritising, where appropriate, ecosystem-based approaches; and that contribute to the development and demonstration of innovative climate change adaptation technologies, systems, methods and instruments that are suitable for being replicated, transferred or mainstreamed. One example project from the LIFE program: Life Sec Adapt project is financed within the framework of Life Programme 2014-2020. The partnership involves four EU member states (Italy, Croatia, Spain, Greece), having a total budget of € 3.213.785 for 40 months implementation period (01/09/2015- 31/12/2018). Life Sec Adapt project aims to contribute to increase the climate resilience capacity of the European urban areas, thus facilitating the shift towards low-carbon economies. Thanks to their participation to Life Sec Adapt, the Municipalities involved in the project intend to promote and update the "Sustainable Energy Communities" (SEC) model, making Local Communities the drivers for regional sustainable development through the coordination and support of Regional Authorities and Development Agencies. The adhesion and active participation of Municipalities to the new integrated Covenant of Mayors for Climate & Energy (that currently includes Mayor Adapt initiative) will pave the ground towards an increasing energy efficiency, mainstreaming climate change into regional development policies.

	Web site : http://www.lifesecadapt.eu/
National funding	The state budget includes funds collected via the tax system, as well as the funds collected from the auction of emission units managed and disposed by the Environmental Protection and Energy Efficiency Fund (FZOEU). State Budget funds will not be used for larger infrastructure projects, but primarily for measures and activities related to public awareness, capacity building, project documentation preparation, pilot projects, etc. ESI funds will be the main source of funding for infrastructure measures and activities for which funds will be planned and allocated on the basis of action plans for adaptation to climate change. Private sector investments in climate change adaptation measures and activities require coordination of the public and private sectors primarily for identifying those measures whereby the private sector will find an interest in investing in climate change adaptation projects that benefit the wider society in the communities in which this sector is operable, and at the same time reduce risk and increase business resilience.
Regional funding	At the regional level, there is not regional provision for funding climate change adaptation measures but there are financial structures to implement climate change adaptation. The financial structure of the implementation of climate change adaptation measures is presented as follows: • Local sources of funding - on the budget of the Dubrovnik-Neretva County - the own resources of the County institution • National sources of funding - Ministry of Regional Development and European Union Funds - Environmental Protection and Energy Efficiency Fund - Ministry of Construction and Physical Planning.
Local funding	The city of Dubrovnik, in cooperation with the Environmental Protection and Energy Efficiency Fund, received non-refundable money (4.5 million kn) from the European Funds for energy renewal of kindergartens and schools and also they were made stations for charging electric vehicles (140000 kn).
Other funding schemes	The Green for Growth Fund, Southeast Europe (GGF, the Fund) and Privredna banka Zagreb dd have signed a EUR 25.0 million loan agreement (PBZ, the Bank) in Croatia. The GGF's credit facility is structured to finance renewable energy (RE) and energy efficiency (EE) projects in Croatia, helping to improve the country's energy security and diversify its energy supply. The investment will also translate into substantial reductions in greenhouse gas emissions. PBZ is the GGF's first partner institution in Croatia.

	Croatian Bank for Reconstruction and Development (HBOR) and the European Investment Bank (EIB) signed the Finance Contract for SMEs, MidCaps and other priorities under the NCFF At the end of the last year, the Finance Contracts signed by HBOR and the EIB amounted to 350 million EUR, and the Contract signed provided for the disbursement of up to 15 million EUR of that amount for the financing of projects under the NCFF (Natural Capital Financing Facility). NCFF is the financial instrument which combines the EIB's financing and the Commission's funding under the LIFE Programme (Programme for the Environment and Climate Action). It is intended for green infrastructure projects, projects aimed at the maintenance of ecosystems, offsetting the negative effects on biodiversity and promoting biodiversity and environmental protection. **The NCFF's four project categories** **Projects using Payments for Ecosystem Services (PES):** payments involving payment or compensation for the benefits provided by ecosystems, such as cleaner water, higher soil quality or enhanced carbon sequestration **Green Infrastructure (GI) projects:** investments in natural capital that generate a range of goods and services, such as water quality, flood protection and climate change adaptation **Projects developing Biodiversity offsets:** conservation measures designed to compensate for the unavoidable damage to biodiversity arising from development projects. **Innovative pro-biodiversity and adaptation businesses:** projects involving the supply of goods and services from conservation activities, such as sustainable forestry, agriculture, aquaculture and ecotourism. Innovation may relate to innovative approaches to ecological restoration/conservation or innovative business models

[PP6] PGKC- Primorje-Gorski Kotar County

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	
Title	**Climate Change Adaptation Strategy in the Republic of Croatia for the period to 2040 with a view to 2070**
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Period to 2040, a view to 2070 Draft version
Brief description (including objectives)	For the purposes of the Climate Change Adaptation Strategy of the Republic of Croatia to 2040 with the view to 2070 (hereinafter: the Adaptation Strategy) adaptation to climate change is, pursuant to the Air Protection Act (Official Gazette No. 130/11, 47/14 and 61/17) defined as a process that "... implies assessment of adverse impacts of climate change and taking appropriate measures to prevent or reduce the potential damage they may cause." The definition of adaptation to climate change in the aforementioned act is also the cornerstone of the Adaptation Strategy. Adapting to climate change implies undertaking a set of activities to reduce the vulnerability of natural and social systems to climate change, increasing their ability to recover after the impact of climate change, as well as exploiting the potential positive impacts that may also be a consequence of climate change
Concrete climate change adaptation measures foreseen (if any)	The largest number of proposed measures falls within the so-called "non-structural" measures (administrative, political, legislative, technical and planning measures, measures to raise awareness of the need for adaptation to climate change, data gathering, monitoring and scientific-research work). A relatively small number of so-called "structural" measures (measures involving any constructed object or natural structure whose purpose is to reduce or avoid possible climate change impacts) includes certain technical interventions such as construction of protective dams and walls, construction of hydro-technical facilities, as well as afforestation, building of green infrastructure, strengthening the absorption capacity of land for the absorption of excess water, etc. It should not be surprising that great number of the measures is of "unstructured" nature. Adaptation to climate change crosses those human activities that need to be planned for an exceptionally long time with a great deal of uncertainty and insecurity. Furthermore,

	"structural" measures largely require exceptionally large financial investments for their implementation, and their overall effects will only be felt in the distant future - assuming that the anticipated projections of climate change will be achieved
Implementation and monitoring mechanisms/procedures	**n/a**
Status of implementation	**n/a**
Associated funding (if any)	**n/a**
Regional level climate adaptation policies/strategies/plans	
Title	**Primorje-Gorski Kotar Development Strategy 2016-2020**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	2016-2020 Adopted: 19/11/2015
Brief description (including objectives)	Primorje-Gorski Kotar Development Strategy 2016-2020 includes Strategic Objective 1. Development of a competitive and sustainable economya as well as Priority 1.4. Development of the green economy. Key Strategic Objective 1. The development of a competitive and sustainable economy is related, inter alia, with the creation and development of a knowledge- and innovation-based economy and the development of a green economy. The significance of Priority 1.4. The development of the green economy is to guide the long-term development of the County towards sustainable development, environmental protection, the use of natural resources and efficient management in all segments of the economy. Given the fact that fossil fuels are non-renewable and become more expensive, renewable energy redirection is key to reliable energy supply in the county in the future, with progress in energy efficiency, i.e. a reduction in total energy consumption. Furthermore, sustainable management of natural resources is of great importance for the future of the County, inter alia due to the influence of climate changes. Environmental protection activities include reducing CO2 emissions and other greenhouse gases that are planned to be achieved by reducing dependence on fossil energy sources through greater reliance on domestic resources and renewable energy sources as well as increasing energy efficiency across all sectors. Encouraging the use of renewable energy sources will bring positive environmental impacts and contribute to greater energy independence of the County.
Concrete climate change adaptation measures foreseen (if any)	**n/a**

Implementation and monitoring mechanisms/procedures	**n/a**
Status of implementation	**n/a**
Associated funding (if any)	**n/a**
Title	**Air protection program, ozone layer, climate change, and climate adoption in Primorje-Gorski kotar County for the period od 2019-2022**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	2019-2022 Approved 09/2019
Brief description (including objectives)	The legal basis for the development of the Program for the Protection of the Air, the Ozone Layer, Climate Change Mitigation and Adaptation to Climate Change in the County of Primorje-Gorski kotar (the Program) is an important Air Protection Act. Through Safe Environmental Law, air protection encompasses air protection, improves air quality in order to avoid or reduce harmful effects on human health, quality of life and the environment as a whole, maintain air quality to prevent and reduce pollution affecting ozone depletion and climate change. The main objectives of the Program's protection of air, the ozone layer and climate change mitigation are: • Protection and improvement of air quality in order to protect human health, quality of life and the environment as a whole, • Improvement of a complete air quality management and air quality monitoring system in the Primorje-Gorski Kotar County, • Reducing and limiting emissions of pollutants adversely affecting acidification, eutrophication and photochemical pollution, • Reducing and limiting greenhouse gas emissions and ozone depleting substances and maintaining greenhouse gas levels, • Ensuring the availability of information to the public regarding air quality, emissions of pollutants, greenhouse gases and the consumption of ozone depleting substances, emission projections
Concrete climate change adaptation measures foreseen (if any)	• MPR - preventative measures for the preservation of quality air, • MKR - Short-term measures, when there is a risk of exceeding the threshold of use,

	• MGV - Measures to reach limit values for the release of pollutants in the air within the set deadline if exceeded, • MOZ - Measures to achieve long-term targets for ground-level ozone in the air, • MOT - Measures to reduce and limit the emission of pollutants that permit the adverse effects of acidification, eutrophication and photochemical pollution, • MTM - Measures to reduce and / or limit heavy metal emissions, • MOS - Measures to phase out the consumption of controlled ozone depleting substances and reduce fluorinated greenhouse gas emissions • SME - Measures to reduce and / or limit greenhouse gas emissions and adapt to climate change, • MEN - Measures to encourage energy growth and the use of renewable energy, • MTR - Measures to reduce total emissions from traffic
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	n/a
Associated funding (if any)	n/a
Title	**Master Plan of North Adriatic Functional Region Transport System Development**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	2018-2030 Adopted: 2018
Brief description (including objectives)	Master Plan of North Adriatic Functional Region Transport System Development incluedes measure MJ-G. 6th Adaptation to climate changes and mitigation. The development of the transport sector in the functional region should take into account the need to reduce CO2 emissions, thereby mitigating the impact of transport on climate change. At the same time, transport infrastructure and business should be built taking into account possible consequences of climate change and extreme weather conditions.
Concrete climate change adaptation measures foreseen (if any)	**n/a**
Implementation and monitoring mechanisms/procedures	**n/a**
Status of implementation	**n/a**
Associated funding (if any)	**n/a**
Title	**Primoje-Gorski Kotar County Energy Efficiency Action Plan 2017-2019**

Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	2017-2019 Adopted: 27/10/2016
Brief description (including objectives)	The Energy Action Plan of the of Primorje-Gorski Kotar County is a planning document for a three-year period in accordance with the National Action Plan, which sets out the implementation of energy efficiency improvement policies in the Primorje-Gorski Kotar County, which affects the reduction of CO2 emissions. According to the Action Plan, the measures planned for implementation are defined in a three-year period, with following parameters: • Title of the Measure, • Measure category according to the methodology applied to the Energy Monitoring, Measurement and Verification System (SMIV), • Measure description, • The amount of energy savings (in kWh and tCO2), • Measure lifetime, • Planed amount of investment in the implementation of the measure, • Financing cources, • Implementation period, • Monitoring There are 4 industrial measures, for traffic 6 measures, for general consumption 6 measures, and for services 11 measures.
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	SMIV
Status of implementation	On going
Associated funding (if any)	n/a
Local level plans	
Title	**City of Opatija Sustainable Energy Action Plan** **City of Opatija Revision of the Sustainable Energy Action Plan 2015.**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Date of adhesion: 08/12/2010 Date of formal approval: 27/03/2012 Submission date:13/06/2012 Revision year: 2015 Approved year– Expiring year: 2010-2020
Brief description (including objectives)	Country: Croatia Population: 12,719 Overall CO_2 emission reduction target: 21%.

	Development of the City of Opatija on the principle of sustainable development. Priorities: reducing energy consumption in all sectors (buildings, street lights, traffic), the reduction of CO2 emissions in the City using various and numerous projects and energy efficiency measures, the increase of energy production from renewable sources. The energy policy of Opatija for many years has long been focused on sustainable energy development of the urban area based on the principles of environmental protection, energy efficiency and using renewable energy sources and sustainable construction. The City of Opatija joined the Mayor Agreement on 05.04.2011 and taking over obligation to make, implement and report their Energy Sustainable Development Action Plan. As part of the Energy Sustainable Development Plan of the City of Opatija, it was analyzed energy consumption of three sectors: building, traffic and public lighting. Based on that analysis, a Reference Inventory for 2010 was made. As part of the Action Plan, measures and activities have been defined to successfully reduce CO2 emissions at the City of Opatija level by more than 20% by 2020 compared to the reference year 2010. From the moment when document was published the City of Opatija actively conduct energy policy and project implementation The Control Inventory of CO2 Emissions for 2015.was made for the purpose of comparision the reference and control year. For the same purpose, an analysis of energy consumption was made as part of the Energy Sustainable Development Plan of the City of Opatija: • Construction Sector: 401.11 TJ; • Traffic: 110.83 TJ and • Public lighting: 6.57 TJ. By comparing the reference year with the control year, energy consumption in the transport sector has been reduced, while consumption in the construction and public lighting sector has increased It is important to emphasize that energy consumption in the public buildings subsector has decreased, which means that the City of Opatija successfully implemented energy efficiency measures on its buildings. The successful implementation of each measure has been analyzed for: • Construction Sector: • Public buildings: 8 measures • Households: 5 measures • Commercial sector: 3 measures • Public lighting: 2 measures • Traffic: 3 measures • General measures: 1 measure

	From the all above mentioned measures, two measures have been dropped out in the Revision: Reconstruction of boiler rooms using heating oil and Switch to gas in public buildings since that there is still no gasification in the area of Opatija. Also, one measure which was not in the Action Plan, was added in the Revision: Integral renovation of public buildings.
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	In accordance with the European Commission's proposal for the Action Plan and on the experience of measures implementation in the area of the City, energy indicators have been identified for the following categories: • Traffic sector; • Construction sector; • Public lighting sector; • Industry sector; • Production of energy from renewable sources; • Representation of energy companies in the city; • Informing citizens on energy issues; • Sustainable public procurement. The energy indicators for sustainable development in the building sector of Opatija can be divided into several categories: • Implementation of national legislation; • Use of renewable energy sources in the buildings of the City of Opatija; • Moving the consumption of various types of energy into the sub-sectors of construction; • The readiness of citizens to invest in energy efficiency measures in their own homes The fact that the public lighting sector owned by the City of Opatija will simplify the process of controlling and monitoring the following indicators: • Number of built-in, energy and environmentally efficient lighting fixtures; • City Lighting Public Sector Energy Consumption Movements; As the sector of industry is not in the immediate jurisdiction of cities, for monitoring the energy indicators it will be need to establish good co-operation between the competent authorities of the City of Opatija and the industrial subjects in the City The monitoring system for energy indicators of energy production from renewable sources is based on monitoring:· • Annual production of energy from renewable energy sources in the area of Opatija;

	• Yearly increase of the installed power of the plants and plants for the production of energy from the OIE for each individual OIE source.. One of the clear indicators of Energy Sustainable Development of the City based on the use of renewable energy sources and the implementation of energy efficiency measures is the representation of energy companies, companies and companies that will implement and finance these projects and provide the necessary equipment for their verification. The good understanding of energy issues of Opatija citizens is one of the important precondition for energy-efficient development and as such is an important energy indicator for the implementation of timely and successful promotional-informative activities. The proposal of the indicator with a description of the monitoring and control system succeeded in the public procurement model in the City of Opatija, includes: • Selecting a category of energy-efficient products and services covered by green public procurement; • The value and number of green public procurements carried out in the city; • The number of educational staff responsible for public procurement in a company owned by the City.
Status of implementation	n/a
Associated funding (if any)	Significant financial investments are needed to implement identified measures that can't be achieved only from the budget of the City, but it is necessary to use available sources of financing. Review of potential funding sources of the implementation measures from this Plan generally includes three categories of financial instruments: • Financial Instruments and Models which are available today in the Republic of Croatia; • Financial instruments and models which are available in EU countries but not yet used in Croatia; • Innovative financial models which are developed for the realization needs of some of the measures in the Action Plan. Funding sources can be from: • The City of Opatija budget • National Energy Renewal Programs in the Construction Sector (Energy Renewal of Public Sector Buildings, Energy Renovation of Family Houses, Energy Renewal of Multi-Storey Buildings, Energy Renewal Program for Commercial Non-residential Buildings) • The Environmental Protection and Energy Efficiency Fund • European Structural and Investment (ESI) funds

	• Croatian Bank for Reconstruction and Development (HBOR) • European Investment Bank (EIB) • European Bank for Reconstruction and Development (EBRD) • European Energy Efficiency Fund (EEE-F) • Financial Support Program for Renewable Energy Projects for Western Balkan II (WeBSEFF II) • European Union Support Programs and Specific Support Instruments (Obzor 2020, LIFE +, European Local Energy Assistance Program (ELENA), Joint European Support for Sustainable Urban Investment (JESSICA), Joint Support for European Project Support (JASPERS) , Connecting Europe Faciliy (CEF), European Economic Area (EEA) and Norway Grants (member of the European Economic Zone and Norway) • European Economic Area (EEA) and Norway Grants (member of the European Economic Area and Norway) • ESCO model • Model of public-private partnership
Is the plan a good practice? If yes, why?	n/a

Local level plans	
Title	**City of Kastav Sustainable Energy Action Plan** **City of Kastav Revision of the Sustainable Energy Action Plan 2015**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Date of adhesion: 24/02/2011 Date of formal approval: 26/11/2012 Submission date: 30/11/2012 Revision year: 2015 Approved year– Expiring year: 2011.-2020.
Brief description (including objectives)	Country: Croatia Population: 10,472 Overall CO_2 emission reduction target: 21% Our vision for City of Kastav is to become environmentally friendly and developed city based on sustainability. We plan to achieve our sustainable plan primary based on energy sustainability development and renewable energy sources. We have vision that City of Kastav will become a city of low pollutions and consuption in all aspects such as public buildings like schools, kindergartens, health institutions, households and ect. Our main challenges are overcoming legal and administrative barriers and finding financial sources for investments in RES and EE. The energy policy of Kastav for many years has long been focused on sustainable energy development of the urban area based on the principles of environmental protection, energy efficiency and using renewable energy sources and sustainable construction. The City of Kastav joined the Mayor Agreement on 24.02.2011 and taking over obligation to make, implement and report their Energy Sustainable Development Action Plan. As part of the Energy Sustainable Development Plan of the City of Kastav, it was analyzed energy consumption of three sectors: building, traffic and public lighting. Based on that analysis, a Reference Inventory for 2011 was made. As part of the Action Plan, measures and activities have been defined to successfully reduce CO2 emissions at the City of Kastav level by more than 20% by 2020 compared to the reference year 2011. From the moment when document was published the City of Kastav actively conduct energy policy and project implementation The Control Inventory of CO2 Emissions for 2015. was made for the purpose of comparision the reference and control year. For the same purpose, an analysis of energy consumption was made as part of the Energy Sustainable Development Plan of the City of Kastav • Construction Sector: 174.33 TJ;

	• Traffic: 90.53 TJ and • Public lighting: 3.37 TJ. By comparing the reference year with the control year, energy consumption in the transport sector has been reduced, while consumption in the construction and public lighting sector has increased It is important to emphasize that energy consumption in the public buildings subsector has decreased, which means that the City of Kastav a successfully implemented energy efficiency measures on its buildings. The successful implementation of each measure has been analyzed for: • Construction Sector: • Public buildings: 8 measures • Households: 5 measures • Commercial sector: 3 measures • Public lighting: 2 measures • Traffic: 4measures One measure which was not in the Action Plan, was added in the Revision: Integral renovation of public buildings.
Concrete climate change adaptation measures foreseen (if any)	
Implementation and monitoring mechanisms/procedures	In accordance with the European Commission's proposal for the Action Plan and on the experience of measures implementation in the area of the City, energy indicators have been identified for the following categories: • Traffic sector; • Construction sector; • Public lighting sector; • Industry sector; • Production of energy from renewable sources; • Representation of energy companies in the city; • Informing citizens on energy issues; • Sustainable public procurement. The energy indicators for sustainable development in the building sector of Kastva can be divided into several categories: • Implementation of national legislation; • Use of renewable energy sources in the buildings of the City of Kastav; • Moving the consumption of various types of energy into the sub-sectors of construction; • The readiness of citizens to invest in energy efficiency measures in their own homes The fact that the public lighting sector owned by the City of Kastav will simplify the process of controlling and monitoring the following indicators:

	• Number of built-in, energy and environmentally efficient lighting fixtures; • City Lighting Public Sector Energy Consumption Movements; As the sector of industry is not in the immediate jurisdiction of cities, for monitoring the energy indicators it will be need to establish good co-operation between the competent authorities of the City of Kastav and the industrial subjects in the City The monitoring system for energy indicators of energy production from renewable sources is based on monitoring:· • Annual production of energy from renewable energy sources in the area of Kastva; • Yearly increase of the installed power of the plants and plants for the production of energy from the OIE for each individual OIE source.. One of the clear indicators of Energy Sustainable Development of the City based on the use of renewable energy sources and the implementation of energy efficiency measures is the representation of energy companies, companies and companies that will implement and finance these projects and provide the necessary equipment for their verification. The good understanding of energy issues of Kastav citizens is one of the important precondition for energy-efficient development and as such is an important energy indicator for the implementation of timely and successful promotional-informative activities. The proposal of the indicator with a description of the monitoring and control system succeeded in the public procurement model in the City of Kastav, includes: • Selecting a category of energy-efficient products and services covered by green public procurement; • The value and number of green public procurements carried out in the city; • The number of educational staff responsible for public procurement in a company owned by the City.
Status of implementation	n/a
Associated funding (if any)	Significant financial investments are needed to implement identified measures that can't be achieved only from the budget of the City, but it is necessary to use available sources of financing. Review of potential funding sources of the implementation measures from this Plan generally includes three categories of financial instruments: • Financial Instruments and Models which are available today in the Republic of Croatia; • Financial instruments and models which are available in EU countries but not yet used in Croatia;

	• Innovative financial models which are developed for the realization needs of some of the measures in the Action Plan. Funding sources can be from: • The City of Kastav budget • National Energy Renewal Programs in the Construction Sector (Energy Renewal of Public Sector Buildings, Energy Renovation of Family Houses, Energy Renewal of Multi-Storey Buildings, Energy Renewal Program for Commercial Non-residential Buildings) • The Environmental Protection and Energy Efficiency Fund • European Structural and Investment (ESI) funds • Croatian Bank for Reconstruction and Development (HBOR) • European Investment Bank (EIB) • European Bank for Reconstruction and Development (EBRD) • European Energy Efficiency Fund (EEE-F) • Financial Support Program for Renewable Energy Projects for Western Balkan II (WeBSEFF II) • European Union Support Programs and Specific Support Instruments (Obzor 2020, LIFE +, European Local Energy Assistance Program (ELENA), Joint European Support for Sustainable Urban Investment (JESSICA), Joint Support for European Project Support (JASPERS) , Connecting Europe Faciliy (CEF), European Economic Area (EEA) and Norway Grants (member of the European Economic Zone and Norway) • European Economic Area (EEA) and Norway Grants (member of the European Economic Area and Norway) • ESCO model • Model of public-private partnership
Is the plan a good practice? If yes, why?	n/a

Local level plans	
Title	**Municipality of Čavle Sustainable Energy Action Plan**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Date of adhesion15/05/2014 Date of formal approval: 11/09/2014 Submission date: 06/11/2014 Approved year– Expiring year: 2014.-2020
Brief description (including objectives)	Country: Croatia Population: 7,220 Overall CO_2 emission reduction target: 21%

	The vision is to reduce amount of CO2, increase the using of renewable energy sources, encourage citizen to have more energy efficient households, with financial support and educational methods. Installing renewable energy systems in public buildgs. Replacing old inefficient lighting with new energy efficient and environmentally friendly lights. In transport sector the goal is to increase the share of biofuels for personal and commerical cars as well as for public transport. By making this Action Plan, Čavle Municipality has fulfilled the commitment which was given through the Mayor Agreement. The main objective of this Action Plan is to reduce CO2 emissions by more than 20% by 2020, which will be achieved with the proposed specific measures and activities. The reduction is observed as compared to 2012 as a reference year. Measures and activities for reducing immediate consumption energy, electricity and heat, and thus the reduction of CO2 emissions, are proposed in the area of renewable energy and energy efficiency. By increasing the energy efficiency of existing energy consumers, and by introducing renewable energy sources on the places of those consumers that have so far used conventional energy sources will reduce energy consumption. The direct consumption sectors of Čavle Municipality, in accordance with the recommendations of the European Commission, are: buildings, traffic and public lighting. Detailed energy analyzes were conducted for these sectors and high quality data about amount of energy consumed and their consumption was collected, and a 2012 emission inventory inventory was created. For the purpose of a better picture of energy consumption and CO2 emissions, the Construction Division is further divided into public buildings, commercial buildings and households. The largest share of 77.31% of total energy consumption has a construction sector, followed by the transport sector with 21.91%. Electricity (110.42 TJ) is the most energy-intensive sector of the building industry, while in the transport sector the most consumed source is gasoline (31.04 TJ) and diesel (30.15 TJ). The reference inventory of the emission of the Municipality of Čavle for 2012 includes direct (fuel combustion) and indirect (electricity consumption) emissions of CO2 from all three of these sectors of direct energy consumption. The total CO2 emissions from the observed sectors in Čavle Municipality amounted 19 279.88 t CO2 in 2012. The largest share in total emission scenarios without measures, as well as in the scenario with measures, has the construction

	sector. The share of buildings in total emission scenarios without measures is 74.20%, while the share in the scenario with measures is 73.20%. The traffic sector's share of emissions in the scenarios without measures is 24.71%, while in the scenario with measures this share is 25.44%. From this it can be concluded that the building sector is the biggest potential for CO2 emission reduction. The emission scenario with the measures of this sector decreased by 23,97% compared to 2012. The total decrease in inventories compared to the base year is 21.02%. By signing the Mayor's Agreement, the municipality of Čavle has included a European initiative to reduce greenhouse gas emissions and propose an indicative target of 21% (15 228.92 t CO2) CO2 reduction in 2020 compared to the emission (19 281.03) in 2012 . For the purposes of assessing the reduction of CO2 emissions in 2020, for the identified energy efficiency measures for the construction, traffic and public lighting sectors in Čavle municipality, the scenarios without measures and the scenario with the measures were made in 2020 for the scenarios of the energy consumption and emissions. The scenario scenario without measures in 2020 will amount to 21 666.9 t CO2, which is more than the proposed indicative target and it can be concluded that without the application of the measures the proposed target will not be achieved. However, if all measures envisaged are applied, the scenario scenario emissions will, as mentioned above, amount to 12 228.92 t CO2, which is below the proposed indicative target.
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	The monitoring and control phase of the implementation of the Action Plan should take should take place simultaneously at several levels: • Monitoring the dynamics of implementation of specific energy efficiency measures according to the measures and activities Plan. • Monitoring the performance of the project according to the Plan • Monitoring and control of energy savings targets for each measure inside the Plan • Monitoring and control of achieved CO2 emission reductions for each measure according to the Plan.
Status of implementation	n/a
Associated funding (if any)	Significant financial investments are needed to implement identified measures that can't be achieved only from the budget of the City, but it is necessary to use available sources of financing. Review of potential funding sources of the

	implementation measures from this Plan generally includes three categories of financial instruments: • Financial Instruments and Models which are available today in the Republic of Croatia; • Financial instruments and models which are available in EU countries but not yet used in Croatia; • Innovative financial models which are developed for the realization needs of some of the measures in the Action Plan. Funding sources can be from: • The Municipality of Čavle budget • National Energy Renewal Programs in the Construction Sector (Energy Renewal of Public Sector Buildings, Energy Renovation of Family Houses, Energy Renewal of Multi-Storey Buildings, Energy Renewal Program for Commercial Non-residential Buildings) • The Environmental Protection and Energy Efficiency Fund • European Structural and Investment (ESI) funds • Croatian Bank for Reconstruction and Development (HBOR) • European Investment Bank (EIB) • European Bank for Reconstruction and Development (EBRD) • European Energy Efficiency Fund (EEE-F) • Financial Support Program for Renewable Energy Projects for Western Balkan II (WeBSEFF II) • European Union Support Programs and Specific Support Instruments (Obzor 2020, LIFE +, European Local Energy Assistance Program (ELENA), Joint European Support for Sustainable Urban Investment (JESSICA), Joint Support for European Project Support (JASPERS) , Connecting Europe Faciliy (CEF), European Economic Area (EEA) and Norway Grants (member of the European Economic Zone and Norway) • European Economic Area (EEA) and Norway Grants (member of the European Economic Area and Norway) • ESCO model • Model of public-private partnership
Is the plan a good practice? If yes, why?	n/a

Local level plans	
Title	**Municipality of Viškovo Sustainable Energy Action Plan**
Time scope	DOCUMENT DRAFTED BUT NOT ADOPTED BY MUNICIPALITY COUNCIL

(currently being drafted , approved, into force, upgrading, under revision, expiring)	Date of adhesion:n/a Date of formal approval:n/a Submission date: n/a Approved year– Expiring year: n/a *Plan was never adopted by municipality council
Brief description (including objectives)	Country: Croatia Population: 14.445 Overall CO_2 emission reduction target: 21% By joining the mayor's agreement, the municipality of Viškovo has clearly demonstrated icommitment to sustainable development on the principles of rational use of energy and continuously care for the environment. The main objective of the Action Plan is to identify concrete measures for the sectors of direct energy consumption of the municipality whose implementation by 2018 will result in a reduction of CO2 emissions by more than 20% compared to the reference year 2014. The methodology for drafting this Action Plan is in line with the European Commission guidelines. The sectors of direct energy consumption of the municipality is construction,., traffic and public lighting for which detailed energy analyzes were carried out and the relevant CO2 inventory was developed in line with the recommendations of the European Commission. For the purpose of a detailed energy analysis, the construction sector is divided into the following three subsectors: • a municipal owned building; • the remaining public buildings in the municipal area • the municipal sector in the sector; • the commercial and service building in the municipality. The Sector of Traffic comprises three subsectors: • a car park owned by the municipality; • public transport in the municipal area; • personal and commercial vehicles.. The total energy consumption of the construction, transport and public lighting sector in the Municipality of Viškovo in 2014 is 104,808 MWh, of which 52,143 MWh is spent in construction, 51,892 MWh in traffic, 772 MWh in the public lighting sector. The total CO2 emissions in the municipality in 2014 amounted to 27.707t CO2. The largest source of CO2 emissions is the construction sector with emission of 14,210 t CO2, followed by the transport sector with emission of 13,316 t CO2, while emission from the public lighting sector is the smallest and is 180.65 t CO2.

	Based on the conducted energy analyzes and concrete situation in the municipality, the measures identified were divided into groups according to the sector of direct consumption: • Measures to reduce CO2 emissions from the construction sector; • Measures to reduce CO2 emissions from the transport sector; • Measures to reduce CO2 emissions from the public lighting sector. According to the results of the energy analyzes carried out, most of the CO2 emission reduction measures are related to the construction and transport sectors. Realizing all the proposed measures, CO2 emissions from observed sectors of direct consumption would be reduced by 9.22% compared to the 2014 CO2 emissions. Furthermore, an important part of this Action Plan is an overview of the sources of funding that the Municipality of Viškovo can be used at this time as well as the sources available to it by the accession of the Republic of Croatia to the European Union. The most important recommendations for the successful implementation of this Action Plan are the following: 1. Establish an organizational structure for coordinating, implementing and monitoring the implementation of the Action plan; 2. Introduce a system for monitoring energy consumption and indicators in the municipal area; 3. Introduce a unique classification of energy sectors and subsectors in accordance with this Action Plan; 4. Continually and systematically implement the proposed measures and activities and manage energy on area of municipality; 5. Systematically follow the implementation of this Action Plan and report on progress results; 6. Regularly create a CO2 Emission Register for the Municipality; 7. Continually review and, if necessary, create a new Action Plan;
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	Continuous monitoring, control and reporting on the results achieved is an extremely important component of the process of preparation, implementation and monitoring of the Energy Sustainable Development Action Plan of the municipality. All cities that are signatories of the Mayor Agreement are obliged to prepare and submit to the European Commission every two years the Report on the Implementation of the Action Plan

	(hereinafter the Report), which should contain a detailed description of the measures and activities of the achieved results including the Control Inventory of CO2 Emissions (MEI - Monitoring Emission Inventory). Comparison of the 2014 Inventory Inventory of CO2 Emissions and the Inventory Control Inventory for one of the following years will unambiguously show how much CO2 emission actually is in the municipality and answer the question of whether or not the implementation of the Action Plan is successful. Although the European Commission's preliminary recommendation was to prepare CO2 inventory inventories for each two, due to the demanding process, the possibility of time-period of 4 years. One of the recommendations of the European Commission is to alternately prepare every 2 years an Action Report without inventory of CO2 emissions and each 4 Implementation Report with by inventing CO2 emissions. The Action and Implementation Reports will differ as they will first provide qualitative information on implemented measures and activities, realized energy savings and reductions in CO2 emissions while in the case of the Implementation Report information will be quantitative. Both reports should include an analysis of the dynamics and performance of implementation identified measures as well as corrective action proposals for all those cases where the implementation of the measures from the Action Plan proved unavoidable or the expected positive outcomes were left out. For the purpose of making the report easier and the comparability of the results, the European Commission will prepare official forms for both types of reports (the forms will be mentioned on the official web page of the Mayor Agreement: www.eumayors.eu). The process of monitoring and controlling the implementation of the Action Plan should take place simultaneously at several levels: • Monitoring the dynamics of implementation of specific energy efficiency measures under the Measure Plan and activities; • Monitoring the success of project implementation according to the Plan; • Monitoring and control of set energy savings targets for each measure within plan; • Monitoring and control of achieved CO2 emission reductions for each measure under the Plan, • Monitoring and control of the achieved reduction of CO2 emissions by sectors of consumption (construction, traffic and public lighting) compared to the reference year 2014;

	• Recovery of total CO2 emission reductions compared to the reference year 2014. Monitoring of the dynamics and success of the implementation of the Action Plan will be carried out by an external, specialized institution.
Status of implementation	n/a
Associated funding (if any)	Regarding to the restriction of the municipal budget, for the successful implementation of the proposed measures it is very import to considered other sources of funding, outside the municipal budget. The most important sources of funding are: • Funding from the municipal budget • European Union Programs • Foreign credit lines • Public Private Partnership • Croatian Bank for Reconstruction and Development • The Environmental Protection and Energy Efficiency Fund • ESCO model • HORIZON 2020 Program • EBRD
Is the plan a good practice? If yes, why?	n/a
Local level plans	
Title	**Municipality of Matulji Sustainable Energy Action Plan**
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Date of adhesion 26/03/2015 Date of formal approval: 26/07/2016 Submission date: 26/09/2016 Approved year– Expiring year: 2015.-2020
Brief description (including objectives)	Country: Croatia Population: 11.246 Overall CO_2 emission reduction target: 21% By making this Action Plan, Matulji Municipality has fulfilled the commitment which was given through the Mayor Agreement. The main objective of this Action Plan is to reduce CO2 emissions by more than 20% by 2020, which will be achieved with the proposed specific measures and activities. The reduction is observed as compared to 2012 as a reference year. Measures and activities for reducing immediate consumption energy, electricity and heat, and thus the reduction of CO2 emissions, are proposed in the area of renewable energy and energy efficiency. By increasing the energy efficiency of existing energy consumers, and by introducing renewable energy sources on the

	places of those consumers that have so far used conventional energy sources will reduce energy consumption. The direct consumption sectors of Matulji Municipality, in accordance with the recommendations of the European Commission, are: buildings, traffic and public lighting. Detailed energy analyzes were conducted for these sectors and high quality data about amount of energy consumed and their consumption was collected, and a 2012 emission inventory inventory was created. For the purpose of a better picture of energy consumption and CO2 emissions, the Construction Division is further divided into public buildings, commercial buildings and households. The largest share of 68.45% of total energy consumption has a construction sector, followed by the transport sector with 30.50%. Electricity (95.42 TJ) is the most energy-intensive sector of the building industry, while in the transport sector the most consumed source is gasoline (63.99 TJ) and diesel (66.38 TJ). The reference inventory of the emission of the Municipality of Matulji for 2014 includes direct (fuel combustion) and indirect (electricity consumption) emissions of CO2 from all three of these sectors of direct energy consumption. The total CO2 emissions from the observed sectors in Matulji Municipality amounted 26 529.36 t CO2 in 2014. The largest share in total emission has the construction sector with 67,30%. The traffic sector's share of emissions is 31.70% and the last one is public lighting with 0,80%. By signing the Mayor's Agreement, the municipality of Matulji has included a European initiative to reduce greenhouse gas emissions and propose an indicative target of 23,76% (28 102.34 t CO2) CO2 reduction in 2020 compared to the emission (21 425.30) in 2012 .
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	The monitoring and control phase of the implementation of the Action Plan should take should take place simultaneously at several levels: • Monitoring the dynamics of implementation of specific energy efficiency measures according to the measures and activities Plan. • Monitoring the performance of the project according to the Plan • Monitoring and control of energy savings targets for each measure inside the Plan • Monitoring and control of achieved CO2 emission reductions for each measure according to the Plan.
Status of implementation	n/a

Associated funding (if any)	Significant financial investments are needed to implement identified measures that can't be achieved only from the Municipality budget, but it is necessary to use available sources of financing. Review of potential funding sources of the implementation measures from this Plan generally includes three categories of financial instruments: • Financial Instruments and Models which are available today in the Republic of Croatia; • Financial instruments and models which are available in EU countries but not yet used in Croatia; • Innovative financial models which are developed for the realization needs of some of the measures in the Action Plan. Funding sources can be from: • The Municipality of Matulji budget • National Energy Renewal Programs in the Construction Sector (Energy Renewal of Public Sector Buildings, Energy Renovation of Family Houses, Energy Renewal of Multi-Storey Buildings, Energy Renewal Program for Commercial Non-residential Buildings) • The Environmental Protection and Energy Efficiency Fund • European Structural and Investment (ESI) funds • Croatian Bank for Reconstruction and Development (HBOR) • European Investment Bank (EIB) • European Bank for Reconstruction and Development (EBRD) • European Energy Efficiency Fund (EEE-F) • Financial Support Program for Renewable Energy Projects for Western Balkan II (WeBSEFF II) • European Union Support Programs and Specific Support Instruments (Obzor 2020, LIFE +, European Local Energy Assistance Program (ELENA), Joint European Support for Sustainable Urban Investment (JESSICA), Joint Support for European Project Support (JASPERS) , Connecting Europe Faciliy (CEF), European Economic Area (EEA) and Norway Grants (member of the European Economic Zone and Norway) • European Economic Area (EEA) and Norway Grants (member of the European Economic Area and Norway) • ESCO model • Model of public-private partnership
Is the plan a good practice? If yes, why?	n/A

PART 2: FUNDING TOOLS

Category	Notes
European funding	n/a
National funding	The energy renovation of public building was carried out through European Structural and Investment Funds (ESIF) for Operational Programme **Competitiveness and Cohesion** (OPCC) 2014.-2020. Energy Efficiency Directive (2012/27 / EU), is to renew every year (in terms of energy efficiency) 3% of the total floor area of heated and / or cooled buildings in ownership and use of the central government, to meet the minimum energy efficiency requirements. In terms of specific results you given the resources available, it is estimated that it would be possible to contribute to the achievement of up to 90% of the goals and measures under the National Program for the renovation of public sector buildings and the third National Energy Efficiency Action Plan (ie in terms of savings). This means that the expected results (in addition to achieving the aforementioned goal of 3% renovation annually) include reducing energy consumption for refrigeration / heating of refurbished buildings of the public sector by 70% to achieve an annual savings of about 50 GWh. This estimate is based on the assumption that the level of funding from ESI public sector building renovation funds will be higher than for industrial / service sector. Such a significant contribution is expected as most of the indicative allocation funds for PO4 are earmarked for investment to public sector buildings, since public buildings represent significant potential for energy and cost savings on the one hand, and on the other the public sector is expected to provide an example ie. provide investment and behavior change that will serve as an example and catalyst for the likes investments in other categories of buildings. Given renewables, there is significant potential in the field of RES focused on the use of biomass, solar and cranes heat. This potential will be targeted through an integrated approach, ie. so that renewable energy systems are for it supports the needs of certain buildings with energy efficiency measures, primarily for heating / cooling purposes. Reducing energy consumption in residential buildings (in multi-family buildings and single-family homes) in terms of specific results and given the resources available, it is estimated that it would be possible to contribute to the achievement of up to 30% of the objectives and measures identified in the National Program for the Renovation of Multifamily Buildings and Family Homes and the Third National Energy Action Plan efficiency (i.e. in terms of savings). This means that the expected result will include a reduction in the cooling / heating energy consumption of the refurbished ones building by 70% to achieve an annual savings of about 40 GWh. It is also estimated that there will be around 10,000 during the programming period households (including several multi-dwelling and single-family households) benefit from improved energy and consumption management. The estimate is based on the assumption that the level of funding from the ESI Housing Restoration Funds (multi-family and single-family homes) be higher than that for the industrial / service sector but lower than that for public sector buildings. Given renewables, there is significant potential in the field of RES focused on the use of biomass, solar and cranes heat. This potential will be targeted through an integrated

	approach, ie. so systems for the production of energy from renewable sources for needs specific residential buildings with energy efficiency measures, primarily for the purpose of energy production for cooling / heating purposes.
Regional funding	*n/a*
Local funding	*n/a*
Other funding schemes	*n/a*

[PP7] County df Split and Dalmatia

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**Draft Climate change Adaptation Strategy in the Republic of Croatia for the period to 2040 with a view to 2070** *(hrv. Radna inačica Strategije prilagodbe klimatskim promjenama u Republici Hrvatskoj za razdoblje do 2040. godine s pogledom na 2070. godinu)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Approval underway
Brief description (including objectives)	Main goal of the Strategy is to reduce vulnerability of social and natural systems on negative climate change effects and strengthening resilience and recovery ability to these effects. Other goals are: • gathering of all relevant institutional, political, economic and social stakeholders creating sufficiently strong support for the implementation of joint actions for the implementation of adaptation measures • integration of the adaptation process, including the implementation of measures, into existing and new policies, programs, plans and other activities implemented at all levels of management • encourage, or intensify, scientific research to better understand complexity impact of climate change and reduced the degree of uncertainty surrounding the effects of climate change and • raise awareness of the importance of climate change and the inevitable launch of the adaptation process in all social segments.
Concrete climate change adaptation measures foreseen (if any)	The Adaptation Strategy proposes a total of 81 measures: 79 measures within ten selected sectors and two measures that can be considered as multi-sectoral (climate modelling and development of the implementation impact indicators for the adaptation strategy). Encmpassed sectors are: • Hydrology, water and sea resources management

- Agriculture
- Forestry
- Fisheries
- Biodiversity
- Energy
- Tourism
- Health
- Spatial planning and coastal area management
- Risk management

The overall assessment grade of importance of the individual measure groups the measures into three categories: of very high importance, of high importance and of medium importance. Measures of very high importance are those whose implementation is expected in the period 2019-2023. and are part of the Action plan for the implementation of the Adaptation Strategy.

Sector	Very high importance	High importance	Medium importance	Total
Hydrology, water and sea resources management	3	3	3	9
Agriculture	5	3	1	9
Forestry	4	2	3	9
Biodiversity	4	2	3	9
Fisheries	7	2	1	10
Energy	3	3	1	7
Tourism	4	1	1	6
Health	3	3	3	9
Spatial planning and coastal area management	4	1	0	5
Risk management	3	3	0	6
Total	**40**	**23**	**16**	**79**
Supra-sectoral measures	2	0	0	2
Total with supra-sectoral measures	**42**	**23**	**16**	**81**

Supra-sectoral measures

	KM-01 Strengthening human and technical capacities for implementing research and applied activities in the area of climate modelling, analysis, and interpretation of observed and expected climatic changes RP-01 Development of impact indicators of the implementation of the adaptation strategy for vulnerable sectors and society
Implementation and monitoring mechanisms/procedures	Possible indicators for monitoring the impact of the measures in the Adaptation Strategy are divided according to the following sectors, as follows: -11 possible indicators for ***Hydrology, water and sea resources management*** -6 possible indicators for ***Agriculture*** -9 possible indicators for ***Forestry*** -6 possible indicators for ***Fisheries*** -7 possible indicators for ***Biodiversity*** -5 possible indicators for ***Energy*** -6 possible indicators for ***Tourism*** -12 possible indicators for ***Health*** -12 possible indicators for ***Spatial Planning and Management of Coastal Areas*** -6 possible indicators for ***Risk management***
Status of implementation	-
Associated funding (if any)	State budget, European Fund for Regional Development (EFRR), Cohesion Fund (KF), The European Maritime and Fisheries Fund (EFPR), European Agricultural Fund for Rural Development (EPFRR) and The European Social Fund (ESF)
Title	**Programme of measures for the protection and management of the marine environment and coastal area of the Republic of Croatia** *(hrv. Program mjera zaštite i upravljanja morskim okolišem i obalnim područjem)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force (2017)
Brief description (including objectives)	Directive aims to implement measures for reaching or maintaining a good ecologic environment in sea environment by 2020. Objectives include protection, preservation, enabling recovery and renewal of sea and coastal ecosystems and sustainable use of services related to the ecosystem, preservation of protected sea areas and eco-significant areas of EU Natura 2000, pollution reduction in sea and coastal areas with the aim of human health preservation, maintaining balance between human activities and natural resources

Concrete climate change adaptation measures foreseen (if any)	Measure **3.9. Development and implementation of methods and technology for adaptation to changes in sea and coastal ecosystem under the influence of climate change**: • *3.9.1. Conduct biological-fisheries research related to the exploitation of non-native (allochthonous) economically potentially important species* • *3.9.2. Make adaptations related to the change of fishing technology to catch non-native (allochthonous) economically potentially important species* • *3.9.3. Make adaptations related to the introduction of new species into mariculture and increase the production (cultivation) of thermophilic species* • *3.9.4. Make adaptations related to changing breeding technology* • *3.9.5. Strengthen the resilience of coastal settlements to the emergence of extreme weather and climate hazards* • *3.9.6. Develop coastal zone adaptation to sea level rise*
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Implemented in 2016 and is valid until 2022
Associated funding (if any)	State budget and different EU funds
Title	**Draft integrated National Energy and Climate Plan of Croatia covering the period 2021-2030 - NECP** *(hrv. Radna inačica Integriranog energetskog i klimatskog plana za razdoblje od 2021. do 2030. godine)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Approval underway
Brief description (including objectives)	The Integrated National Energy and Climate Plan for the period 2021-2030 provides an overview of the current energy system and the state of energy and climate policy. It also gives an overview of national targets for each of the five key dimensions of the Energy Union and appropriate policies and measures for achieving these goals and establishes an analytical basis. This document represents the energy action plan of the new energy strategy of the Republic of Croatia.
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	The plan should be adopted in 2020, implemented in 2021 and valid until 2030
Associated funding (if any)	The Environmental Protection and Energy Efficiency Fund, European Structural and Investment funds

Title	**Strategic Environment Impact Assessment (ESIA) study of the draft Strategy for the energy development of Croatia in the period until 2030 with an outlook for the period until 2050** *(hrv. Strateška studija procjene utjecaja na okoliš za Strategiju energetskog razvoja Republike Hrvatske do 2030. godine s pogledom na 2050. godinu)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	ESIA study approved Energy Strategy approval ongoing (expected in 2020)
Brief description (including objectives)	Strategic Environmental Impact Assessment is the procedure for evaluating likely significant environmental impacts that may arise from the implementation of a strategy, plan or program. It creates the basis for promoting sustainable development through the consolidation of protection conditions environment in strategies, plans or programs.
Concrete climate change adaptation measures foreseen (if any)	Measure 1 – Construction of Climate change impact study analysis with vulnerability analysis and climate change adaptation measures suggestion for existing large hidroenergy systems on Adriatic basin rivers (period 2021 – 2030) Measure 2 – Strengthening resilience of electro energetic system to climate changes with focus on energy production plants for production of electric and heat energy and transfer grid
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	It should be implemented in 2020 and valid until 2030
Associated funding (if any)	Environmental Protection and Energy Efficiency Fund EU 2021 – 2027 Structural fund envelope Hydro power plant owners
Title	**Rural Development Programme of the Republic of Croatia for the Period 2014-2020** *(hrv. Program ruralnog razvoja Republike Hrvatske 2014. – 2020.)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Rural development programme, including ex-ante and post ante analysis and consequent associated measures
Concrete climate change adaptation measures foreseen (if any)	O_01: Support for young farmers 8.2.1.3.1. O_01: Vocational training for cross-compliance, agriculture, environment and climate measures and organic farming M02 - Advisory services, farm management and farm relief services M03 - Quality schemes for agricultural products and foodstuffs (focus Area 5D: Reducing greenhouse gas and ammonia emissions from agriculture; and Focus Area 5E: Fostering carbon conservation and sequestration in agriculture and forestry - the activities within the

	framework of this measure contribute to the mitigation of climate changes through the adoption of established standards.)
Implementation and monitoring mechanisms/procedures	O_01: The activities planned under this operation will address the lack of a knowledge basis on agri-environmental issues in Croatia. Training courses shall be held on the following topics: -Cross-compliance obligations -Climate change adaptation and mitigation practice -Agri-environmental practices -Sustainable forest management -Sustainable soil management -Crop rotation -Water efficiency -Sustainable cultivation techniques -Preservation of landscape features
Status of implementation	Implemented in 2014 and valid until 2020
Associated funding (if any)	European Agricultural Fund for Rural Development (EAFRD)
Title	**Strategy of Regional Development of Republic of Croatia for period until 2020** *(hrv. Strategija regionalnog razvoja Republike Hrvatske za razdoblje do kraja 2020. godine)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Strategy aims to develop socio-economic development of Croatia, in coordination with sustainable development principles, creating conditions to ensure strengthening competitiveness and realisation of development potential for all areas. Three strategic goals include: 1. Increasing quality of life by encouraging sustainable territorial development, 2. Increasing competitiveness of regional economy and employment, 3. Sustainable management of regional development
Concrete climate change adaptation measures foreseen (if any)	Due to the broadness of some of the measures, they could be considered as adaptation measures as well. Measure 1.1.3. Supporting cultural identity affirmation and civil society development – promoting programmes and activities for local community sustainable development and activities related to climate change mitigation and adaptation on local and regional levels Measure 1.2.1. Public infrastructure of local significance development – supporting development systems for climate change mitigation and preventive measures implementation Measure 1.2.2. Regional public infrastructure development Measure 1.2.3. Sustainable use and valorisation of cultural and natural heritage Measure 1.2.4. Supporting application of environmental protection and EE measures on local and regional level

	Measure 1.3.1. Providing development support to specific areas – supporting development systems for climate change mitigation and preventive measures implementation Measure 1.3.2. Providing support to sustainable island development Measure 1.3.3. Providing support to sustainable mountainous areas development Measure 1.3.4. Quality of life improvement and urban area development Measure 1.3.5. Creating desirable living conditions in neighbouring areas Measure 3.1.1. Improvement of public policies management cycle on all management levels Measure 3.1.2. Improvement of regional development project management Measure 3.2.1. Inter-department harmonization of public policies implementation on national and regional level Measure 3.3.1. Stakeholder strengthening in development projects' regional development management and implementation
Implementation and monitoring mechanisms/procedures	- less differences in cultural heritage preservation per region - improved preservation of nature protected areas - less difference in implementation of environment protection and energy efficiency measures - containment of population on islands, monitoring development index on islands - containment of population in hilly and mountainous areas - life quality in urban areas - monitoring the implementation of the Strategic Planning Act
Status of implementation	Implemented in 2017 and valid until 2020
Associated funding (if any)	Ministry of Regional Development and EU funds
Regional level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**County development strategy of Split-Dalmatia County for the period up to 2020** *(hrv. Županijska razvojna strategija Splitsko-dalmatinske županije za razdoblje do 2020.)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	County development strategy is defined within the Regional Development Strategy of the Republic of Croatia. It represents the main strategic document of the county with the aim of long-term socio-economic development in the areas such as: consistent positive

	collaboration of all stakeholders on county development needs and priorities, development challenges that the county shares with neighbouring counties and countries and a framework for local government units for planning their investments. The strategic goals are: 1. improve the quality of living with the sustainable use of nature 2. increase economic competitiveness 3. improve human resources and development management
Concrete climate change adaptation measures foreseen (if any)	C1P3M3 Development of the integrated system, civil protection and climate change resilience.
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Strategy refers to the period from 2014 to 2020
Associated funding (if any)	n/a
Title	**Split-Dalmatia County Annual Energy Efficiency plan for *2016*** *(hrv. Godišnji plan energetske učinkovitosti Splitsko-dalmatinske županije za 2016. godinu)* and **Energy Efficiency Action Plan Split-Dalmatia County for the period of 2014.-2016.** *(hrv. Akcijski plan energetske učinkovitosti Splitsko-dalmatinske županije)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	expired
Brief description (including objectives)	The annual plan consists of two main segments: the analysis of the measures implemented for the previous year and calculation of savings achieved and proposal of activities for the current/next year with a goal reaching the planned savings and realization of the advised activities according to the Split-Dalmatia County Action Plan for the period 2014 – 2016. The two plans are correlated. The Split-Dalmatia County Action Plan defines the basic settings that characterize the county. It consists the analysis of the situation and needs in energy consumption and the optimal balance of energy consumption of the Split-Dalmatia County. Furthermore, a calculation has been made and an indicative energy saving targets have been set, on the basis of which the proposed goals for sub-sectors energy efficiency measures were made. The method of monitoring the implementation of the plan and the sources of financing for the implementation of the defined measures were also defined. The Action Plan sets strategic goals for rationalizing energy consumption and costs and emission into the environment - according to the 3rd National Energy Efficiency Action Plan and the Law on Energy, energy efficiency and measures proposed for those sectors, emphasizing that it is possible make a division into measures for which the county is

	responsible and measures for which responsibility lies on national level of authority. The plan sets out climate change mitigation measures in three sectors: industrial, transport and general consumption sectors.
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Implemented in 2014 and expired in 2016
Associated funding (if any)	EU funds and regional and local financing sources
Title	**Environmental protection program of Split-Dalmatia County** *(hrv. Program zaštite okoliša Splitsko-dalmatinske županije)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Approved in 2008
Brief description (including objectives)	The county environmental program contains the basic goals, conditions and criteria of environmental protection as a whole, priority environmental measures by components, individual spatial units and it elaborates the principles and guidelines for environmental protection contained in the Environmental Strategy and it is adopted by the County Assembly. The County Program is a STRATEGIC (most comprehensive, longest-running, "highest") ENVIRONMENTAL DOCUMENT IN THE COUNTY, that is, its primary task: 1. review the whole and provide a comprehensive set of guidelines for the county's environmental sector; 2. to indicate within the whole the priority directions of action. More specifically, its strategic guidelines, derived from the synthesis and intersectoral analysis of a number of more detailed studies, are the basis and starting point for initiating operational implementation plans for more specific measures and activities in narrower spatial and thematic areas. Such as: reducing greenhouse gas emissions from all major sectors and designing adaptation measures, integrating them into relevant sectoral plans and systematic implementation.
Concrete climate change adaptation measures foreseen (if any)	M5 Afforestation and cultivation of forests in forest areas M6 Planning and management of coastal zone development that respects the rise of "elements" (storms) and sea level rise M7 Establishment of forest management and forest management practices and systems with an emphasis on fire prevention. M8 Improvement of county water management / management systems in a way that enables their more rational spatial and temporal redistribution.

Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Expired (it was implemented in 2008 and it lasted until 2012)
Associated funding (if any)	n/a
Local level plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	**Programme for the protection of air quality, ozone layer, climate change mitigation and adaptation for Split City area for the period 2018-2021** *(hrv. Program zaštite zraka, ozonskog sloja, ublažavanja klimatskih promjena i prilagodbe klimatskim promjenama za područje grada Splita za razdoblje 2018.-2021. godine)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The purpose of the City of Split Programme is to define objectives and measures to prevent and reduce air pollution, protect the ozone layer, mitigate climate change and adapt to climate change. The goals for the City of Split are: preventing or gradually reducing air pollution for health reasons, the quality of life and the environment as a whole, improvement of a complete air quality management and quality monitoring system air in the city of Split, reducing and limiting emissions of pollutants adversely affecting acidification, eutrophication and photochemical contamination, reducing and limiting greenhouse gas emissions and damaging substances ozone layer, maintaining GHG levels and adjusting climate change, raising public awareness and informing the public on air quality, emissions pollutants, greenhouse gases and the consumption of ozone depleting substances, the effects of climate change and climate change adaptation, evaluate the effects of the planned measures and the results of the implementation of the Air Protection Program and ensuring funding for the preparation and implementation of measures defined in the Protection Program.
Concrete climate change adaptation measures foreseen (if any)	General preventative measures for the preservation of air quality: M1 Integrate objectives and measures for the protection of the air, the ozone layer, climate change mitigation and climate change adaptation into strategic and zoning documents of the City of Split There are also: Preventive measures to protect the air with the aim of maintaining the first category of air quality and preventive measures

	to mitigate climate change, preventive measures to mitigate climate change, adapt to climate change and protect the ozone layer and Short-term measures. Most of them are mitigation measures but below listed are adaptation measures: M19 Increase preparedness to extreme weather conditions M21 Conduct educational activities to raise public awareness of climate change
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Implemented in 2018 and valid until 2021
Associated funding (if any)	The annual Budget of the City of Split, Protection Fund environment and energy efficiency, EU Structural and Investment Funds
Is the plan a good practice? If yes, why?	Yes, because this document can be used as a good starting point for most cities and municipalities in Republic of Croatia, it gives excellent guiding tips for future measures and climate change policies.
Title	**Energy Efficiency Action Plan of the City of Split for the period 2017 – 2019** *(hrv. Akcijski plan energetske učinkovitosti grada Splita za razdoblje 2017.-2019.)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The plan defines measures and activities in the buildings, transport and public lighting sectors. The main guidelines for the implementation of the Action Plan are: ▪ reduce CO2 emissions from all sectors by implementing energy efficiency measures, using renewable energy sources, managing consumption, education and more measures; ▪ contribute as much as possible to the security of the city's energy supply and the inclusion of new ones alternative energy sources; ▪ reduce energy consumption in the construction, transport and public lighting sectors; ▪ increase the share of energy produced from renewable sources; There are few mitigation measures for building sector, heating sector and public lighting.
Concrete climate change adaptation measures foreseen (if any)	n/a
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Implemented in 2017 and valid until 2019
Associated funding (if any)	European structural investment funds (ESI), EU co-operation and co-financing fund on regional and local level and other financing sources

Is the plan a good practice? If yes, why?	Yes, the Energy Efficiency Action Plan for the City of Split represents actions and measures for implementing energy and future climate mitigation policies in different and critical sector, therefore this structure can be used as a template for other cities and municipalities in Croatia.
Title	**Development Strategy of the Postira Municipality 2014-2020** *(hrv. Razvojna strategija općine Postira 2014-2020)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The Strategy presents current status, SWOT analyses and a strategic view for the development of the municipality till 2020. The main strategic objective is taking care of the population, its demographic structure and conditions to increase the number of inhabitants. The Strategy further on lists numerous goals directly connected to the main objective.
Concrete climate change adaptation measures foreseen (if any)	Defined measures that can be associated with climate change adaptation as well, although are not directly underlined as such, are for example revitalization of the drainage system, sustainable development of the tourist potential, improvement of the health care system etc.
Implementation and monitoring mechanisms/procedures	E.g. project catalogue prepared, spatial plans' amendments considered.
Status of implementation	Implemented since 2014
Associated funding (if any)	The Strategy recognizes EU funds, private investors and various bank loans as financial sources for the implementation of measures and projects defined in this document.
Is the plan a good practice? If yes, why?	Yes, the Strategy is comprehensive and multidisciplinary thus analysing development from many different aspects which is necessary to achieve sustainability.
Title	**Development Strategy for the city Supetar till 2020** *(hrv. Plan razvoja Grada Supetra za razdoblje do 2020.godine)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	into force
Brief description (including objectives)	The Strategy entails a description of the current status with regards to different aspects (population, infrastructure, economy, natural and cultural resources, transport, environment protection etc.) as well as a SWOT analyses followed by the strategic plan accompanied with the action plan itself. The Strategy represents one of the main documents for retrieving EU funding and it has 5 objectives as follows:

	• Sustainable spatial development, infrastructure development and environment and nature protection • Increasing economic competitiveness • Human resources development and improving life standard • Improving development management • Improving Supetar's visibility
Concrete climate change adaptation measures foreseen (if any)	Yes, there are adaptation measures foreseen (although they are not underlined as such and are mostly derived from other reasons than climate change) e.g. • Integrated spatial planning following development needs of the city Supetar • Improvement of green infrastructure • Coastal management • Development and improvement of the drainage system • Development and efficiency improvement of the water supply system • Development of the civil and material protection systems • Encouraging the development of cultural/creative contents • Development of touristic infrastructure • Improving health care services
Implementation and monitoring mechanisms/procedures	The Strategy defines and describes all measures along with the implementation indicators. The indicators are numerous and entail monitoring number of associated areas, projects. E.g. "Improving health care services": finalized heliport, improved ambulance accessibility in specific city areas, touristic dispensary organized, number of subsidized project activities, number of prevention programmes. "Improvement of green infrastructure" – number of newly developed public areas „Development and efficiency improvement of the water supply system" – water supply losses decreased, number of new water supply connections etc.
Status of implementation	Implemented since 2017
Associated funding (if any)	EU funds
Is the plan a good practice? If yes, why?	Yes, this Strategy is comprehensive and multidisciplinary covering urban development from many different angles which constitutes a well integrated planning. In addition to the latter, the document includes an Action Plan which describes measures in more detail.
Title	**Local Development Strategy of Local Action Group Brač 2014-2020** *(hrv. Lokalna razvojna strategija Lokalne akcijske grupe Brač 2014-2020)*
Time scope (currently being drafted , approved, into	into force

force, upgrading, under revision, expiring)	
Brief description (including objectives)	The Strategy entails a description of the current status with regards to different aspects (population, infrastructure, economy, natural and cultural resources, transport, environment protection etc.) as well as a SWOT analyses followed by the strategic plan. Two main objectives are: • Increasing the competitiveness of the agricultural production and processing on island Brač • Improving the quality of life and diversity of options for work, leisure as well as inclusion of all inhabitants and visitors
Concrete climate change adaptation measures foreseen (if any)	If considered very broadly, some measures defined within the Strategy can be associated with adaptation (e.g. improving agricultural production can entail irrigation).
Implementation and monitoring mechanisms/procedures	The Strategy defines a set of tools to monitor implementation process and results which includes: ○ Preparation of annual work plans with specific and measurable indicators (such as number of projects implemented, planned financial resources) ○ Preparation of narrative and financial annual reports which depict accomplishments in the previous period ○ Preparation of evaluation reports
Status of implementation	Implemented since 2014
Associated funding (if any)	Programme for Rural Development – EU funds and state budget
Is the plan a good practice? If yes, why?	Yes, the Strategy is good practice especially with regards to agriculture sector because it sets the frame for the improvement of local production and cooperation.
Title	**Local Development Strategy in Fisheries LAGUR Brač** (*hrv. Lokalna razvojna strategija u ribarstvu LAGUR-a Brač*)
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The Strategy defines three main objectives: 1. To increase profitability and competitiveness of the fisheries and mariculture 2. Participatory and integrated development of the local community by valorization and sustainable utilization of the overall resources 3. Diversification of the economic offers in LAGUR area by developing products and services based on (or complementary) fisheries, mariculture and blue economy and innovation

Concrete climate change adaptation measures foreseen (if any)	Should the measures be perceived more broadly, the following could be linked to adaptation as well: • Encouraging innovative, sustainable and safe technologies and solutions in fishing and mariculture infrastructure, equipment and business • Development of new products and services complementary to fisheries and mariculture including especially those based on blue economy and blue innovations
Implementation and monitoring mechanisms/procedures	E.g. representatives who received the financial support, number of financially supported projects
Status of implementation	Implemented since 2017
Associated funding (if any)	EU funding, national funding, regional funding, LAGUR
Is the plan a good practice? If yes, why?	This Strategy represents a good practice plan. It represents strategic frame for the development of fisheries sector which is one of the most important sectors for Brač. It provides a detailed overview of the sector, showing numerous important data.
Title	**Strategic Development Program Municipality of Sutivan for the period from 2015-2020** *(hrv. Strateški razvojni program općine Sutivan za razdoblje od 2015.-2020.)*
Time scope (currently being drafted , approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The strategic development program consists of an analysis of the situation, legislative framework and past practice, capacities of the municipality system, demographic characteristics, economy, spatial planning and infrastructure, social infrastructure, SWOT analysis, and vision, mission, priorities and measures, as well as the action plan and the list of strategic development projects program. It serves as a guide and framework for local government in the development process. In line with the vision and mission and objectives of the EU, four strategic goals of Sutivan Municipality are set by 2020: 1. Improvement of the overall infrastructure of the municipality 2. Improvement of the overall social infrastructure and standard of living 3. Develop a principles-based local economic environment sustainable development 4. Revitalization and valorisation of natural and cultural heritage SWOT analyses recognizes climate change as a threat to traditional agriculture.
Concrete climate change adaptation measures foreseen (if any)	1.6.1. Raising awareness of the population and educating them on managing natural disasters 1.6.2. Reconstruction and construction of infrastructure for the prevention and mitigation of natural disasters

	3.4.3. Development and promotion of environmentally and environmentally sustainable agriculture In addition to the latter, there are several measures which are broadly defined and that can be associated to adaptation context as well (e.g. improvement of water supply infrastructure, tourism infrastructure etc.).
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Implemented since 2016 and valid until 2020
Associated funding (if any)	Budget of the municipality of Sutivan
Is the plan a good practice? If yes, why?	Yes, the Strategic Development Program for Municipality of Sutivan seeks to improve the energy efficiency and mitigate climate change, because of that it represents an example for other cities and municipalities.
Title	**Strategic project program for Municipality of Pucisca 2014-2020** *(hrv. Strateški program projekata općine Pučišća za razdoblje 2014.-2020.)*
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	Strategic project program for Municipality of Pucisca 2014-2020 outlines the vision, main and specific goals, development measures, development projects by measures, strategic program of the projects, grants and possible sources of financing. The main development goals of the Municipality of Pucisca (2014-2020): 1. Population growth, reversing the trend of depopulation 2. Sustainable economic development with an emphasis on rockmaking 3. Development of tourism and network of activities in the service of tourism 4. Transport connection of the Municipality
Concrete climate change adaptation measures foreseen (if any)	The Programme defines a series of measures and associates projects with those measures but the latter, in the context of climate change, mostly fall under the mitigation umbrella.
Implementation and monitoring mechanisms/procedures	n/a
Status of implementation	Implemented since 2014 and valid until 2020
Associated funding (if any)	Internal (municipal budget) and external funding (EU funds, private investors, national government funds)
Is the plan a good practice? If yes, why?	Yes, the Strategic Development Program for Municipality of Pucisca focuses on finding solutions for better energy efficiency, effective system in general and good transhipment station and waste management. All of the areas mentioned above are important for other cities and municipalities and because of that this document can be broadly useful.

PART 2: FUNDING TOOLS

Category	Notes
European funding	*Please describe any European provision for funding climate change adaptation measures (EU projects, technical assistance, etc.) that you deem relevant, i.e. which have influenced regulations or practices in your country/region.*

Cohesion fund (CF) – mechanism for financing large infrastructural EU projects in sectors of traffic and environmental protection. The fund is aimed at Member States whose Gross National Income (GNI) per inhabitant is less than 90 % of the EU average. It aims to reduce economic and social disparities and to promote sustainable development. For the 2014-2020 period **Croatia** is one of the countries considered by the Cohesion Fund. The Cohesion Fund allocates a total of **EUR 63.4 billion** to activities under the following categories:

- trans-European transport networks, notably priority projects of European interest as identified by the EU. The Cohesion Fund will support infrastructure projects under the Connecting Europe Facility;
- environment: here, the Cohesion Fund can also support projects related to energy or transport, as long as they clearly benefit the environment in terms of energy efficiency, use of renewable energy, developing rail transport, supporting intramodality, strengthening public transport, etc.

Source: https://ec.europa.eu/regional_policy/en/funding/cohesion-fund/

European Regional Development Fund (ERDF) – one of five European Structural and Investment funds (ESI funds), intended for developing economic and social cohesion in EU and reducing differences in socioeconomic regional development. Resources are mainly used for infrastructure improvement, local development and environmental protection. The funds support small and medium enterprises (SMEs), manufacturing investments, infrastructure and local development enhancement, investments in education and health preservation in regions. The ERDF also gives particular attention to specific territorial characteristics and its action is designed to reduce economic, environmental and social problems in urban areas, with a special focus on sustainable urban development. At least 5 % of the ERDF resources are set aside for this field, through 'integrated actions' managed by cities.
Source: https://ec.europa.eu/regional_policy/en/funding/erdf/

European Bank for Reconstruction and Development (EBRD) – established to help build a new, post-Cold War era in Central and Eastern Europe. EBRD is committed to furthering progress towards 'market-oriented economies and the promotion of private and entrepreneurial initiative'. EBRD financing for private sector projects generally ranges from **$5 million to $250 million**, in the form **of loans or equity.** The average EBRD investment is $25 million. Smaller projects may be financed through financial intermediaries or through special programmes for smaller direct investments in the less advanced countries.
One of the criterias for a project being considered for EBRD assistance is if it satisfies the EBRD's environmental standards as well as those of the host country.
Source: https://www.ebrd.com/home

Supporting investments in energy efficiency and sustainable transport (ELENA) - ELENA is a joint initiative by the EIB and the European Commission under the Horizon 2020 programme. The **grant** can be used to finance costs related to feasibility and market studies, programme structuring, business plans, energy audits and financial structuring, as well as to the preparation of tendering procedures, contractual arrangements and project

implementation units. Typically, ELENA supports programmes above EUR 30 million with a 3-year implementation period for energy efficiency and 4-year for urban transport and mobility. It can cover up to 90% of technical assistance/project development costs. Smaller projects can be supported when they are integrated into larger investment programmes. The annual grant budget is currently between **EUR 40 and 50 million.** ELENA may co-finance the preparation of investment programmes in the fields of:

- Energy efficiency and building integrated renewable energy,
- urban transport and mobility and
- residential sector.

It can also provide support to SECAP development.
Source: https://www.eib.org/en/products/advising/elena/index.htm

Joint European Support for Sustainable Investment in City Areas (JESSICA) – European Commission initiative developed with European Investment Bank (EIB) and Council of Europe development bank (CEB). The initiative supports sustainable development and revitalization through financial mechanisms. Users are encouraged to invest a part of their structural funds (mostly ERDF) in urban development funds. Its main benefits are as follows:

- To make Structural Fund support more efficient and effective by using "non-grant" financial instruments, thus creating stronger incentives for successful project implementation,
- To mobilize additional financial resources for public-private partnerships and other urban development projects with a focus on sustainability/recyclability and
- To use financial and managerial expertise from international financial institutions such as the EIB.

It functions as a **revolving fund** – a continuous source of financial means by which financial instruments (guaranties, loans, profit shares) commercial banks give loans to end users (local and regional bodies, agencies, national bodies, private investors)
Source: https://www.eib.org/en/products/blending/jessica/index.htm

Global Energy Efficiency and Renewable Energy Fund – a Fund-of-Funds advised by the European Investment Bank Group, investing in private equity funds which focus on renewable energy and energy efficiency projects in emerging markets. GEEREF's funds concentrate on infrastructure projects that generate clean power through proven technologies with low risk and targets attractive financial investments that also deliver a strong positive environmental and developmental impact.
Source: https://geeref.com

National funding	*Please describe any national provision for funding climate change adaptation measures, including funds deriving from European resources (e.g. structural funds allocated through the National Operational Programmes) and opportunities related to public-private partnership schemes.*

Environmental Protection and Energy Efficiency Fund (FZOEU) - the Fund is established for the purpose of securing additional resources for the financing of projects, programmes and similar activities in the field of conservation, sustainable use, protection and improvement of the environment. The Fund grants financial resources to legal and natural persons for the purpose of financing the programmes, projects and other activities, set out in the Act on the Environmental Protection and Energy Efficiency Fund through **loans, subsidies, financial assistance and donations.** Financial resources are granted on the basis of a completed public contest.
Source: http://www.fzoeu.hr/hr/o_fondu/

	European Structural and Investment Funds (ESIF) through commercial banks in Croatia – EU Member States who receive funding under the ESIF have a national body known as the Managing Authority (MA) which oversees the use of the available resources. MAs use ESIF allocations and place them in Financial Instruments (through a Fund of Funds or a financial intermediary from which eligible projects can be financed. Financial products such as loans, guarantees, equity and other risk-bearing mechanisms can be used. ESIF Growth and Development Loans are long-term investment loans for small and medium-sized businesses that operate for more than two years and who plan investments in manufacturing, tourism, creative industries and knowledge-based services. They are funded 50 percent from the source of the European Structural and Investment Funds (ESIF) at an interest rate of 0 percent and 50 percent from the source of commercial banks at a market interest rate to be determined by the business bank. This way of financing means that the interest rate for entrepreneurs will ultimately be significantly lower than would be achieved without the use of ESIF funds. Some of the commercial banks in Croatia participating in the said programme are: - Erste & Steiermärkische Bank d.d., - Privredna banka Zagreb d.d. and - Zagrebačka banka d.d. Loans are approved for a term of up to **12 years** (including a start up to 2 years) and for a tourism sector up to **17 years** (including up to 4 years). The lowest loan amount can be **EUR 100,000 in kuna equivalent**, while the highest **EUR 3 million in kuna equivalent**, or up to **EUR 10 million in kuna equivalent** for the tourism sector. The total credit potential of "ESIF Growth and Development Loans" is approximately **EUR 200 million**. Source: https://www.hbor.hr/tema/esif-krediti-za-rast-i-razvoj/ Source: https://www.eib.org/en/products/blending/esif/index.htm **Croatian Bank for Reconstruction and Development (HBOR)** – a development and export bank founded for the purpose of lending the reconstruction and development of the Croatian economy. The founder and exclusive owner of HBOR is the Republic of Croatia who guarantees all obligations incurred. In April 2004, through the signing of a Cooperation Agreement, business cooperation between the Environmental Protection and Energy Efficiency Fund (FZOEU) and HBOR was established with a view to providing support and encouraging investment in environmental, energy efficiency and renewable energy projects. In order to initiate and successfully implement as many projects of energy efficiency in Croatia, FZOEU and HBOR continuously announce tenders for the award of financial resources in the form of loans, subsidies and donations for projects in the areas of: - sustainable construction; - encouraging the use of renewable energy sources (sun, wind, biomass etc.); - encouraging sustainable development of rural areas; - stopping migration from rural to urban areas; environmental protection, etc. Local and regional self-government units, their communal and trade companies, craftsmen and other legal and natural persons may receive loans for investment in basic and permanent working capital for these purposes. HBOR generally credits up to 50% of the estimated value of the investment without the value added tax included. For loan funds intended for financing within these purposes, there is a possibility of subsidizing the interest rate in the amount of 2 percent with the funds of the FZOEU. The smallest loan amount is limited to **HRK 100.000**, while the largest amount is not limited, depending on HBOR's financing options, specific investment program, end-user creditworthiness and the value and quality of insurance instruments offered. The repayment period is m**aximum 12 years, with a 2-year grace period.** Exceptionally, for infrastructure projects the repayment term may be **up to 15 years**, including a start up to 5 years. Source: http://www.enu.fzoeu.hr/financiranje-ee-projekata/hrvatska-banka-za-obnovu-i-razvitak
Regional funding	

	Please describe any regional provision for funding climate change adaptation measures (if any), including funds deriving from European resources (e.g. structural funds allocated through specific actions of the Regional Operational Programmes) and opportunities related to public-private partnership schemes.
At the regional level, there are no regional provisions for funding climate change adaptation measures, but there are some financial structures which present an opportunity for implementing climate change adaptation, like the budget and own resources of Split – Dalmatia County, if possible.	
Local funding	*Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities, etc.)*
At the local level, there are no provisions for funding climate change adaptation measures, but there are some financial structures which may present an opportunity for implementing climate change adaptation, like the budget and own resources of local government units, if possible.	
Other funding schemes	*Please describe any other sources of funding available in your country other than public funding (public-private partnerships schemes, Bank loans, etc.)*

Public – private partnership - joint, cooperative action by the public sector with the private sector in the production of public goods or in the provision of public services. The public sector emerges as a producer and provider of cooperation - as a partner that defines contractually the types and scope of business or services it intends to outsource to the private sector, and which offers public service to the private sector. The private sector appears as a partner seeking such cooperation, if it can achieve a business interest (profit) and is required to execute contractually obtained and defined jobs.

The goal of a public-private partnership is the more economical, efficient and effective production of public goods or services over the traditional way of providing public services. It occurs in different areas of public administration, in different forms, with different shelf life and with different intensity, and most often in cases where public administration is not able to directly carry out public affairs under its own direction for two reasons: Due to the lack of expertise of public administration employees, when it comes to particularly professional jobs (eg medicine, oil, etc.);

- due to the high cost of performing public works in its own direction (eg procurement of construction machinery).

Characteristics of the PPP projects are:

- long-term contractual cooperation (maximum 40 years) between the public and private sectors,
- actual reallocation of construction, availability and demand business risk (two of the three risks listed must be with a private partner).

PPP models in Croatia are defined by *Zakon o javno – privatnom partnerstvu (NN 114/18)* as follows:

- PPP contractual form (concession model and PFI - privately funded initiative);
- PPP status form (a publicly owned and privately owned mixed-use company).

Source: http://www.enu.fzoeu.hr/financiranje-ee-projekata/jpp

[PP8] Municipality of Vela Luka

PART 1: CLIMATE ADAPTATION POLICIES, PLANS AND MEASURES

National level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at national level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**Draft Climate Change Adaptation Strategy in the Republic of Croatia for the period to 2040 with a view to 2070 (White book)**
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Upgrading and under revision
Brief description (including objectives)	Climate Change Adaptation Strategy was defined as a process that "... implies assessment of adverse impacts of climate change and taking appropriate measures to prevent or reduce the potential damage they may cause." The definition of adaptation to climate change in the act is also the cornerstone of the Adaptation Strategy. Adapting to climate change implies undertaking a set of activities to reduce the vulnerability of natural and social systems to climate change, increasing their ability to recover after the impact of climate change, as well as exploiting the potential positive impacts that may also be a consequence of climate change. The main, long-term goal of the Adaptation Strategy is the reduction of the vulnerability of social and natural systems to the adverse impacts of climate change, i.e. to strengthen their resilience and the ability to recover from these impacts. Finally, taking into consideration the possible positive effects of climate change, by implementing the Adaptation Strategy the systems should be stronger and more resilient than they are today, and thereby contribute to achieving long-term sustainable development of the Republic of Croatia.
Concrete climate change adaptation measures foreseen (if any)	***Priority 1. Ensuring sustainable regional and urban development*** Adaptation to climate change, prevention and risk management is set as the backbone of future regional and urban development. Disaster prevention and management, as well as adaptation to climate change, is a response to local/regional issues that local/regional administrations need to deal with in order to reduce the potential disaster impact in their area. Natural disasters and climate change impacts can have a

	significant impact on the socioeconomic development and competitiveness of the individual Croatian regions as well as the entire country and have far- reaching cross-border implications. Investments in prevention and adaptation contribute to the preservation of existing assets and bring a high economic return, where cost of action is far lower than the cost of inaction. Therefore, it is important in the approach to solving and implementation of adaptation measures to identify local/regional measures that will best respond to the vulnerability of a given area. Cities and urban areas are particularly exposed to the influence of climate change (heat waves, extreme precipitation, floods). In this sense, adaptation to climate change and prevention and risk management become a priority when cohesion policy supports urban development projects. Cities and urban areas, especially in coastal areas along rivers and the sea, show vulnerabilities that are usually larger than in the surrounding areas (e.g. to floods, to effects of urban heat islands). Because of concentration of population and economic activities in cities, special attention is paid to investments in climate-resistant urban infrastructure and activities aimed at strengthening local level resilience to climate change. Priority 1. - 1.1. Measures of very high importance - strengthening the capacity for the implementation of non-structural measures for protection against the harmful effects of water in case of occurrence of extreme hydrological conditions whose increase in intensity and frequency of occurrence is conditioned by climate change. - strengthening the capacity to build, reconstruct and upgrade the system for protection against harmful effects of water and related multi-purpose hydro-technical systems (structural measures) and lowland natural floodplains flooded in a controlled fashion. - strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions - incorporation of adaptation measures into key documents pertaining to forests and forestry sectors - integration of climate change into the tourism development strategy - raising awareness of persons involved in the tourism sector on the possibilities of adaptation to climate change - strengthening the competencies of high school and university students

	- strengthening the resilience of tourism infrastructure to different weather extremes - strengthening of the knowledge base, as well as the monitoring and evaluation system - strengthening the human and institutional capacities of professional stakeholders in the spatial planning system - integration of adaptation measures into the spatial planning system - raising awareness of the public and decision-makers at all levels Priority 1 - 1.2. Measures of high importance - strengthening the capacities for effects of the sea on the coastal water-communal infrastructure and coastal water resources in conditions of sea level rise caused by climate change (non-structural measures) - strengthening urban areas' resilience to anthropogenic pressures conditioned by climate change - implementation of the green infrastructure concept - integrating knowledge about the effects of climate change into a system of nature protection - strengthening endangered habitats and species - strengthening the resilience of local communities in the tourism sector - development of sustainable tourism with included adaptation to climate change - preparation of programs and rehabilitation projects Priority 1 - 1.3. Measures of medium importance - strengthening the capacity for exploration and sustainable management of groundwater - strengthening the resilience of coastal water utility infrastructure and coastal water resources (structural measures) - strengthening the protection capacity of particularly valuable aquatic ecosystems - afforestation - improving sustainable management and infrastructure in natural ecosystems - strengthening the human and financial capacities of the nature protection system - strengthening the awareness of public and key stakeholders within health and other priority professions (e.g. educational and preschool institutions, facilities for elderly and helpless people, home care etc.)

	- integration of climate change subject into the national school curriculum ***Priority 2. Ensuring preconditions for the economic development of rural areas, coastal areas and islands*** Adaptation of rural areas, coastal areas and islands to key climate challenges becomes a prerequisite for the survival of the economy and further economic development of these areas. The lack of moisture in the soil makes it difficult for the development and ripening of agricultural cultures, decreasing their yield, as well as cattle productivity. High air temperatures hinder or completely inhibit the development of agricultural crops and increase evapotranspiration. Long dry periods can completely destroy the harvest of agricultural crops. Existing research points to frequent lack of water in Croatian agricultural soils, and climate models suggest that this problem will become even more pronounced in the future. Spring frosts and thunder damage agricultural cultures and often destroy their crops, especially in fruit growing, vineyards and vegetable growing. Many agricultural areas have poor soil permeability. With abundant rainfall on such soils, water saturation and surface water stagnation quickly endanger soil fertility and agricultural crops. Damages from sea level rise on the narrow coastline and low coasts of the Croatian Adriatic will be reduced by applying appropriate measures to plan new and remediate existing vulnerable parts of settlements and infrastructure. In coastal areas and islands preconditions must be met for fisheries and aquaculture based on the results of climate modelling that predicts sea temperature rise, resulting in the migration of cold-water species (shrimp, hake) to colder or deeper sea and in the increase in the number of foreign species and impacts on domestic species. Changes in water circulation due to thermohaline causes decrease primary production with the decrease of the number of pelagic fish, and due to increase of acidity of the sea there is less growth and greater mortality of shellfish. Priority 2 - 2.1. Measures of very high importance - increasing the water absorption capacity of agricultural soil - application of soil conservation tillage - breeding of species and cultivars of agricultural crops and breeds of domestic animals that are more resilient to climate change - construction of reservoirs for irrigation

	- strengthening the capacity for systematic monitoring of forest ecosystem conditions as a prerequisite for informed planning and implementation of climate change adaptation - strengthening the sector by investing in development of new markets and expanding the range of products offered - strengthening capacities to assess the future state of the sector due to climate change impacts - increasing the involvement of fishermen in the tourism sector - strengthening aquaculture capacity by breeding more organisms at lower trophic levels and new forms of breeding - strengthening aquaculture capacity through breeding in recirculation systems - strengthening aquaculture capacity by breeding new species of fish - preservation of traditional agriculture in natural ecosystems - improvement of knowledge and creation of databases of natural ecosystems and biodiversity - integrated management of freshwater resources for the conservation and revitalization of natural ecosystems and biodiversity Priority 2 - 2.2. Measures of high importance - application of irrigation - application of anti-erosion measures - reconstruction and construction of drainage systems - exploitation of alien fish species - increasing the involvement of fishermen in the tourism sector - insurance of agricultural production from production losses caused by adverse climatic conditions bringing awareness to the participants in the forestry sector on climate change and the adaptation measures - strengthening awareness and sensitization of private forest owners for sustainable forest management as a prerequisite for adapting to climate change - strengthening aquaculture capacities by adapting the quantity and quality of food to changed climate conditions Priority 3. – 3.1. Measures of very high importance - strengthening the resilience of production facilities through the storage of electrical energy - strengthening the capacities and ensuring of an

	- incentivizing legal framework to increase the capacity of renewable energy and distributed sources - strengthening development of the monitoring capacity and rapid elimination of negative effects of climate impacts on the electrical energy system the resilience of existing electricity and heat production capacity - strengthening the electrical energy system's resilience Priority 3. – 3.3. Measures of medium importance - strengthening the distribution network's resilience - strengthening the distribution network's resilience ***Priority 4. Strengthening of the management capacities through a networked monitoring and early warning system*** Adapting to climate changes and preventing and managing risk is a horizontal theme, which means that a solid and efficient administration needs to be established to ensure the quality of investment. Responsibilities of the ministries, especially for aspects of cohesion policy, need to be clear and need to include regional and local authorities in the implementation. Namely, weak implementation and administrative capacities at the local and regional levels are the main obstacles to the successful implementation of the measures. Therefore, it is necessary to plan investment in training and capacity-building and adaptation-based expertise, especially for those local units that are most vulnerable to climate change. Priority 4. – 4.1. Measures of very high importance - strengthening human and technical capacities for implementing research and applied activities in the area of climate modelling, analysis, and interpretation of observed and expected climatic changes - development of impact indicators of the implementation of the adaptation strategy for vulnerable sectors and society - strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions - strengthening capacity for fire protection - establishment of a climate monitoring and early warning system for protected areas and ecological network of the republic of Croatia and monitoring of protected wild habitat types and wild species - establishment of a system for calculating health-economic indicators for climate change- related conditions

	- integration of various information systems within healthcare to monitor indicators associated with climate change - strengthening of the knowledge base, as well as the monitoring and evaluation system - mapping of water sources outside the public water supply system - multi-sectoral risk assessment for various threat / risk scenarios associated with climate change - expansion of the Croatian platform for disaster risk reduction to include climate change-related indicators for the development of an early warning system Priority 4. – 4.2. Measures of high importance - strengthening the management capacities of responsible institutions to act on the occurrence of extreme hydrological conditions - implementation of health impact assessments and health assessments of risks related to climate change - networking and upgrading of monitoring system of environmental indicators related to climate change - increasing the number of secure points in case of extreme meteorological conditions - strengthening the capacities to assess dangers and responses during disasters, major accidents, extraordinary events or incidents/crisis situations related to climate change Priority 4. – 4.3. Measures of medium importance - strengthening the allergen species monitoring system ***Priority 5. Ensuring continuity of research activities*** The main obstacle to successful adaptation to climate change is the lack of knowledge to plan adaptation measures in all sectors. Key support for tackling climate change vulnerability concerns the building of a knowledge base and data-monitoring and data-processing capacity, information exchange mechanisms and local and sector-specific action plans for adapting to climate change, risk prevention and management plans at national, regional and local level. The development of the necessary ICT tools (geographic information systems - GIS, detection and monitoring systems, early warning system, risk mapping and assessment) is a necessity and is crucial to their development. Priority 5 – 5.1. Measures of very high importance

	- strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions - implementation of an experimental climate change adaptation programme in agriculture - research on species and provenance of forest trees that are more resilient to climate change - strengthening aquaculture capacity through breeding in recirculation systems - establishment of a framework for the implementation of human biomonitoring for tracking environmental factors related to climate change - strengthening of the knowledge base, as well as the monitoring and evaluation system Priority 5 – 5.2. Measures of high importance - implementation of the green infrastructure concept - prediction (forecast) of change in the distribution of harmful organisms
Implementation and monitoring mechanisms/procedures	Possible indicators for monitoring the impact of the measures in the Adaptation Strategy are as follows (some of the indicators are already monitored or partially monitored, but most of them are not systematically monitored and for most indicators a development is needed to determine the methodology for monitoring and measuring the data required for the calculation of indicators): ***Hydrology, water and sea resources management*** - the number of inhabitants in the area declared for which the state of the elemental disaster of extreme droughts has been declared - the number of areas designated for flood protection as precautionary measures- the number of developed and tested tools - the number of experts who passed the adaptation courses - the number of inhabitants in the area declared for which the state of the elemental disaster of floods has been declared - the number of areas with declining drinking water quality - the percentage of areas of particularly valuable aquatic ecosystems that are endangered by the effects of climate change - total length of wastewater and rainwater network threatened by climatic risks in the coastal area - mean water levels and flow rates at state network stations

	- extreme water levels and flows at state network stations - mean sea level - extreme sea levels ***Agriculture*** - increase of agricultural production due to irrigation - percentage of cultivated land sown with cultures and varieties resistant to climate change - mass (in thousands of tons) of eroded agricultural soil - capacity of newly built accumulations - area of agricultural land with functional drainage system - quantity (in thousands of tons) of cubic meters of irrigation water saved through improved methods of agricultural production ***Forestry*** - number of forest fires - burnt areas of forests - the length and density of fire-fighting roads - annual loss of wood mass caused by extreme meteorological events (e.g. icebergs, wind) - the number of species investigated and the provenance of forest trees that are more adaptive to climate change and are of economic importance - the forest area and/or the number of trees affected by forest pests occurring as a result of climate change - the number of areas where a comprehensive monitoring of the state of the forest ecosystems is carried out - the number of cities in which green infrastructure is established - the number of private forest owners and other forestry stakeholders who are familiar with climate change issues in forestry and adaptation measures ***Fisheries*** - number of areas with declining seawater quality - increase in seawater acidity - distribution of invasive species - loss of habitat due to sea temperature rise - reduced annual catch as a result of temperature changes - percentage of coastal and marine areas under protection ***Biodiversity*** - list, share and categorization of protected habitats endangered by the effects of climate change - list, share and categorization of protected species threatened by climate change - share of the total biodiversity of the Republic of Croatia endangered by climate change

	- list and share of protected areas under constant climate monitoring - assessment of the negative impact of climate change on protected habitats and species - a list of invasive species whose spreading is potentiated by climate change with the ranges and populations - the share of protected areas with mitigation measures and adaptation to climate change ***Energy*** - the number of time events that caused power outages - GDP losses arise as a result of the reduced amount of water for the production of electricity - the percentage of new energy facilities that incorporate climate change adaptation measures - the number of water saving measures used in the production of electricity - the number of new energy facilities located in risky areas ***Tourism*** - the GDP losses generated by tourism as a result of extreme weather and climate events - percentage of coastal and maritime protected areas (monitored by HAOP) - amount of water and energy consumed in tourist facilities per one overnight stay - surfaces protected as particularly valuable landscapes (areas) that are degraded by climate change - number of areas with declining drinking water quality (monitored by county public health institutes) - number of areas with declining seawater quality (monitored by HAOP) ***Health*** - the number of experts who have passed the adaptation training - the number of households in the area for which the state of elemental disaster has been declared by extreme droughts - the number of inhabitants in the area for which the state of elemental disaster has been declared by floods - the number of people with a high risk of health consequences due to hot weather and extreme weather events - number of hospital beds in risky zones - the number of households with poor financial standing in risky areas - indicators of the prevalence and mortality of chronic non-infectious diseases

	- indicators of abnormality and mortality from acute infectious diseases - number of inter-sectoral indicators (monitoring indicators in the environment compatible with monitoring in the health-ecological / health system) - the share of non-conforming results of water analysis for human consumption - percentage of purified sewage - the share of households connected to the public wastewater collection system ***Spatial Planning and Management of Coastal Areas*** - number of JLP(R)Ss within the coastal area for which vulnerability assessments and adaptation measures have been implemented in spatial plans by SPUOs - the number/proportion of spatial plans for which adaptation measures contained and prescribed in spatial plans are implemented or applied - increase of green infrastructure in settlements estimated as vulnerable to extreme weather conditions (heat islands, extreme precipitation) - length of the coast (proportion of coastline estimated as vulnerable to floods), where the planned flood protection measures have been implemented - trend of annual damage from extreme weather events for which the Adaptation Strategy has planned adaptation measures (floods and floods in settlements) - the number of people living in risky areas - the number of flood-affected properties - percentage of households living in areas with a reduced risk of extreme weather and climate events - the number of new infrastructure facilities located in risky areas - the percentage of areas of particularly valuable ecosystems that are endangered by the effects of climate change - coastal areas covered by coastal and marine environment management plans - percentage of coastal and marine areas under protection ***Risk management*** - number of experts who have undergone training (training, courses) on adaptation, i.e. risk management and recovery - the number of cross-sectoral extended guidelines for action - the area of the area with mapped sources of water outside the public water supply system - number of studies on health impact and health risk assessment

	- number of newly developed risk reporting systems related to climate change developed at regional and local level - the share of real estate, legal entities and other entities subject to premium insurance against climate change related events In addition to listed indicators, a set of climatic indicators will be used to monitor the implementation effects of the Adaptation Strategy and the Action Plan. Climate indicators are geared towards monitoring the climate and are essential for evaluating impacts and vulnerabilities in the observed sectors and thematic areas. Possible indicators for monitoring the climatic parameters in the implementation of the Adaptation Strategy are as follows: - Mean air temperature trend - Mean maximum air temperature trend - Mean minimum air temperature trend - Warm temperature extremes index trend - Cold temperature extremes index trend - Precipitation trend - Trend of dry indices of precipitation extremes - Trend of wet indices of precipitation extreme - Standardized Precipitation Index (SPI) - Evaluation of anomalies of air temperature and precipitation quantities by percentile - Assessment of aridity. These climate indicators are included in the National List of Indicators (NLPs) prepared by Ministry of Environmental Protection and Energy, and the legal basis for the development of indicators is defined by the Environmental Protection Act (Official Gazette 80/13, 78/15) and the Regulation on the environmental information system (Official Gazette 68/08). Therefore, it is recommended that additional climatic indicators be developed which are relevant to the assessment of impacts and vulnerabilities in several vulnerable sectors: - Mean wind speed trend - Mean maximum wind speed trend - Evapotranspiration - Solar irradiance (inflow solar energy flux).
Status of implementation	
Associated funding (if any)	European Fund for Regional Development (EFRR) for financing of: - investment in social, health, research, innovation, business and education infrastructure

	- investment in equipment and small capacity infrastructure; including cultural infrastructure and sustainable tourism infrastructure, subsidy for research and innovation and investment in technology and applied research Cohesion Fund (KF) for financing infrastructure investments in the environment, including areas related to sustainable development and energy The European Maritime and Fisheries Fund (EFPR) and the European Agricultural Fund for Rural Development (EPFRR) to supplement investment activities in these areas by integrating adaptation of climate change into operational programs The European Social Fund (ESF) to support targeted education, training and improvement of the workforce with regard to risk prevention, risk management and adaptation to climate change. The state budget includes funds collected via the tax system, as well as the funds collected from the auction of emission units managed and disposed by the Environmental Protection and Energy Efficiency Fund (FZOEU). State Budget funds will not be used for larger infrastructure projects, but primarily for measures and activities related to public awareness, capacity building, project documentation preparation, pilot projects, etc.
Regional level climate adaptation policies/strategies/plans	*Please describe any relevant strategy, policy and/or plan at regional level, focusing on its parts related to climate change adaptation (providing the information below for EACH instrument). Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases.*
Title	**Program for the protection of air, the ozone layer, climate change mitigation and adaptation to climate change for the area Dubrovnik-Neretva Region for the period from 2017 to 2020**
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Into force
Brief description (including objectives)	The aim of the Plan is definition and development of goals and measures by sectors of influence with defined priorities, time frames and responsibilities. The main goal is to protect and continuously improve the quality of air in the area of Dubrovnik-Neretva Region

Concrete climate change adaptation measures foreseen (if any)	***Carry out measures to increase energy efficiency and the use of renewable energy sources envisaged by the county programs and plans*** - energy-Sustainable Development of the County on the principles of rational energy management and the use of renewable energy sources is one of the main priorities in the County's work. - by adopting the Development Strategy, the County has set the main development targets for improving environmental protection through the promotion of the use of renewable energy sources and the continuous implementation of energy efficiency measures in all sectors of human activity. - this measure is cross-sectoral, as apart from contributing to the reduction of greenhouse gas emissions and the consequent mitigation of climate change, contributes to the reduction of emissions of other pollutants. ***Carry out educational activities to raise public awareness of climate change.*** - educational activities such as flyers, posters, workshops, etc. should be available and organized in public places, in schools, healthcare facilities and other places with a large population flow.
Implementation and monitoring mechanisms/procedures	In line with the Article 14 of the Law on Air Protection for the purposes of monitoring the achievement of the objectives and the implementation of the measures under this Program, a four-year report is prepared, which in accordance with Article 13 of the Act in particular contains: - air quality status: areas and levels of contamination, duration of certain significant levels of pollution, general information on the area, types and pollution ratings, source of contamination, analysis of the factors causing air pollution, details of measures taken and projects for improving air quality - evaluation of the measures taken and their effectiveness - Implementation of the Air Protection, Ozone Layer and Climate Change Measures in the Republic of Croatia for the period 2013-2017, programs and other documents for the protection of air quality, ozone layer and mitigation of climate change - Implementation of obligations under international agreements on the protection of air, ozone layer and mitigation of climate change - information on imposed penalties - data on the use of financial means to protect and improve the quality of air proposed amendments to existing

	documents and other data relevant to the protection of air quality, ozone layer and mitigation of climate change
Status of implementation	Not available
Associated funding (if any)	Not available
Local level plans	*Please describe any relevant strategy and/or plan at Local level (local adaptation strategy, SEAP, SECAP, etc.), providing the information below for EACH instrument. Please provide as much detail as possible, also highlighting any criticalities that may occur in the implementation, managing and monitoring phases. Please also indicate whether and why the instrument can be considered as a good practice.*
Title	**SEAPs for Municipality of Vela Luka, Smokvica, Blato and Korčula**
Time scope (currently being drafted, approved, into force, upgrading, under revision, expiring)	Approved on 09/2014
Brief description (including objectives)	The document was delivered and a part of the activities under IEE project MESHARTILITY (IEE/11/984/SI2.615951). The aim of the project was to measure and share data with utilities for the purpose of proper monitoring of the implementation of SEAPs. The project activities initially included all municipalities from the island of Korčula, but at the end SEAPs were delivered for 5 out of 6 municipalities. The long-term vision for the development of the energy system should be based on the protection of nature, but at the same time allow all energy needs satisfied from their own resources. In this direction we will try to produce 100% of the electricity in the territory of the municipality and of course try to use the connection to the mainland for the maximum possible environmentally and economically acceptable exports. The size and other characteristics of the island resulted with 5 almost identical SEAPs.
Concrete climate change adaptation measures foreseen (if any)	1. Energy measures for the public buildings - Replacement of the existing lightening with energy efficiently - Installment of the solar systems for the production of the hot water - Replacement of the windows and doors - Employee education and trainings - Instalment of small PVs on the public roofs 2. Public transport energy measures - Introduction of the biofuel's public buses 3. Development of the Public Lightening Development Master Plan - Development of the Public Lightening Development Master Plan

	4. Energy measures for the households - Co-financing the private projects of solar systems installation - Replacement of the lightening systems - Refurbishment of the outdoor of the buildings/houses - Replacement of the windows and doors - Replacement existing HVC systems with energy efficiently (PVs, heat pumps, etc.) - Replacement of the home appliances with energy efficiently ones - Education and trainings of the public - Small PVs installation on buildings - Support to the organization of inhabitants 5. Energy measures for the businesses - Replacement of the lightening systems - Support to the organization of businesses - Refurbishment of the outdoor of the buildings/houses - Replacement existing HVC systems with energy efficiently (PVs, heat pumps, etc.) - Biomass waste usage 6. Energy measures for the (general) transport - Promotion of the car-sharing concepts - Promotion of the EV - Design and building of the bicycle roads - Introduction of the biofuel's solutions - Promotion of the public transport solutions - Promotion and support to the EV bicycles - Education and trainings
Implementation and monitoring mechanisms/procedures	Not available
Status of implementation	Ongoing
Associated funding (if any)	Own sources
Is the plan a good practice? If yes, why?	-

PART 2: FUNDING TOOLS

Category	Notes
European funding	In defining priorities and priority measures for adaptation to climate changes in the Republic of Croatia, the existing strategic framework of the European Union for financing climate change adaptation and prevention and risk management through the European Structural and Investment Funds (ESI Funds) was taken into account, as regulated by a series of EU regulations and defined as one of the eleven thematic priorities of the European Union for the period 2014-2020. Within the strategic framework of the EU period 2014-2020 there is an obligation introduced to member states to devote 20% of the total budget within the seven-years period for planning and spending on investment related to climate change. Following the obligation, a number of EU regulations are directly linked to access of funds: 1.European Fond for Regional Development (EFRR) for financing: investment in social, health, research, innovation, business and education infrastructure; investment in equipment and small capacity cultural infrastructure and sustainable tourism infrastructure, subsidy for research and innovation and investment in technology and applied research, 2.Cohesion Fund for financing infrastructure investments in the environment, including areas related to sustainable development and energy. 3. The European Maritime and Fisheries Fund (EFPR) and the European Agricultural Fund for Rural Development (EPFRR) to supplement investment activities in these areas by integrating adaptation of climate change into operational programs 4. The European Social Fund (ESF) to support targeted education, training and improvement of the workforce with regard to risk prevention, risk management and adaptation to climate change. ***Financing climate change adaptation measures within the OP Competitiveness and Cohesion 2014 – 2020*** - **Support for investment to adapt to climate change, including ecosystem approaches (30.396,147 EUR)** •Measures to improve the quality and availability of data for climate monitoring purposes, data collection, modelling, and analysis and forecasting of climate related information, including warning system as a key precondition for appropriate planning and implementation of adaptation measures. This includes applied research related to climate change impacts and adaptation needs. •Strengthening the administrative and technical capacities of public institutions dealing with climate change (primary training of administrative officers with the aim of enhancing expertise). •Building awareness of climate change impacts at the national and local level, enabling more effective adaptation measures to be introduced. This will include communication strategies, workshops and public events, preparation and sharing of educational materials, counselling of the population, internet information portals, etc. •Integration of climate change into the planning process by preparing action plans for adapting climate changes at local levels, integrating adaptation measures into all strategic and development documents, developing plans to prevent climate changes

	impacts in sectors sensitive to climate change and developing methods and standards to implement adaptation measures - **Promoting investment related to special risks, disaster resilience and disaster management system development (215.000,000 EUR)** •Prevention Risk awareness programs, promotion and education programs, creating a resilient community; Preparation of a specific project in the sectors affected by the most commonly disastrous events and identified in existing national strategy documents (Risk Assessment). LIFE Climate Change Adaptation (sub-programme for Climate Action) will co-finance action grants for best practice, pilot and demonstration projects that contribute to supporting efforts leading to increased resilience to climate change; that contribute to the development and implementation of Union policy on climate change adaptation, including mainstreaming across policy areas, in particular by developing, testing and demonstrating policy or management approaches, best practices and solutions for climate change adaptation, including, where appropriate, ecosystem-based approaches; that improve the knowledge base for the development, assessment, monitoring, evaluation and implementation of effective climate change adaptation actions and measures, prioritising, where appropriate, those applying an ecosystem-based approach, and to enhance the capacity to apply that knowledge in practice; that facilitate the development and implementation of integrated approaches, such as for climate change adaptation strategies and action plans, at local, regional or national level, prioritising, where appropriate, ecosystem-based approaches; and that contribute to the development and demonstration of innovative climate change adaptation technologies, systems, methods and instruments that are suitable for being replicated, transferred or mainstreamed.
National funding	The state budget includes funds collected via the tax system, as well as the funds collected from the auction of emission units managed and disposed by the Environmental Protection and Energy Efficiency Fund (FZOEU). State Budget funds will not be used for larger infrastructure projects, but primarily for measures and activities related to public awareness, capacity building, project documentation preparation, pilot projects, etc. ESI funds will be the main source of funding for infrastructure measures and activities for which funds will be planned and allocated on the basis of action plans for adaptation to climate change. Private sector investments in climate change adaptation measures and activities require coordination of the public and private sectors primarily for identifying those measures whereby the private sector will find an interest in investing in climate change adaptation projects that benefit the wider society in the communities in which this sector is operable, and at the same time reduce risk and increase business resilience.
Regional funding	*Please describe any regional provision for funding climate change adaptation measures (if any), including funds deriving from European resources (e.g. structural funds*

	allocated through specific actions of the Regional Operational Programmes) and opportunities related to public-private partnership schemes. At the regional level, there is not regional provision for funding climate change adaptation measures but there are financial structures to implement climate change adaptation. The financial structure of the implementation of climate change adaptation measures is presented as follows: • Local sources of funding - on the budget of the Dubrovnik-Neretva County - the own resources of the County institution • National sources of funding - Ministry of Regional Development and European Union Funds - Environmental Protection and Energy Efficiency Fund - Ministry of Construction and Physical Planning.
Local funding	*Please briefly describe any relevant experience/good practice of how local authorities achieved public funding for successfully designing, implementing and managing climate change adaptation measures (own funds, resources from other local and supra-local authorities, etc.)*
Other funding schemes	*Please describe any other sources of funding available in your country other than public funding (public-private partnerships schemes, Bank loans, etc.)*