



Project co-financed by the European
Regional Development Fund

Deliverable 4.5.1 Policy Paper

Renewable Energy Community WP4 Capitalisation

Responsables: BCNECOLOGIA, BISTRA



Agència
d'Ecologia Urbana
de Barcelona



With the collaboration of Climate Alliance



Climate Alliance

October 2019



Project co-financed by the European
Regional Development Fund

**Interreg MED Renewable Energy Community
Deliverable 4.5.1 Policy Paper
October 2019**

**This document has been coordinated by:
Cynthia Echave from BCNECOLOGIA and Danilo Ceh from BISTRA**

**With the collaboration of:
Miguel Morcillo and Andy Deacon from CLIMATE ALLIANCE**

**Greencap Project Partners involved:
Jennyfer Shaw-Taberlet (AXELERA); Alexia Boulanger (ENVIRONMENT PARK);
Dimitris Trachylis (PATRAS) and Senad Pasic (ZEDA)**

1. Introduction

The Mediterranean Region is one of the most vulnerable areas to climate change and requires effective and coordinated action to reduce emissions and adapt territories towards a more resilient pathway. Ensuring resource supply is one of the most important issues in this resilient adaptation process. Territorial planning plays a fundamental role, as it is the governance tool that allows the organization of physical structures and dynamic metabolic processes with economy and society.

The Interreg Med Programme Approach

The Interreg Med Programme is a European Transnational Cooperation Programme that gathers 13 European countries from the northern shore of the Mediterranean region. In the current programming period, Interreg MED has organised its architecture differently to previous periods and set up horizontal projects, which bring together thematic communities of projects and help ensure the capitalisation of their results. The Interreg MED Renewable Energy Community is configured in six modular projects focused on the promotion of renewable energies in the Mediterranean Area, paying special attention to rural and islands areas, and managed by the GREENCAP project.

The six projects are:

COMPOSE	Rural Communities engaged with positive energy
FORBIOENERGY	Forest Bioenergy in the Protected Mediterranean Areas
LOCAL4GREEN	Local Policies for Green Energy
PEGASUS	Promoting effective generation and sustainable uses of electricity
PRISMI	Promoting RES Integration for Smart Mediterranean Islands
STORES	Promotion of higher penetration of distributed PV through storage for all

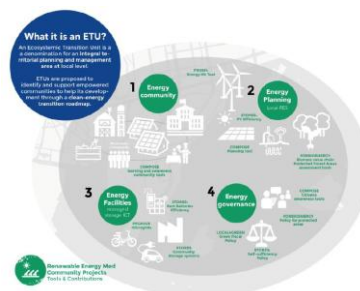
The Renewable Energy Community developed a common approach based on their project findings and consultation events on energy transition, climate change adaptation & mitigation, land use planning and the circular economy. The resulting merged approach is synthesized in policy recommendations targeted towards providing an alternative roadmap to national regulatory frameworks on the application of the clean-energy package at regional and local level.

The resulting approach proposes **Ecosystemic Transition Units (ETUs)** as a new denomination for energy transition governance models for implementation at the

local level. In taking this approach, the aim is to boost territorial development in the Mediterranean Region, with a special focus on rural and island areas.

An Ecosystemic Transition Unit is a territory implementing its energy transition taking into account an ecosystemic approach, based on the following four main aspects/pillars:

- 1) energy communities (social component)**
- 2) energy planning (territorial component)**
- 3) energy local governance (legal component)**
- 4) energy facilities (technological component)**



The aim of the ETU model is to boost multilevel coordination and governance, catalyzing a resilient territorial development through the empowerment and engagement of key stakeholders. To this end, the ETU model bases its principles on social innovation, which means shaping strategies based on societal needs and challenges as a way of effectively achieving the objectives of ecological transition. This paper sets out the findings from regional consultations in contributing Member States, and is structured according to these four pillars.

2. Mediterranean climate vulnerability

In December 2018, the network of Mediterranean Experts on Climate and Environmental Change ([MedECC](http://www.medecc.org)) supported by the Union for the Mediterranean and Plan Bleu (UNEP/MAP Regional Activity Center) published their preliminary assessment of risks associated with climate and environmental change in the Mediterranean¹.

On key aspects of climate change, their assessment notes that:

- In the Mediterranean region, average annual temperatures are now approximately 1.5°C higher than during the preindustrial period (1880-1899) and well above current global warming trends. Without additional mitigation, regional temperature increase will be 2.2°C in 2040.
- High temperature events and heat waves are likely to become more frequent and/or more extreme
- Climate models clearly indicate a trend towards reduced rainfall in coming decades. The combination of reduced rainfall and warming generates strong trends towards

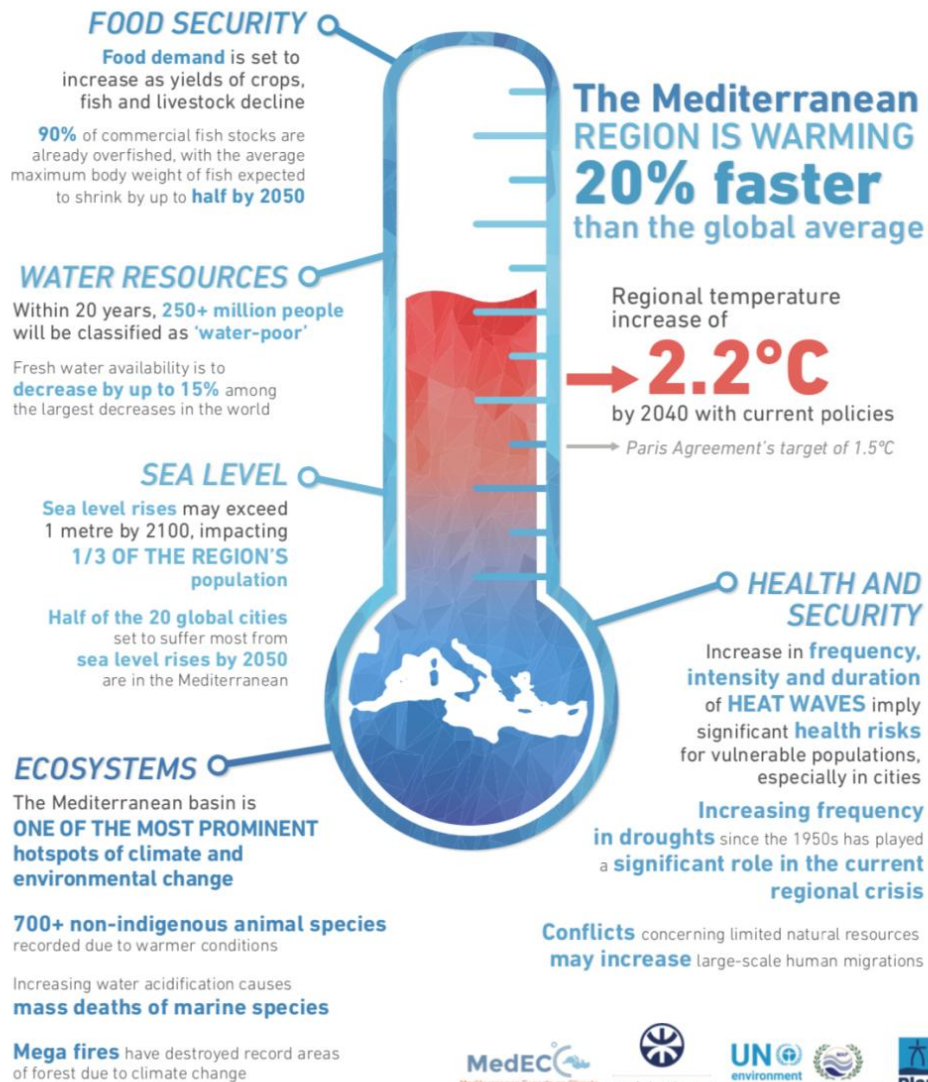
¹ <http://www.medecc.org/medecc-booklet-isk-associated-to-climate-and-environmental-changes-in-the-mediterranean-region/>

drier conditions. Frequency and intensity of droughts have already increased significantly in the Mediterranean since 1950.

- Similar to worldwide trends caused by warming and loss of glacial ice, sea level in the Mediterranean has risen between 1945 and 2000 at a rate of 0.7 mm per year and between 1970 and 2006 at the level of 1.1 mm per year. There has been a sharp increase during the last two decades as sea level rise reached about 3 mm per year.
- About 15 mega cities (port cities with a population greater than 1 million in 2005) are at risk from flooding due to sea level rise, unless further adaptation is undertaken.
- Climate change implies significant risks for ecosystems and for human well-being.
- Fresh water availability in the Mediterranean region is likely to decrease substantially (by 2 to 15% for 2°C warming), among the largest decreases in the world
- The length of meteorological dry spells is expected to increase significantly as well as the length and severity of droughts
- Ongoing climate, environmental and socioeconomic changes pose threats to food security in the Mediterranean region. The pressures are not homogeneous across the region and sectors of production
- Ecosystems now face unprecedented challenge due to climate and environmental changes resulting from human activities (overexploitation, pollution and changes in land and sea use), putting at risk the provisioning of most services they provide
- The coupled effect of warming and drought is expected to lead to a general increase in aridity and subsequent desertification of many Mediterranean land ecosystems
- Although most Mediterranean populations are relatively well acclimatized to high temperatures, an increase in the intensity and frequency of heat waves, or a shift in seasonality, all imply significant health risks for vulnerable population groups, in particular for those who live in poverty with substandard housing and restricted access to air-conditioned areas

85 scientists from 20 countries of the Network of Mediterranean Experts on Climate and Environmental Change (MedECC) present:

1st SCIENTIFIC ASSESSMENT REPORT ABOUT CLIMATE AND ENVIRONMENTAL CHANGE IN THE MEDITERRANEAN



Source, <https://www.medecc.org/medecc-infographics/>

3. Policy Context

a. National Energy and Climate Plans, Renewable Energy and Emissions Reductions

As part of the Governance of the Energy Union package, which came into force in December 2018, Member States are required to develop integrated National Energy and Climate Plans (NECPs), setting out climate action from 2021 to 2030 (and for subsequent ten year time periods) covering the five different dimensions of the energy union: (1) energy security, (2) the internal energy market, (3) energy efficiency, (4) decarbonisation of the economy, (5) research, innovation and competitiveness.

Member States were required to submit draft NECPs to the Commission by 31 December 2018 and must be ready to submit the final plans by 31 December 2019. The Commission has provided analysis and comments on the draft Plans (see table below).

Member State	NECP	Commission Recommendations	National Website
France	In French	Recommendations (EN) Recommendations (FR)	Website
Greece	In Greek In English	Recommendations (EN) Recommendations (EL)	Website
Italy	In Italian In English	Recommendations (EN) Recommendations (IT)	Website
Slovenia	In Slovenian In English	Recommendations (EN) Recommendations (SI)	Website
Spain	In Spanish In English	Recommendations (EN) Recommendations (ES)	
Bosnia-Herzegovina*			

In each case it is recommended that national governments “Integrate just and fair transition aspects better, notably by providing more details on social, employment and skills impacts of planned objectives, and policies and measures”. There are then also the following specific recommendations:

France

- Increase the level of ambition for 2030 to a renewable share of at least 33% as France’s contribution to the Union’s 2030 target for renewable energy
- Put forward detailed and quantified policies and measures to enable a timely and cost-effective achievement of this contribution
- Consider strengthening measures related to regional cooperation in the area of renewable energy.

Greece

- Enable a timely and cost-effective achievement of Greece's 31% contribution to the EU 2030 target for renewable energy, by including in the final plan, among others, an indicative trajectory that reaches all the reference points pursuant to Article 4(a)(2) of (EU) Regulation 2018/1999, and provide detailed and quantified policies and measures complying with the obligations laid down in (EU) Directive 2018/2001.
- Enhance cooperation with Member States and island regions facing similar geographic, climatic and infrastructure related challenges and opportunities in their energy transition. Explore the cross-border potential and the macro-regional aspects of a coordinated energy and climate policy notably in the Adriatic-Ionian with the aim of reducing the region's carbon footprint and implementing an ecosystem approach.

Italy

- Underpin the welcomed level of ambition of Italy's 30% renewable energy share for 2030 as contribution to the Union's 2030 target for renewable energy by detailed and quantified policies and measures that are in line with the obligations requested in the Directive
- Reduce the complexity and regulatory uncertainty and provide additional details on the enabling frameworks for renewable self-consumption and renewable energy communities, in line with Articles 21 and 22 of the Directive
- Explore further the cross-border potential and the macro-regional aspects of a coordinated energy and climate policy, notably in the Adriatic with the aim of reducing the region's carbon footprint and implementing an ecosystem approach and further harness the potential of deeper Mediterranean cooperation.

Slovenia

- Significantly raise the level of ambition for 2030 to a renewable share of at least 37 % as Slovenia's contribution to the Union's 2030 target for renewable energy
- Provide concrete measures on the simplification of administrative procedures and enabling frameworks for renewable self-consumption and renewable energy communities in line with Articles 21 and 22 of the Directive
- Explore further the cross-border potential and the macro-regional aspects of a coordinated energy and climate policy notably in the Adriatic with the aim of reducing the region's carbon footprint and implementing an ecosystem approach.

Spain

- Underpin the welcome level of ambition of a 42 % renewable energy share for 2030 as Spain's contribution to the Union's 2030 target for renewable energy by detailed and quantified policies and measures that are in line with the obligations requested in the Directive
- Provide further details on measures to reduce administrative burden and on the enabling frameworks for renewable self consumption and renewable energy communities in line with Articles 21 and 22 of the Directive
- Consider strengthening measures related to regional cooperation in the areas of renewable energy and energy efficiency.

Since the publication of draft National Energy and Climate Plans, a new European Commission college of Commissioners is in the process of being appointed. The new Commission President has published her [Agenda For Europe](#), which includes the introduction of a European Green Deal. As part of this, a proposed increase in emissions reductions to 55% by 2030 is put forward, as well as a Just Transition Fund to support the people and regions most affected. There are opportunities here for the INTERREG MED RES community to put forward recommendations on how the Ecosystemic approach can help to meet these goals and to identify what types of support might be needed and where this would be most appropriate.

b. Energy Communities

The final European legislative package on Clean Energy for All Europeans contains two definitions of energy community:

- A **Citizen Energy Community (CEC)** which is contained in Directive (EU) 2019/944 (recast Electricity Directive), and
- A **Renewable Energy Community (REC)**, which is contained in Directive (EU) 2018/2001 (the recast Renewable Energy Directive).

They are similar, but not totally consistent².

Article 2(16) Recast Renewable Energy Directive 'Renewable Energy Community'	Article 2(11) Recast Electricity Directive 'Citizen Energy Community'
<p>A legal entity:</p> <ul style="list-style-type: none"> (a) which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity; (b) the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities; (c) the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits. 	<p>A legal entity that:</p> <ul style="list-style-type: none"> (a) is based on voluntary and open participation and is effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises; (b) has for its primary purpose to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where it operates rather than to generate financial profits; and (c) may engage in generation, including from renewable sources, distribution, supply, consumption, aggregation, energy storage, energy efficiency services or charging services for electric vehicles or provide other energy services to its members or shareholders;

The differences between a “renewable energy community” and a “citizen energy community” relate to activities and eligibility criteria:

- Activities: citizen energy communities participate across the electricity sector, while renewable energy communities focus only on renewable energy.
- Eligibility to participate: any size entity can participate in a citizen energy community, while renewable energy communities limit participation to micro-, small and medium sized enterprises.
- Effective control: citizen energy communities must be effectively controlled by natural persons, local authorities or micro- and small enterprises, while renewable

² Briefing Q7A by [Rescoop.eu](#)

energy communities must be effectively controlled by members that are located in proximity to the community's projects, without any reference to size.

- Autonomy: renewable energy communities must be autonomous (and hence more democratic) in their internal decision making, while this is not mentioned for citizen energy communities.

As these Directives are implemented in the Member States, there is an opportunity to embed the ecosystemic approach and to seek to put in place the governance arrangements needed for ETUs.

c. The Covenant of Mayors

The Covenant of Mayors was created in 2008 with the intention of binding municipalities to the European climate goals. There is currently participation of more than 9,000 municipalities and around 200 provinces and regions acting as territorial coordinators, in the most successful relevant initiative of the European Commission.

Municipalities participating in the Covenant of Mayors share the European CO₂ reduction goals of 40% by 2030 with a commitment to develop a Sustainable Energy and Climate Action Plan (SECAP). Through the SECAP template, the Covenant of Mayors has developed a solid methodology with obligatory biannual monitoring reports that are recognised at the international level and are referenced in many official European documents, including in legislation.

An integration of the ETU concept with the Covenant of Mayors strategy and in the SECAP would be of benefit for both sides. The SECAP template offers enough flexibility and the necessary political and technical elements for the development of ETU communities, covering all the different sectors within the municipalities. The SECAP also provides a clear political commitment on energy saving and emissions reduction and a focus on energy and climate change adaptation. From the ETU side, the proposed approach and framework can act as a central theme in the SECAP template, providing a stronger structure for the supporting measures.

Until now, these two aspects appear to be separated, in different plans with no connections between them in some cases. The ETU delivers the necessary logical structure, demonstrating a stronger connection among the different measures, greater synergy and thematic continuity in the description and development of actual and future measures.

SECAPs are planning tools, but do not function as a governance mechanism. ETUs can also therefore introduce a new element in the development of the Covenant of Mayors at the local level. ETUs can act as a governance model to integrate energy plans with social, political, economic and territorial needs and establish the implementation of just/fair energy transition strategies. This enables a wider integrated approach covering many more sectors than SECAPs do currently, as well as enabling cooperation between urban and rural communities.

d. Sustainable Development

In September 2015, the United Nations agreed the 2030 Agenda for Sustainable Development, comprising 17 global Sustainable Development Goals (SDGs). The interplay between social, environmental and economic development is key to sustainable development. While there is a specific goal on climate action, the UN have also emphasised that without action on climate change, that delivery of the other goals will be at risk.

The SDGs should be the overarching policy framework and mainstreamed into current policies. The cross-cutting nature of Agenda 2030, as well as the Paris Agreement, the Aichi Biodiversity Targets and the New Urban Agenda are internationally binding documents that pave the way towards transformative policy. We need policy coherence at all levels and a close cooperation with all stakeholders – an integration horizontally and vertically.

Without the regional and local participation and responsibility, however, the goals set out by Agenda 2030 cannot be brought to life. The SDGs need to be localised and European municipalities and their residents should be effectively involved.



Source, <https://www.globalgoals.org/resources>

The Ecosystemic Transition Unit approach offers the right framework for the development and implementation all the SDGs but it is particularly useful to address goal numbers 1, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 17.

We need the transition to a low-carbon, resource-efficient and biodiverse economy, which leaves no one behind, ensuring equality and inclusiveness. Fostering resilience and energy efficiency on the regional and local level is key to reduce CO₂, combat climate change and advance sustainable development. Cooperation

between municipalities and communities on the transfer of best practice is an important element in fostering this transition, including for rural areas.

In February 2016, the 21 Mediterranean countries and the European Union adopted the revised Mediterranean Strategy for Sustainable Development (covering the period 2016-2025).

The Strategy follows a structure based on six objectives that lie in the interface between environment and development. They were chosen to provide scope for an integrated approach to address sustainability issues. The first objectives of the Strategy reflect a territorial approach, while the other objectives are crosscutting ones, as follows:

1. Ensuring sustainable development in marine and coastal areas;
2. Promoting resource management, food production and food security through sustainable forms of rural development;
3. Planning and managing sustainable Mediterranean cities;
4. Addressing climate change as a priority issue for the Mediterranean;
5. Transition towards a green and blue economy;
6. Improving governance in support of sustainable development

On climate change, the Strategy calls for progress towards a green, low-carbon and climate-resilient Mediterranean region, promoting complementary strategic directions that include; accelerating the uptake of climate smart and climate resilient responses; Leveraging existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encouraging institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. These objectives match closely with those for the INTERREG MED RES community and joint activities, advocacy, policy making and awareness raising could be pursued.

4. ETU components

a. Energy communities (social component)

As noted above more broadly for the SDGs, in order to deliver on ambition for ETUs, there is a need for leadership, empowerment, awareness raising campaigns and training plans for communities and municipalities at different levels (e.g. local and regional) and across multiple sectors. Such campaigns should integrate vulnerable groups, which is important for social innovation.

The desired goal is a widespread set of committed communities. Awareness raising, information and training campaigns will have to be implemented to inform citizens about possibilities to implement the energy transition in their territories. In addition to awareness, the social innovation aspect should be taken into consideration as a guideline, to identify people's needs and recognize their limitations when it comes to the strategies suggested. The organization of the community must allow for active participation of citizens in decision making, in order to guide the measures

effectively according to their reality, and to drive the process with maximum acceptance at each step. The ETU should propose participatory approaches for civil society and stakeholders, giving inhabitants the possibility to shape an ETU in agreement with their vision and necessities. The participatory approach of the ETUs can be similar to the urban planning participation process, where inhabitants have the opportunity to discuss and decide together the future development of their community.

While the desire is for communities addressing the energy transition, this does not always have to be the unique entry point. Concerns about resilience, the rural economy, local jobs or other issues can drive considerations about energy related issues. The Ecosystemic approach enables this wider debate. New business models also open up opportunities for a more inclusive approach to investing in the energy transition at micro level. Crowd sourcing of expertise (across technical, legal and financial issues) and crowd funding for investment in renewable energy installations for example, broaden access to and interest in the clean energy transition. Platforms such as <https://citizenergy.eu/> are available to promote small scale investment opportunities to a much wider audience than has traditionally been the case. Approaches such as SCORE on co-ownership of renewable energies are specifically exploring opportunities to engage non-traditional actors (including the unemployed and women) in investing in community renewable energy assets (<https://www.score-h2020.eu/>).

b. Energy planning (territorial component)

There is a desire to not add an additional layer of governance into existing mechanisms in order to realise ETUs, but to build on pre-existing administrative units, or areas with economic, cultural ecological or historical identity that brings them together.

Often, this may coincide with municipal boundaries. In this case, it is essential to establish an ecosystemic vision of urban planning and management, that allows for an initial assessment of the energy needs of a territory and of the territorial distribution, but that also integrates holistically with other resources considerations between territories. Aspects with an impact on climate change, such as waste management, energy efficiency and mobility, should be taken into account in this initial assessment, in order to build an integrated project.

There are multiple benefits for cities and municipalities from the development of local action plans for sustainable energy/ETU:

- Commitment to sustainable energy development based on the principles of environmental protection, energy efficiency and renewable energy sources;
- Setting the groundwork for sustainable development;
- Launching new financial mechanisms for the implementation of energy efficiency measures and the use of renewable energy sources;
- Ensuring long-term security in energy supply;
- Increasing the quality of life of citizens (increase air quality, provide comfort, reduce traffic congestion and accidents).

There are clear links at municipal level to link the ETU to existing commitments under the Covenant of Mayors for Climate and Energy and Sustainable Energy and Climate Action Plans (SECAP), covering aspects like energy consumption and energy efficiency, energy transition through the generation of renewable electricity and heating and cooling. Covenant signatories are also engaged in developing strategies for access to sustainable, affordable green energy for all citizens, avoiding energy poverty and in describing resilience and adaptation plans.

ETUs provide a means to determine the energy potential of each territory and establish cooperation networks between them, according to their energy production and needs. Newer ways of operating, including cooperatives, energy communities and public-private companies should be promoted, in order to increase decentralised energy production. As noted above, this is very much in line with the direction of EU legislation.

The territorial scope of the ETU is not fixed, but could fit within municipal limits. However, where there are small villages, there could be groupings of a number of municipal or local entities within one ETU, particularly in areas where there is the risk of depopulation. An ETU can also have the size of a district, making possible the division of medium size and larger municipalities and different ETUs, bringing also ETUs closer to neighbourhoods and living communities, such as blocks. Islands can be ETUs, or groups of islands can be an ETU. In the case of groups of islands, the diversity and the lack of connection among islands are important challenges/limitations to the constitution of an ETU. A case by case approach should be adopted to assess the relevance of ETU formed by groups of islands.

In order to properly define the territory of an ETU, its specific purpose and actions should be identified and measured with indicators aligned with the SECAP template of the Covenant of Mayors³. The boundaries of the territory should be defined according to such elements.

Next steps in energy planning should elaborate a map of possible ETUs in some pilot areas, with these then associated to a pilot program for their implementation. The map of ETUs should be developed, taking into account the energy necessities of the population and economic sectors and energy production possibilities.

In conclusion, An ETU should not be a new tool of implementation but instead, should work as a support instrument that adds value to existing programs or projects, helping and complementing their application and performance in order to assure their success.

c. Energy local governance (legal component)

The ETU should have a regulatory framework and provide a form of agreement between the parties, both between the various public parties involved (mainly municipalities), and between the public and private parties (Private Public Partnership). Such an agreement should be based on objectives and support should be provided in part based on the achievement of objectives in terms of energy efficiency and renewable energy production. The agreement should provide a general framework for the energy transition and should be long-term in nature

³ https://www.covenantofmayors.eu/IMG/pdf/Covenant_ReportingGuidelines.pdf

(ideally at least 6 years plus). Funding should be provided for the team that will animate the transition on behalf of the territory. The support should be regular and reliable. A certification or label could also be part of the overall framework.

Examples of Types of Association (from Italy)

An association for an **Oil Free Zone** (a political agreement between municipalities) and a CPE (Consortium of companies) has recently been implemented in the Pinerolese area of the Piedmont Region for the management of the energy community of 47 municipalities⁴.

The **bio-districts model**⁵ (promoted at European level by AIAB - Italian Association of Organic Agriculture): the bio-district or Eco-region is a territory naturally dedicated to organic farming, where farmers, citizens and public administrations stipulate an agreement for the sustainable management of the territory and of the existing resources, according to the principles of organic farming and agro-ecology

Two kinds of coordination of ETUs are required:

- Vertical coordination, mainly at municipal, county level or as metropolitan area in the case of urban rural cooperation. Where the ETU is submunicipal, it will coordinate mainly with the municipality
- Horizontal, transversal coordination: the ETU will need technical assistance and expertise on different topics that in many cases it will not be possible to find inside the ETU. Other external actors can provide such technical assistance through horizontal coordination and collaboration.

It is important that any ETU regulation or contract link the energy transition with the needs of the territory. It would be possible to combine some of the suggestions below:

- A contract signed between a municipality and the national government (or a wider range of stakeholders)
- A blueprint based on two key foundations:
 - The use of tools like "Destination TEPOS" to quantify the objectives as a first stage
 - Solid governance combined with tools for implementation
- A label – a stamp given at a specific point in time
- Certification – like a label, but involving continuous improvement and energy transition over time

It might be relevant to create a legal entity at the European scale to govern the overall framework. If so, this entity should have clear objectives in terms of deployment of RES across Europe. On the European level, it could be funded by subsidies, such as EIT funds, Horizon Europe funds, the Innovation Fund, ERDF, etc. At the local level, certain taxes could be redirected. In France, the research tax credit could be mutualised for projects within the ETU. Regions could reserve a part of their European funds for ETUs.

⁴<https://www.greenbiz.it/green-management/ricerca-a-innovazione/smart-city/15018-progetto-oil-free>

⁵ <http://www.fao.org/agroecology/database/detail/en/c/1027958/>

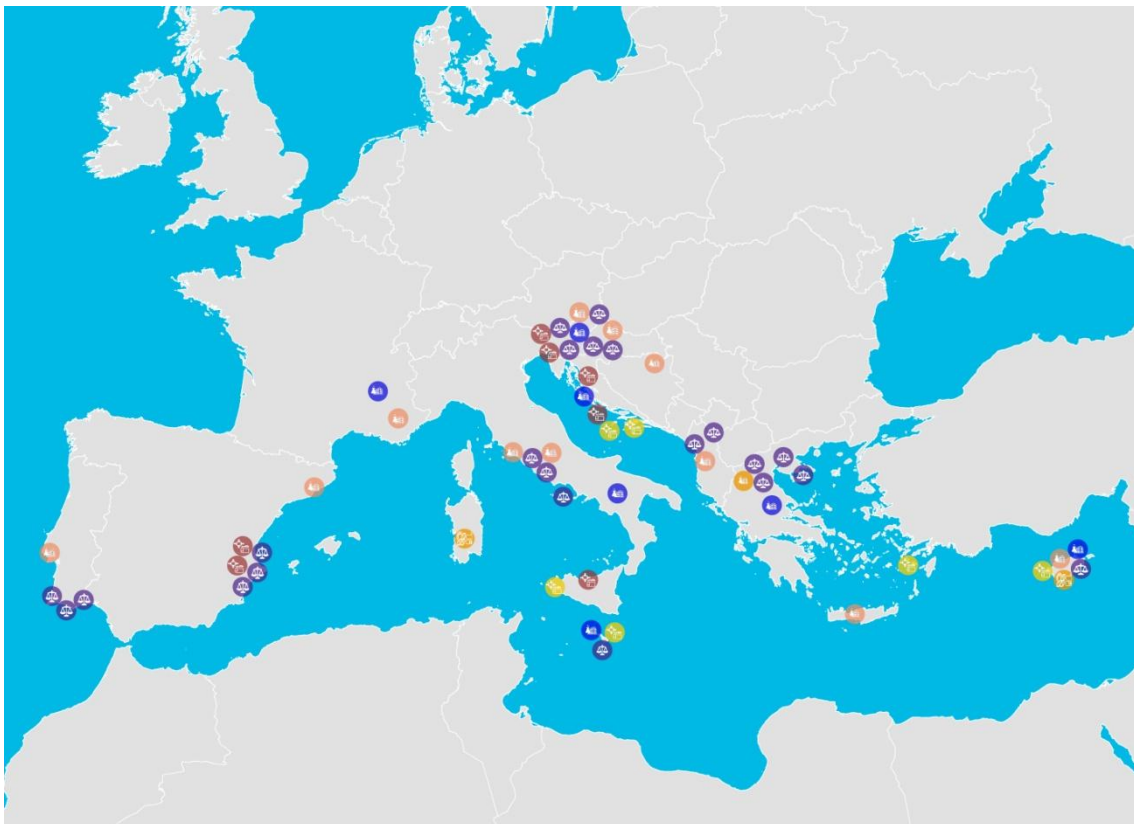
In order to increase the impacts of the framework, it should be transparent and should be based on shared best practices and shared data within an easy-to-use platform. It should involve all stakeholders. Rural areas should include nearby large cities as customers of their energy in order to obtain initial investments and stable turnover as well as political support.

In conclusion, an ETU should be a certified and recognized model at EU level, serving municipalities (but not only), accompanied by useful tools, for the elaboration and enhancement, in practical terms, of strategic plans such as the SECAP, favouring inclusion, regulatory and technological solutions (toolkits and methodologies developed by mature projects, to be replicated in other territories).

d. Energy facilities (technological component)

European Commission DG Energy have noted that investment will need to grow from 2% of EU GDP invested in the energy system today to 2.8% to achieve a net-zero greenhouse gas emissions economy. This equates to up to €575 billion per year (or up to additional €290 billion per year compared to baseline). If delivered, this investment will be positive for growth and jobs, with GDP higher by up to 2% in 2050 and with important co-benefits for reducing energy imports and improvements in public health and other sectors.

Public funding alone will not be sufficient to deliver the transformation needed to meet these net zero targets. Private finance will have to account for the bulk of investment needs. The share of private investments is highly variable across different sub-sectors. The type of financing and public intervention will also depend on the risk profile and potential for revenues from targeted investments. The European Commission is designing an approach under which public-funded grants should target initiatives that do not assure sufficient financial return (such as the early stages of research and development), whereas revenue-generating market-based instruments such as preferential loans and loan guarantees should cover more financially viable projects. In cases of non-financially viable projects, grants or blending of grants with other sources of financing could prove useful, as long as they yield long-run added value for the EU.



The RES community across the Mediterranean.

On specific technologies, the StoRES project has sought to develop an optimal policy for the effective integration of photovoltaics (PV) and energy storage systems (ESS) via testing smart solutions in 6 MED islands and rural areas. The project identified that stakeholders and policy makers can pave the way for new incentive schemes, simplifications (reducing costs), business models (bringing additional revenues for BSS users) and regulations that enable both. Currently the MED countries do not have policies that favor the installation of storage alongside PV systems. Even in the cases where higher self-consumption is encouraged (e.g. the Net-Billing of Cyprus or the partial Net-Metering scheme in Greece), the resulting incentive is not adequate to make a hybrid PV and storage system more profitable (with the current storage system prices). Policy makers that want to encourage the use of storage systems alongside PV should consider the adaptation of existing schemes in order to make systems with storage more profitable than those without. Small tweaks to existing schemes in the MED region may be sufficient to achieve that.

The PEGASUS project brought together public and private bodies involved in the energy sector to try to design the business model for microgrids in the future power system. Microgrid behavior was simulated in 7 sites as well as modelling of the interaction of its members. The project identified schemes that were technically feasible, but also a number of barriers to their implementation, including policy and regulation for self-consumption and energy tariff and pricing issues linked to financing and investment. Policy change will be needed in order to bring such projects to fruition.

5. Further steps for ETUs implementation

Before defining ETUs as a model for the energy production system and the definition of climate friendly strategies at economic and social level, it is first necessary to describe affordable and practicable cooperation models between urban and rural areas. Such models are being developed at this moment between some rural and metropolitan areas in central Europe, but are until now only energy related. Urban areas are financially helping rural areas to produce enough renewable energy to guarantee the energy supply of metropolitan and larger urban areas. But, only covering energy related cooperation is not enough, the joint rural/urban work should cover many other aspects, as described below.

A cooperation model based on reciprocal necessities: Rural/Urban areas need each other for developing balanced economic, social and climate friendly environmental models guaranteeing sustainable future development in both areas. The description of these mutual cooperation models should be empirical, based on an analysis of necessities and including the following fields;

Energy cooperation agreement between the rural and urban area:

- The rural area guaranteeing production of renewable energy to meet demand in the urban area
- The urban area guaranteeing financing for renewable energy projects in the rural area

Allocating economic activities in a 4.0 society

- The dependency of the industrial and economic activity of a specific geographical area is a model of the past. In the new globalised and digital economy, new possibilities of reallocation of economic activities are enabled, particularly to those places where resources are available and energy is produced. The ETU should be the motor not only of the energy transition, but also for wider economic transition.

New deal circular economy

- Taking into account the major role of the ETU in influencing food and drinking water supply or the role of rural areas as tourist and recreation destinations for urban dwellers, new circular economy cooperation concepts should be also developed.

An Integrated Approach

The ETU approach should not exist in isolation. ETUs should link to existing plans and integrated into as many policy concepts and plans as possible. The ETU should be considered as a module / component to be integrated and connected with,

- The SECAP template of the Covenant of Mayors
- Transition planning under the Clean Energy for EU Islands initiative⁶
- Land use and urban plans
- Air quality plans
- The transport/sustainable mobility plan
- Other relevant political or technical plans

Agriculture is striking a variable balance between economic, environmental and social functions. ETUs will also need to be concerned with agricultural strategies to mitigate climate change through a reduction in emissions of methane and nitrous oxide, an increase in carbon sequestration in agricultural soils and the growing of energy crops to substitute fossil energy use. The policies to support adaptation and mitigation to climate change will need to be linked closely to the development of agro-environmental schemes.

Agriculture and forestry policy is also highly linked to adaption policy. Expected climate changes mean that it will be necessary to face both policy aspects together, agriculture, forestry and adaptation have to work hand in hand, ensuring future crops, the survival of forests, humid areas and helping to preserve water resources.

Policy Coherence, social innovation and awareness raising at political level

Political coherence is one of the targets described in the SDGs and it is necessary to describe new means of territorial cooperation and to develop ETUs. One of the main problems these new developments are facing is that policymakers and planners are operating in silos. Different politicians and departments are handling energy, agriculture, economy, industry or water without collaboration and exchange with other departments. Policymakers lack the tools to identify which

⁶ <https://euislands.eu/clean-energy-islands-start>

interactions are the most important to tackle. Many preconceptions that influence decisions are outdated or wrong, such as the belief that rising inequalities are necessary for economic growth, or that mitigating climate change is bad for productivity and growth in the long term.

Making policies coherent in terms of social innovation means taking account of people's vulnerability and their capacity for change, as well as considerations of economic feasibility. ETUs should help to promote fair transition policies.

The importance of "policy coherence" among different departments and planning strategies as described in the SDGS is crucial for such interactions. The description of this interdepartmental and policy coherence and its proper communication is one of the most important challenges for ETUs. To make coherent policies and strategies, policymakers need guidance on thinking systematically about the many interactions – beyond simply synergies and trade-offs⁷.

Taking all of this into account, the RES community came up with the following policy recommendations, also published alongside this document in a separate Manifesto.

Summary of recommendations

- 1) For INTERREG MED region countries, European Commission recommendations in response to Draft National Energy and Climate Plans (NECPs) call for a strengthening of an ecological approach and for greater ambition on renewable energy generation targets. The Ecological Transition Unit approach can aid the achievement of these goals. **National government decision-makers in the relevant Member States (FR, EL, ES, SI, IT, BiH) should take the ETU approach on-board in preparing their final NECPs before the end of 2019. Opportunities for Renewable Energy Communities and Citizen Energy Communities should be maximised.**
- 2) Cooperation models based on the necessities of **collaboration between urban and rural areas** are needed. Such models, based on balanced economic, social and climate friendly environmental models of cooperation guarantee the sustainable future development of both areas
- 3) **The ETU approach can link with and should not duplicate or replace existing approaches.** Linkages should be made to the Covenant of Mayors Sustainable Energy and Climate Plan preparation and implementation process and to the Clean Energy for EU Islands initiative, as well as to individual national reporting and recognition schemes. Key to this is the adoption of a multi-level, ecologically led approach.
- 4) **Financing and investment** will be required to implement the ETU approach, but this can be sourced from both the private and public sectors. Particular attention should be paid to the need to support the energy transition and build resilience in disadvantaged island and rural communities. The specific needs of

⁷Policy: Map the interactions between Sustainable Development Goals, Måns Nilsson, Dave Griggs & Martin Visbeck. Nature volume 534, pages 320–322 (2016)

the Mediterranean region (and rural and island communities in particular) should be borne in mind in discussions about the future EU budget.

- 5) The ETU is not only a model for the energy but also for **green economy transition**, giving the opportunity to rethink and reallocate industrial and economical activities in rural areas to align more closely with energy production and the availability of and protection of other resources.
- 6) The ecologically led approach opens up new ways to **involve citizens and local stakeholders**. ETUs and the energy transition should be firmly grounded in decentralised, democratic decision making that is driven from the bottom up.
- 7) **Territorial planning** has a key role to play. Land use plans at municipal level across the Mediterranean region should take ETUs and the energy transition fully into account and examine resource and material flows and climate risks and resilience plans.
- 8) There are key opportunities to **link existing and futures policies with the ETU approach**, fashioning the ETU concept with agriculture and water policy and also with the development of sustainable tourism activities.
- 9) **Interdepartmental and political coherence** is absolutely necessary for the development of the ETU concept. There is a need to identify interactions between different policies and sectors that go beyond preconceived ideas and outdated analyses.