4. SUPPORTING THE SHIFT TOWARDS A LOW-CARBON ECONOMY IN ALL SECTORS

What does EU want to achieve

The EU aims to have an **efficient low carbon economy by 2050** and to **cut emissions by 80-95% by 2050** compared to 1990 levels. In the shorter term, it has set the following targets for 2020:

- **Reducing greenhouse gas emissions by 20 %** compared to 1990 levels, or by 30% if the conditions are right;
- Increasing the **share of renewables** in final energy consumption to **20 %**
- Moving towards a **20 % increase in energy efficiency**

How?

Under this priority, the EU wants the CSF funds to contribute via a leveraging effect. The priority is put on incentives to private investment and on compensating only market failures. According to the European Commission, **financial engineering** should be used in priority.

How can mountains contribute?

Mountain areas are rich in renewable energy resources. Mountains can make key contributions through the use of their resources - such as water, sun and wind - from which they can produce low carbon energies. For some resources, the potential for development is still huge. For others, such as water, which has been exploited in most of Europe's mountains for more than a century, the challenge is related more to using the resource more effectively. The potential of mountain areas **to deliver significant amounts of renewable energy** to society must be recognised **and rewarded**.

Furthermore, **mountain areas have always had an interest in energy efficiency as their needs are high due to climatic and geographic constraints.** There is still great potential to reduce energy, electricity and heat consumption in mountain areas and use energy resources more efficiently for public, private and business purposes. This applies to **housing, businesses** (including tourism) but also to **transport**. Mountain people are not always offered many opportunities when it comes to collective transport. There is room for **innovation and the reduction of carbon emissions in mountain areas using smart approaches to sustainable transport.** Mountains can lead the way for all remote territories in designing and implementing new promising solutions.

This also extends to **e-services, e-learning, e-government and remote work**: people living in remote communities often have to drive long distances, individually, to access work, services, schools or leisure: reducing transport needs through ICT can greatly contribute to EU targets.

The **climatic constraints can also be seen as advantages**: some industries which require cooling can benefit from a cooler mountain location. Young people have suggested that the heat generated in data centres can be used to heat industrial or public facilities. Their proximity to their clients is unnecessary if broadband connections are sufficient, and these industries can provide jobs locally.

Last but not least, 41% of the area of Europe's mountains is covered by **forests** (EEA, 2010), and farming systems using **pasture and grassland** dominate over other types of farming systems. Forestry represents a great potential both for biomass production and for carbon storage, especially with increased growth in a warmer climate with more CO_2 in the atmosphere. Pasture farming systems are **low-input farming systems:** they use few nitrogen fertilisers and are less mechanised. Maintaining and optimising these production systems means favouring **carbon storage** and **low carbon food production systems**.

What do they need in order to contribute?

In its position paper on energy released in 2009, Euromontana produced 9 recommendations to better support the development of energy efficiency measures and of the use of the potential of the mountain renewable energy sources.

- **Energy saving.** Reducing consumption while increasing quality of life.
- **Area surveys and energy cadastres.** Evaluation of the population's energy needs, and the area's potential for supplying resources that can be used to produce energy.
- **Proper compensation for natural resources.** Mountain regions can not only be energetically self-sufficient, but can also use their resources as engines for development and sources of income.
- **Combined natural resources produce energy and revenue.** The combined use of different natural energy resources (solar, wind, geothermal) can be a source of future income.
- **Quality certification to consolidate processes.** Environmental certification must include energy-use certification. A systemic framework for the energy policy of mountain areas is needed (integrating questions of transport, environment, etc.) referring to the regional scale.
- **Training.** Training tools need to be better suited toward the creation of a common standard at the European level.
- **Sharing information.** The European institutions and Member States must encourage the creation of information networks and centres in mountain areas.
- **Energy desks at the municipal level.** Mountain municipalities must be supported for setting up their own « energy desks » where citizens can go to get information, develop projects, etc.
- **EU credit lines.** Euromontana specifically suggests that the European Union's budgeting process should include specific strategies in the areas of energy savings.

When it comes to improving sustainability and decreasing carbon emissions in the field of transport, mountains need investments in innovative solutions, such as **alternative fuels** and **all forms of collective efficient organisation of transport adapted to seasonality and the density of population** of the relevant areas.

When it comes to **reducing transport needs** via development of digital applications and remote work, mountains primarily need the **roll-out of next generation internet to be prioritized** in these areas. Then they need to be supported in their investments in applications, training and uptake of new technologies by businesses and administrations.

Improvement of infrastructure is also likely to **facilitate the installation in mountain areas of industries** which would have an interest in being located there for environmental reasons (temperature, purity of air, proximity of renewable energies) but suffer from too limited connections with markets. For example, the municipality of Covilha (Portugal) has obtained a contract for creation of a data centre which will create 1500 jobs in mountain areas.

Support is needed in the **field of forestry to improve carbon efficiency of wood production** systems while optimising carbon storage in mountain forests.

Finally, **pastoral farming systems** require all forms of targeted support that will allow these economic systems to remain viable: from investment to support to creation of high added value supply chains, diversification and strategic business monitoring.

Example of actions/practices/policies/projects which could deliver on this objective

In the field of energy:

- Developing **sustainable energy action plans (SEAPs) in mountain communities and smart grids.** The SEAPs should follow the basic idea of working on a concept of self-sufficiency for mountain communities, from small villages to small or medium-sized cities, and should take into account all aspects related to energy (energy saving, use of renewable energy) in all sectors, starting with actions in public sector. Electricity grids should be reconfigured to integrate more dispersed forms of energy production. This would imply significant upgrades to transmission and distribution grid systems.
- **Fostering the development of new types of construction** with new technologies using traditional materials that are available locally (wood), new ways of doing business, new professions, and new trades. The Autonomous Province of Trento (Italy) instituted, between 2000 and 2008, multi-sectoral policies on energy savings, focusing on residential buildings and the establishment of an « Energy District ». The objective is to make progress towards future building techniques with "zero impact".
- **Developing the use of renewable energies**. For example:
    - **Biomass energy systems.** In Scotland, the Clim-ATIC project included the launch of a wide-scale wood energy development programme called "Low Carbon Cairngorms", to develop all aspects of the wood industry, from production through to consumption, by involving all relevant stakeholders.
    - **Solar energy**. In Aveyron (France), the sloping barn roofs of cattle breeders are used to produce energy for their own use and to sell on the market.
    - **Wind energy**: In the United Kingdom alone, production has been multiplied by a factor of 300 since 1990 and has tripled between 2000 and today. 25% of the power production (188 MW) has been installed in the Highlands of Scotland.

In the field of transport, we provide examples under priority 7 although they could also be considered as relevant to this priority. In the field of e-services as well, we provide many examples under priority 2 but most can equally be considered as contributing to this priority.

In the field of agriculture, the following actions could be beneficial:

- Supporting **investment in agricultural and livestock buildings** which responds to high energy efficiency criteria and/or integrates energy production (solar panels, co-generation, biomass…). The level of support must be adequate, considering that construction costs are already 2 or 3 times greater in mountain areas compared to lowlands;
- Support the **optimisation of livestock management systems** to ensure energy efficiency and maximum carbon storage in pastureland;
- Provide **economic support to managers of pastures, grasslands and peatlands**, especially in mountain areas where lower profitability might lead to land abandonment: payments to areas with natural constraints, agri-environmental measures supporting existing beneficial practices, support to investment in new territorial added value supply chains, and valorising quality development are all measures likely to contribute to maintaining pastures.

For mountain areas in South-Eastern Europe, support to the mountain farming sector is crucial to ensure continuation of delivery of environmental services and a low-carbon economy.

In the field of **forestry**, some actions could deliver on this objective such as:

- Support development of **new forestry technologies;**
  - The NewFor INTERREG Alpine Space project seeks to improve the accessibility of mountain forests, to achieve greater efficiency in forest harvesting and transport of timber products, in the context of sustainable forest management, taking into account the needs of the timber industry and all issues related to climate change and sustainable adaptation;
  - Support the development of innovative technologies on the supply side (e.g. thermal treatment technologies) as well as technologies used for delivery further down the supply chain.
- Support **forest replanting** where it is appropriate:
  - Financing could be through leveraging the capabilities of the European Carbon Fund. Currently, all funded projects are located in developing or emerging countries. The opportunity for projects not specifically targeting emerging or developing countries and aiming at financing actions or positive measures to reduce emissions of greenhouse gases should be studied. In this case, this fund could particularly be used to finance activities such as forest replanting.
- Support **climate-friendly management of new and existing forests:**
  - The Bosque modelo Urbion is an example of sustainable forest management rewarded by a label in Spain.

More information:
Euromontana study: "The mobilisation of wood and on the organisation of wood supply chains in mountain areas - Examples of good practices from Europe"
Euromontana thematic page on energy
Euromontana position paper on Energy and its summary.