



LC Districts

Interreg Europe



European Union
European Regional
Development Fund

**[POLICY BRIEF ON
DECARBONIZATION OF THE BUILT
AND URBAN ENVIRONMENT]**

Marche Region

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1 Introduction

The green transition of our cities requires action, besides in transport issues, in an improvement in the energy efficiency of the built environment. This change must be undertaken both from the point of view of demand and production leading towards:

- Energy efficient **buildings** demanding low final energy consumption in order to maintain adequate temperature and good air quality.
- Buildings whose energy comes from efficient production **installations**, that is, requiring less primary energy consumption. Likewise, the transport of this energy from its production center to the place in the building where this energy is consumed has low losses. When this energy comes from clean energy, the benefits are twofold.

The Interreg Europe *LC Districts* project has been developed on the continuous seeking for policies aiming at improving the sustainability of built environments. The exchange of experiences, in which our regional stakeholders have actively participated, has contributed to the increase of our knowledge and awareness through the activities and results:

1. The elaboration of the regional diagnosis in which it has been revealed and analyzed the starting point of the built environment and the programs and initiatives supporting its low carbon transition, as well as the difficulties and possible improvements that could be raised in our region.
2. The exchange of ideas through the study and assessment of the good practices presented by the partners.
3. The strategic thinking process by the analysis and reflection of the previous information, identifying the plausible solutions for our region.

As a result of the LC Districts project and this learning process, an Action Plan has been drawn up for Marche Region. The actions included in the Action Plan respond to detected needs and the feasibility of their implementation during the second phase of the project. However, in this learning process we have reached many other conclusions not included in this Regional Action Plan because of time or scope reasons.

The purpose of this document is to record these learnings and propose recommendations that can be part of future action plans. Its goal is to highlight the aspects that must be taken into account when a region decides to implement sustainability policies for the decarbonization of its built environments, offering policy makers alternatives to consider and study.

2 Learnings and recommendations for regional policymakers to improve the current policy environment

2.1 Policy objectives and strategies

2.1.1 Learnings

The PEAR, Regional Environmental Energy Plan, is the regional environmental energy management program of the Marche Region and represents the sectoral operational program in which the Marche Region has identified the strategies, actions and tools to pursue climate and energy objectives and support the regional energy transition. The results of the implementation of the entire LC Districts project will make possible to include specific actions within the new PEAR aimed at activating low-carbon districts throughout the region.

The new PEAR will influence the next Regional Operational Program POR-FESR 2021/2027 of the Marche Region and the resulting results will be incorporated into this further political tool to launch more targeted calls aimed at promoting sustainable construction and the development of low carbon districts.

Also, Marche Region (Regional Act n. 250 of 08/03/2021) has promoted the REGIONAL SUSTAINABLE DEVELOPMENT STRATEGY (SRSvS), through appropriate information and participatory processes, in order to define the contribution at territorial level for the realization of the SRSvS and Agenda 2030 and the related action A.1.2 foresees the increase of the use of technical tools for environmental analysis in the conservation of territories through sustainable management of natural resources respecting its operating rules, physical, biological and climate limits.

The project required continuous involvement of public and private stakeholders in energy efficiency challenges in order to gather inputs for the development and implementation of shared urban policies through a participatory approach and capacity building of technical and political public officials to implement low carbon policies and plans and efficient and sustainable urban districts through their involvement and benefit of interregional learning activities.

The Local Stakeholder Group (LSG) for the Marche Region was formed at the beginning of the project, involving stakeholders in the interregional learning process and in the drafting of the RAP, in order to achieve policy change through their direct involvement in project activities and to improve the public-private partnership.

The use of regional funding calls was the topic that most interested the stakeholder audience. Here are the main challenges that emerged in the debate:

- Need to have complete planning and not a single punctual intervention;
- The importance of a Sustainable Development Strategy that takes into account not only strictly energy issues in planning;
- Highlighting the administrative and technical obstacles for which beneficiaries of calls for proposals are unable to respond to requests;

2.1.2 Recommendations

- 1 - Conceive the financing of interventions in a logic of system and no longer of a single intervention.
- 2- Possibility of including environmental, social and economic criteria in the calls in order to have an integrated planning process and guarantee preventive training and technical-administrative support to the beneficiaries of the calls.
- 3 - Include at all planning level specific actions coherent with the new PEAR aimed at activating low-carbon districts throughout the region.
- 4- Design comprehensive energy plans that include the energy efficiency financing plan of an energy agency and encourage to draft joint action plans that promote local government initiative.
- 5 - Facilitate and guide administrations in their energy transition journey, encourage the use of certain tools allow a better understanding of the starting situation and help identify needs for improvement, and enable them for more efficient planning: EIS, GIS Navarre (vulnerability map), ITACA.
- 6 - Use a decision-making method that involves local stakeholders and the economic and social vulnerability map through a GIS viewer.
- 7- Persuade the Government to allocate dedicated (regional and EU) budget for developing sustainable building actions towards low carbon districts in the rest of the regional territory and start a dialogue with the national level to obtain additional dedicated funds.
- 8- Identification of a set of indicators for monitoring environmental effects, identifying guidelines for urban planning at the municipal level and finding a greater synergy with the regional strategy for sustainable development.

2.2 Buildings: new and renovation

2.2.1 Learnings

The Low Carbon District is a sustainable urbanization approach that focuses on reducing the anthropogenic carbon footprint through the minimization or abolition of the use of energy obtained from fossil fuels. The need is to promote an environmental assessment of the districts to complete the energy one, thus deepening the environmental impact and the quality of the urban fabric, without neglecting, through the LCA analysis, the considerable energy expenditure related to the production chains of the materials to be construction and facilities. Currently, the evaluation of the buildings (cities, districts, blocks, buildings) is carried out by applying different protocols.

The ITACA Protocol is a tool for assessing the level of energy and environmental sustainability of buildings. The Protocol allows to verify the performance of a building with reference not only to consumption and energy efficiency, but also taking into consideration its impact on the environment and human health, thus favoring the construction of increasingly innovative, nZeb buildings with reduced water consumption and materials that in their production involve low energy consumption and at the same time guarantee high comfort. The ITACA protocol provides indications for the calculation of the performance score of residential buildings of new or renovation and for the urban district of the cities useful for the designer, for the control and guidance activities of the public administration, for the consumer's choices.

The analysis of the environmental impact assessment procedures highlighted some interesting challenges, including the Strategic Environmental Assessment which has already been included in the town planning legislation.

The importance of a Sustainable Development Strategy that takes into account not only energy matrices in planning is evident.

In the past few years, the Marche Region has prepared numerous projects involving the construction of important public buildings (new INRCA, new Salesi, new Hospital of Fermo, new Hospital of Marche Nord, Health Homes, etc.), all of which are essential opportunities to apply the above-mentioned regulations and aim at the best techniques of green building and energy efficiency.

There is a lack of specific indicators and benchmarks in the application of Environmental Assessments.

2.2.2 Recommendations

- 1 - Application of an energy-environmental certification that is a guarantee of the high quality of the proposed intervention using the right monitoring indicator to concretely measure the energy-environmental benefits of the proposed action.
- 2- Encourage renovation of building envelopes that provide good insulation from both heat and cold and improve the comfort of its inhabitants/users.
- 3 - Encourage the construction of buildings designed to have near-zero energy requirements and intended to be references for future construction.
- 4 - Commitment to provide officially protected housing with the highest standards of energy efficiency.

2.3 Installations (District heatings): new and renovation

2.3.1 Learnings

Experiences presented by other LC Districts partners has confirmed the importance of considering the sustainability from a higher scale than isolated buildings.

As explained in the Action plan, the good methodology is to combine the planning process to the certifying process and this practice is adaptable to all kinds of territorial contexts all over Europe.

Different certification tools can be used maintaining the same approach to reach the same goal: draft low carbon districts of high-energy environmental standard by certifying the energy environmental performance and measure using clear and simple indicators.

Public bodies and private companies could try to adopt this methodology in a territorial sample testing the effectiveness.

They will be able to follow this innovative methodology of designing a low-carbon district, a replicable methodology using other tools of environmental energy certification in force in different European countries.

Applying the Protocols is a guarantee of high environmental quality of the proposed intervention: the higher score (from -1 up to 5) you reach the more your proposed intervention are effective in terms of energy and environmental quality. Thus, applying the right indicator reported in the LC Districts application form (Energy savings: Target 2023 (GWh) CO₂ reduction of GHG emissions (Tons eq CO₂)) you can concretely measure the environmental benefits.

In this way, you can test how much a “certified low-carbon district” with demonstrated high energy environmental fully certified performance could contribute to a low carbon policy

The transition to low-carbon cities must be conducted holistically, and several actions must come together to mobilize and promote the transformation of our building stock and building heating and cooling systems. This conversion is creating a new market where it is necessary to act on demand, supply and also on the policies of institutions, promoting public-private collaboration and showing the benefits that this transition brings, not only in environmental terms, but also in economic and social aspects.

After the regional diagnosis process, the following needs emerged:

- Difficulties in the technical application of environmental certifications by technicians of public and private bodies Need to have a global planning and not a single punctual intervention
- Cultural, and sometimes technical, distrust for the effective application of the protocol, also due to its voluntary nature.

2.3.2 Recommendations

- 1 - Create the best conditions within the technical offices for the application of the ITACA protocol at the urban district scale that can become a tool of the bodies for the evaluation of energy planning.
- 2 - Give more space to the training of technicians, both public and private entities, in relation to the tool
- 3 - Encourage the use of district heating through either examples of renovation of existing heat networks to correct deficiencies in the pipeline network due to deterioration and leakage, replacing plants with newer and more efficient ones, choosing to expand and create new district heating networks with state-of-the-art technology.
- 4 - Encourage the incorporation of renewable energy sources to replace fossil energy sources contributing to the decarbonization of cities.

3 Overview

Recommendations overview					
Recommendations	Strategies	Buildings		Installations (DH)	
		New	Renovation	New	Renovation
<i>1 - Conceive the financing of interventions in a logic of system and no longer of a single intervention</i>	X	X	X	X	
<i>2- Possibility of including environmental, social and economic criteria in the calls in order to have an integrated planning process and guarantee preventive training and technical-administrative support to the beneficiaries of the calls.</i>	X	X	X		
<i>3- Include at all planning level specific actions coherent with the new PEAR aimed at activating low-carbon districts throughout the region.</i>	X				
<i>4 - Design comprehensive energy plans that include the energy efficiency financing plan of an energy agency and encourage to draft joint action plans that promote local government initiative.</i>	X				

Recommendations overview

Recommendations	Strategies	Buildings		Installations (DH)	
		New	Renovation	New	Renovation
<i>5 - Facilitate and guide administrations in their energy transition journey, encourage the use of certain tools allow a better understanding of the starting situation and help identify needs for improvement, and enable them for more efficient planning: EIS, GIS Navarre (vulnerability map), ITACA.</i>	X	X	X	X	X
<i>6 - Use a decision-making method that involves local stakeholders and the economic and social vulnerability map through a GIS viewer.</i>	X				
<i>7 – Persuade the Government to allocate dedicated (regional and EU) budget for developing sustainable building actions towards low carbon districts in the rest of the regional territory and start a dialogue with the national level to obtain additional dedicated funds.</i>	X				
<i>8 - Identification of a set of indicators for monitoring environmental effects, identifying guidelines for urban planning at the municipal level and finding a greater synergy with the regional strategy for sustainable development.</i>	X	X			

Recommendations overview					
Recommendations	Strategies	Buildings		Installations (DH)	
		New	Renovation	New	Renovation
<i>1 - Application of an energy-environmental certification that is a guarantee of the high quality of the proposed intervention using the right monitoring indicator to concretely measure the energy-environmental benefits of the proposed action</i>		X		X	
<i>2- Encourage rehabilitation of building envelopes that provide good insulation from both heat and cold and improve the comfort of its inhabitants/users.</i>		X		X	
<i>3 - Encourage the construction of buildings designed to have near-zero energy requirements and intended to be references for future construction.</i>	X	X			
<i>4 - Commitment to provide officially protected housing with the highest standards of energy efficiency.</i>		X			
<i>1 - Create the best conditions within the technical offices for the application of the ITACA protocol at the urban district scale that can become a tool of the bodies for the evaluation of energy planning.</i>	X			X	X

Recommendations overview					
Recommendations	Strategies	Buildings		Installations (DH)	
		New	Renovation	New	Renovation
2 - Give more space to the training of technicians, both public and private entities, in relation to the tool	X				
3 - Encourage the use of district heating through either example of renovation of existing heat networks to correct deficiencies in the pipeline network due to deterioration and leakage, replacing plants with newer and more efficient ones, choosing to expand and create new district heating networks with state-of-the-art technology.				X	X
4 - Encourage the incorporation of renewable energy sources to replace fossil energy sources contributing to the decarbonization of cities				X	X