

## EGOKI: integrating adaptation to climate change in spatial and urban planning in municipalities in Navarre <sup>[1]</sup>



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The Navarre Network of Local Entities for Sustainability (NELS Network) with the support of the Biodiversity Foundation and the Spanish Climate Change Office has developed the Project titled "EGOKI, integrating criteria for adaptation to climate change into urban planning of local entities of the Comunidad Foral de Navarra (Navarre Region)".

EGOKI has developed different actions, among which, agent training and the development of pilot experiences

in four municipalities that can be replicated across all of Navarre stand out. The municipalities are representative (of a rural nature and population <10,000 inhabitants) and are located in different climatic zones, which means the knowledge about the climate scenarios, impacts and vulnerability and adaptation proposals considered are transferable. The conclusions have been submitted to the Government of Navarre as a proposal of technical instructions for planning and municipal guidance and help overcome the knowledge barriers that lead to inaction in the face of climate change.

## Case Study Description

### **Challenges:**

The EGOKI Project seeks to answer questions such as: how should we plan and comprehensively manage the municipal territory to reduce its vulnerability to climate change in the urban, rural and natural environments? How can trees and green areas contribute to reduce the impact of heat waves? How will sewer networks need to be dimensioned if climate changes portend an increase in torrential rains? How can buildings be transformed to maintain thermal comfort and reduce greenhouse gas emissions?

Anticipation is key, and the local scope is the ideal context for adaptation, since it is at the local scale where changes have a direct effect on the well-being and health of people and where policies can be/must be applied to favor territorial and social resilience.

The inclusion of adaptation to climate change in local planning is therefore unavoidable, and is particularly relevant in urban planning:

- In urban areas, planning places constraints on aspects such as the location of activities in areas that are more or less sensitive to risks (floods, heat waves, etc.), thermal comfort of homes and facilities, water management (which is becoming increasingly critical), the environmental quality of outdoor spaces (with increasingly extreme temperatures), etc.
- In rural environments, from a broad concept of municipal land use management that includes rural land, planning contributes to the establishment of conditions that favor the prevention of forest fires and their possible impact on population centers, landscape protection, the promotion of organic farming and extensive livestock farming, sustainable management of forests, etc.

Reducing the vulnerability of municipalities in Navarre is the main objective of EGOKI, and its ultimate outcome will be a set of recommendations aimed at integrating criteria for adaptation to climate change into urban planning procedures in Navarre.

The project is developed in small and medium size rural municipalities in terms of population (population of pilot municipalities less than 10,000) in which few adaptation experiences have taken place, particularly in the urban environment, but also in terms of the application of adaptation criteria in rural land, based on the Municipal General Planning.

Some relevant challenges to consider when integrating adaptation to CC in urban planning include:

1. Linking planning to the development model.
2. Urban planning with respect to the rest of the territory.
3. Temporary scope of planning with respect to the horizon of climate change scenarios.
4. Decisive content versus recommendations.
5. Flexibility in planning for incremental adaptation.
6. Coordination of municipal general planning and other municipal plans, especially Local Agenda 21 (which defines the municipal sustainability strategy) and related sectoral plans (forestry, flood, health, etc.).

**Objectives:**

- Overcoming the knowledge barriers that lead to inaction in the face of climate change in the scope of spatial planning.
- Incorporating adaptation to climate change in urban planning of local entities in Navarre.
- Knowing the scenarios, impacts and vulnerability as well as the possible proposals for adaptation in different climatic sub-regions and municipality types.
- Developing a pilot process in 4 municipalities that can be replicated throughout the autonomous community (region).
- Transferring regulatory proposals to the Government of Navarre.

**Adaptation measures implemented in the case study:**

[Institutional: National and governmental policies and programs](#) [3]

**Solutions:**

EGOKI (which means “adapt” in Basque) contributes to achieving the objectives of the Climate Change Roadmap of Navarre (KLINA) currently in development by the Regional Government (with the participation of society as a whole) and, specifically, to prevent the vulnerability derived from the impacts of climate change at the local level.

The four pilot city councils (Corella, Esteribar, Noain-Valle de Elorz and Villatuerta, which are local entities belonging to the NELS Network (Navarre Network of Local Entities for Sustainability) and are different in terms of typology and climatic sub-region) steer the task of including criteria for adaptation to climate change in their urban planning, under the supervision of experts. The remaining local entities comprising the NELS Network and in Navarre as a whole benefit from the knowledge being generated in the pilots, participation in training sessions and the push for the integration of climate change criteria into territorial and urban planning in the Region of Navarre.

EGOKI is an inclusive project that is rolled out via agent theoretical and practical training, local workshops with technical planning committees, debates in municipal plenary sessions, open discussions with citizens and experience sharing. As a conclusion to this process, the NELS Network has formally submitted to the Government of Navarre a document including concrete proposals in the field of territorial and urban planning, which may be extended to the Navarre Region as a whole in the form of planning technical instructions. The Territory and Landscape Planning Service is in charge of transposing it and transferring it to all the municipalities.

The first activity consisted in a theoretical-practical training course for agents that has allowed to increase the overall general knowledge and kick off the work performed by teams from the four municipalities, thanks to a participatory methodology applied to pilot projects.

Subsequently, a supervised process was developed in which a proposal of the measures and their integration into the planning via different mechanisms were specified in each pilot, and in coordination with other municipal and sectorial plans. The teams have shared the knowledge by exchanging documents and holding joint meetings.

The technical documents generated were submitted to the Town Planning Commissions of each municipality and were discussed and approved in Municipal Plenary sessions, thus guaranteeing the integration of the various measures into each of the Municipal General Plans.

The methodology followed and individualized for each municipality has been developed in several phases, including: categorization of the municipal territory in relation to climate, study of climatic variability, identification of impacts and systems and sectors exposed to risks, prioritization of impact chains, vulnerability analysis and

risk assessment, and characterization of adaptive measures according to the planning instrument used for their deployment, implementation and execution mechanisms and the scope and purpose of each measure.

At the municipal level, some of the significant measures launched were:

- In view of the increase in temperature, Corella has planned to establish obligations or recommendations and criteria for the rehabilitation of housing, the installation of shading systems and the collection and storage of water in their Municipal Regulations and Ordinances, in addition to establishing limiting conditions and construction development criteria to ensure proper ventilation, shading, vegetation and use of low albedo materials in streets and squares.
- To tackle the risk of forest fires, Esteribar has considered classifying urban and developable land based on the presence of forest masses near urban centers, creating firebreaks following Civil Protection recommendations, duplicating access ways to vulnerable populations and regulating uses in undeveloped land to avoid activities that could cause potential fires.
- To tackle the risk of landscape degradation and the loss of biodiversity and crop yield, Noian-Valle de Elorz has included the creation of a network of green roads (linked to the environmental strategy of the Local Agenda 21), thus establishing a specific classification of suitable land, giving priority to communal land and legislatively defining the procedures for obtaining non-communal land.
- In light of the risk of fluvial floods, Villatuerta has considered different undertakings on the Iranzu River channel crossing the town and the channels feeding it, including the declassification of developable land in flood areas to create natural zones of relief and the establishment of mechanisms for obtaining land (swaps and expropriations), as well as the creation of a regulation pond through a Special Plan for Non-Developable Land.

### **Importance and relevance of the adaptation:**

Caso desarrollado, implementado y parcialmente financiado como una iniciativa de Adaptación al Cambio Climático

Additional Details

### **Stakeholder engagement:**

The EGOKI Project is an initiative of the Navarre Network of Local Entities for Sustainability (NELS Network) and has the support from the Government of Navarre (through the General Directorate of Environment and Territorial Planning) with the collaboration of Lursarea-Navarra Territory and Sustainability Agency (integrated in the public company Nasuvinsa). The municipalities of Corella, Esteribar, Noain-Valle de Elorz and Villatuerta develop the pilot experiences and contribute to finance the project. All these entities have signed a collaboration agreement at the beginning of the project to confirm their commitment to work together.

These four municipalities have piloted the work of including criteria for adaptation to climate change in their urban planning reviews, with the supervision of experts (and advice from Tecnalia Research & Innovation). The remaining local entities that make up the NELS Network benefit from the knowledge generated during the pilot experiences, as well as from participation in training sessions and the promotion to include climate change criteria in territorial and urban planning in the Region of Navarre.

Lursarea and the Government of Navarre provide technical and logistical support to the project and the NELS Network. Lursarea has contributed to the design of the project and has provided accommodation and offered technical support to the project coordinator. Furthermore, the Government of Navarre, which currently assumes the Technical Secretariat of the NELS Network (through which it supports the project), has overseen the technical aspects of the process from the Territory and Landscape Management Service.

The project has the support of the Ministry of Agriculture and Fisheries, Food and Environment, through the Biodiversity Foundation, and has received financing approval in the Call for aid granted by the Biodiversity Foundation, on a competitive basis, for the realization of projects in the field of adaptation to climate change in

2016.

The EGOKI project has been developed following a participatory scheme by means of technical training courses and the different participating agents, local workshops, debates in municipal plenary sessions and talks open to the public.

The different actions addressing the different audiences (in addition to the technical teams of each of the pilot municipalities), such as the training course and the final technical seminar, have been disseminated via email and social networks of the NELS NETWORK (Facebook and Twitter), as well as through press releases published on the website of the Government of Navarre.

### **Project interest:**

Urban planning at the municipal level has a significant potential for adaptation to climate change.

The project is developed in small municipalities (population less than 10,000) in which few adaptation experiences have taken place in the urban environment as well as in terms of the contribution from the Municipal General Plan to include criteria for adaptation to climate change in rural and natural areas (rural land management).

Likewise, the development of pilot initiatives allows to verify the results of the actions and achieve greater diffusion for replication in other municipalities with similar characteristics. On the other hand, the approach of the project as a participatory process that takes into account all the agents involved favors an enhanced ownership of the adaptive measures being adopted, making proposals sustainable over time.

### **Success and limiting factors:**

The process was completed in June 2018 with the submittal of a document by the NELS Network to the Government of Navarra containing specific proposals in the field of spatial and urban planning, which may be extended to the entire Region, in the form of Planning Criteria or Technical Instructions, according to the transposition made by the Territory and Landscape Planning Service. The fact that the four pilot municipalities are representative of most of the municipalities in Navarre and are located in the four main climatic sub-regions identified in Navarre guarantees the transferability of the work.

During the process, minor inconveniences have arisen which, nonetheless, have not prevented completing the actions according to plan and successfully achieving the objectives. In particular, agents participating in the training course have experienced initial difficulties (including the municipal work teams) when trying to assimilate novel concepts and technical aspects related to climate adaptation in connection with urban planning, as well as difficulties in matching the pace and quality of the work of the different municipal teams at certain times. (In Navarre, most small municipalities do not have specific technical specialists and the planning drafting teams have had different time availability).

It is important to highlight that the political and technical commitment of the four pilot councils with EGOKI has been firm and, despite the difficulties that have arisen at certain moments, they have provided solutions and given priority to the project. This, together with the collaborative work scheme and the equally firm commitment of the group of entities that have signed the agreement, has been the main success factor.

Regarding the execution of the specific work of including adaptation criteria in the planning, it should be noted that, being a novel subject, the different technical specialists have addressed the work in different ways, making the task of compiling the conclusions into a common document that should guide the future work of all Navarre municipalities complex.

Verifying the fact that the best way to advance in knowledge is learning by doing and sharing and comparing that which is being worked on has been a positive experience, thus proving that the foreseen methodology has

turned out to be strongly valid. Having different teams working simultaneously and mutually supporting one another has been fundamental, as it has facilitated motivating the technical specialists at all times and kept them from becoming discouraged due to lack of confidence in their capacity to tackle such a novel task.

During the process, useful data sources have been identified as well as certain information gaps and specific studies that are needed to further determine the climatic scenarios, dangers, vulnerability and the adaptive capacity of different systems and specific sectors. From this angle, the process has also been useful to identify the available and unavailable information that might be necessary for integrating climate adaptation into spatial and urban planning and transferring the need to carry out studies, collect indicators, etc. on a local scale to the Government of Navarre and Lursarea. The positive aspect is related to the absence of accurate information, which has allowed enhancing the technical specialists' analytical capabilities and decision-making skills at their discretion (expert judgment).

The close collaboration among all signatory entities of the agreement and the inclusion of the Navarre Delegation of the State Meteorological Agency (Aemet) is again worth noting, which has also contributed to the project in the form of training and advisory initiatives.

All of the above has highlighted EGOKI as a project that facilitates coordination between public administrations and entities related to climate change, favoring the development of the Climate Change Roadmap of Navarre (KLINA).

#### **Budget, funding and additional benefits:**

The total budget of the project amounts to € 54,365 (euros). Funding is public and comes from different administrations (state, regional and local).

The project has the support of the Ministry of Agriculture and Fisheries, Food and Environment, through the Biodiversity Foundation, and has received financing approval in the Call for aid granted by the Biodiversity Foundation, on a competitive basis, for the realization of projects in the field of adaptation to climate change in 2016.

The Biodiversity Foundation finances 70% of the budget, representing an aid of € 38,055 (euros). Thirty percent, € 16,310 (euros) is funded by the NELS Network (€ 13,310) and by the pilot town councils (€ 750 each).

Both the Government of Navarre and Lursarea-Navarre Territory and Sustainability Agency (integrated in the public company Nasuvinsa) collaborate in the project, providing support to the coordinator as follows: the Government provides support through the NELS Network Technical Secretariat, with follow-up by the Territory and Landscape Planning Service; Lursarea, contributes to the design of the project and provides accommodation and technical support to the coordinator.

The project has been successfully completed: participating agents in Navarre have been trained in spatial planning and urban planning. The four pilot municipalities have completed the process and the conclusions of their work are transferable to the whole of Navarre. The involvement of the work teams (municipal technical specialists and planning drafting teams) has been instrumental. Training of the planning drafting teams in this field is considered key in order to expand the inclusion of criteria for adaptation to climate change in other Municipal General Plans and planning at different scales (there are few city planners working in Navarre and all of them work in different municipalities simultaneously).

The EGOKI project has been a forerunner to the establishment of an adaptive planning and management of both the territory and the built environment in Navarre, the continuity of which is guaranteed thanks to agent training, the development of Urban Planning Criteria or Technical Instructions and coordination of this work with the development of the Climate Change Roadmap of Navarre (KLINA) and the LIFE Integrated NADAPTA project.

EGOKI brings high efficiency from a cost-benefit standpoint, since it has been capable to achieve very good

results with a modest budget that will be sustained and increased over time.

**Legal aspects:**

The EGOKI project contributes to achieve the objectives of the Climate Change Roadmap of Navarre (KLINA) currently in development by the Regional Government of Navarre.

**Implementation time:**

September 2017 – June 2018

Reference Information

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**Sources:**

[Guía para la elaboración de planes locales de adaptación al cambio climático. MAGRAMA/OECC, 2015.](#) [5]

[Medidas para la mitigación y la adaptación al cambio climático en el planeamiento urbano: Guía metodológica. Red Española de Ciudades por el Clima, Sección de la Federación Española de Municipios y Provincias, 2017.](#)

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