

# TPM

## Territorial Performance Monitoring Annexes

Qualitative Analysis  
Navarre Region

Targeted Analysis 2013/02/13  
Interim Report | Version 31/August/2011



This report presents the interim results of a Targeted Analysis conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

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# 1. Followed objectives

## 1.1. Objectives of the TPM Project

The Territorial Observatory of Navarre (OTN) participated in the Territorial Performance Monitoring (TPM) project, priority 2 of the ESPON Programme. The objective that the project undertakes is to develop a monitoring tool to know the performance of the regions with respect to the global challenges defined on the European level: globalization, demographics, climate change and energy. This tool will permit evaluating the effectiveness of the territorial strategies in relation to the needs of spatial transformations, as well as increase the possibilities of regional action in view of the mentioned macro challenges. Each one of these challenges has a clear impact on the European scale, but at the regional level in some cases the effects become more serious, while in others they are less relevant. For this reason, it is important to evaluate how these challenges are reflected on the regional level and how they are being confronted through the opportune regional policies, plans and strategies.

## 1.2. Objectives of the report

The objective of this document is to present the study carried out by the Territorial Observatory of Navarre (NASURSA-Navarre de Suelo Residencial, S.A.) for the Inception Report of the TPM project. The work was carried out during the months of April, May and June of this year 2011.

As a means of introduction, the geographic location of the region of Navarre is shown on a map and the planning system and its structure are explained. This first approach to the region is intended to facilitate the work of understanding the rest of the document.

The principal part of the study is comprised by sections 4-8. It describes the methodology used to obtain the desired information, the techniques used and the stakeholders involved. Then, differentiating by each of the macro-challenges: globalization, demographics, climate change and energy, it explains and analyzes the information that was collected during the process. By sections, etc.

As a complement to the explained information, in point 9 the references are listed for documents as well as institutions that are relevant and that have a significant role in the macro challenges.

Finally, the OTN undertakes to give a series of recommendations on the measures that would be necessary to adopt on the regional level in the planning framework to improve the capacity to confront the global challenges for the region of Navarre.

## 2. Map

### 2.1. Planning system

Spatial Planning is a relatively new discipline that began to find its place in the public administration with the approval of the Spanish Constitution of 1978. As the autonomous regions acquire competences in the new State model, each of them is in charge of approving the laws that structure the procedures related to Spatial Planning along with those of urban planning, a traditionally leading area in the territorial interventions.

Currently, the Regional Law 35/2002 on Spatial Planning and Urban Planning (LFOTU) is that which governs the spatial planning system of the region of Navarre. This law succeeds the other previous laws on the subject of spatial planning and urban planning, such as Laws 12/1986, and 10/1994. In 2009 a minor change was made that does not affect the system, but rather only certain rules.

The LFOTU contains varied objectives. Some have general content aimed at territorial planning, while others have a more specific nature, more closely related to urban planning than to territorial planning. The detailed rules on the urban planning level, such as, for example, the minimum surface areas of public space or the number of parking space per block, can be considered the result of the urban planning tradition of Spain, since in other countries there is not such a detailed level in laws on the same subject.

Furthermore, the LFOTU lays out in its Article 15, the creation of the Social Council of Territorial Policy of Navarre (CSPT), as the body of a participating and deliberating nature on subjects related to the territory. This body has the capacity of influencing the policies since it has a marked political nature due to the weight of the institutional members, but also a

social character, since more than half of its members are social or economics agents, professionals and experts of relevant prestige on the subject. Furthermore, it proposes the creation of the Territorial Observatory of Navarre (OTN) as the technical unit assigned the specific task of the implementation, evaluation, adaptation of instruments and policies, updating, etc. of the determinations and indicators of the ETN (Territorial Strategy of Navarre). It is fortunate to have this type of spatial planning in the Region since they bring a territorial component to the discussions, bring the territorial subjects closer to the rest of policies and ensure the evaluation processes. These actions are indicators of the institutional interest that exists in the Region regarding the territorial subjects.

The OTN has as a strategic and guiding objective of all its activity to provide Navarre with a study forum that permits advancing towards better management and evolution of the territory of the Region.

The system consists of five key instruments that are applied in the order of larger (region) to smaller (municipality). The Territorial Strategy of Navarre (ETN) is an instrument of a guiding nature that defines lines of action in order to achieve sustainable territorial development of the region. It is a new figure introduced in the LFOTU of 2002. In 2005 the final document was approved, which is organized around six large objectives: better socioeconomic cohesion, better conservation of natural resources, more balanced competitiveness, a more polycentric urban system, better fairness in the access of the population to the services, the infrastructures and knowledge, and an intelligent management of natural and cultural heritage.

The figures of the Regional Spatial Planning Programmes (POT) were also introduced in the last Law of 2002. The POT are planning instruments at the subregional level that distinguishes five areas within the region of Navarre. From the year of the ETN's approval, work has been carried out on the elaboration of the POT and their approval took place in May 2011.

It is important to point out that, contrary to what occurs with the ETN, the determinations of the POT have, in their majority, a binding nature.

The purpose of the Master Plans of Territorial Action (PDAT), also a new figure of the LFOTU, is the specification, coordination and programming of the sectorial actions on the territory derived from the POT. Despite the fact that they have still not been put into practice, great expectations have been created around the PDAT because they would be the

instruments in charge of transforming the POT and the ENT into specific actions within the territory at a supra-municipal level.

The Sectorial Plans and Projects of Supra-municipal Impact (PSIS) are figures already existing in previous laws and are applied on many occasions. The plans of this category are instruments that serve to elaborate a sectorial project, such as an industrial park or a new subdivision, of a size that surpasses the capacity of the municipality. The PSIS also refer to specific projects whose purpose is to regulate the territorial implementation of infrastructures or hydraulic, transportation, environmental management installations and others.

The General Municipal Plan (PGM) is the basic instrument through which the urban organization of a complete municipality is established by means of integrated and global regulation. Its purpose is to define the strategy and municipal occupation model of the territory and to establish the structuring organization for the entire municipality. The figure of the PGM replaces the Municipal Plan, a municipal instrument in force in the previous legislation. The most substantial change is the introduction of the Strategy and Occupation Model of the Territory (EMOT), a document that must reflect the strategic commitments of the municipality for their future development.

### 3. Methodology

In Navarre, the methodology developed for the evaluation of the regional policies was presented with the following structure, following the guidelines marked by the project:

#### 3.1. Document analysis

The first step was to review relevant documents containing policy measures related to the four macro challenges in the region to know the state of each. Next, a matrix was developed that relates what documents refer to the indicators that have been identified as gauges of the four macro challenges. The result of this matrix was used to compare the results of the first round and to carry out the second that we will see below.

The documents for the desktop analysis were:

- Regional Strategy for Navarre
- Regional Spatial Planning Programme
- Climate Change Strategy and Plan
- Moderna Plan: a new economic development model
- Internationalization Plan
- Energy Plan
- Integration of the Immigrant Population Plan
- Environmental Training Plan for the Government of Navarre
- Forest Plan
- Strategy for the Sustainable Management and Use of Water in Navarre
- Waste Management Plan
- Special Flood-Risk Plan
- Nature Reserve Management and Use Plan
- Gerontology Plan
- Sustainable Urban Mobility Plan in Pamplona
- Urban Transportation Plan in Pamplona
- Technology Plan
- Employment Plan

In the second step, the aim was gather information through a round of consultations with key stakeholder policy makers. This step contains two rounds:

### **First round**

Semi-structured interview: is a method of research that in social sciences is used for its higher degree of flexibility compare to structured ones. A semi-structured interview is flexible, allowing new questions to be brought up during the interview as a result of what the interviewee says. The interviewer in a semi-structured interview generally has a framework of themes to be explored.

Attempts had been made for the interviewees to be from the Spatial Planning Department but finally the best option was to have sectorial experts belonging to other Departments of Government of Navarre. There was an interview for each challenge. For the proper development of the interviews, we previously sent them the questionnaire defined in the TPM methodology in order to facilitate the work and then, a semi-structured interview was organized, keeping in mind the questionnaire. The questionnaire was adapted to every challenge and a description of

each challenge was added to them to assist in the interview. The objective was to obtain information about how these experts believe that the posed macro challenges will affect Navarre and what sectorial policies are being posed. The output of this work is a brief report on each interview about general conclusions.

The persons interviewed in this first round were:

.- Maite Dominguez. General Management of the Economic Policy Area of the Economy and Treasury Department of the Government of Navarre.

.- Juan José Pons. Member of the Social Council of Territorial Policies (CSPT). The Social Council of Territorial Policies (CSPT) is an advisory body of the Government of Navarre, and a platform for participation. Through this Council, institutional, social and economic representatives of Navarre have the opportunity to collaborate in the territorial development of the region.

.- Pedro Zuazo. General Management of the Environmental Area of the Environmental and Rural Development Department of the Government of Navarre.

.- José Javier Armendariz. General Management of the National Centre of Renewable Energies (CENER). Highly qualified technology centre of international prestige, specialized in applied research and the development and promotion of renewable energy sources.

.- Juan Franco. General Management of the International Development Area of the Economy and Treasury Department of the Government of Navarre.

## **Second round**

Focus group discussion: This is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs and attitudes towards a study agenda. Questions are asked in an interactive group setting where participants are free to talk with other group members.

Following this technique, a Seminar was conducted where we brought together a group of experts on spatial planning who possessed, in turn, general knowledge of the reality of the region. The objective was to know their opinion and perception of the study subjects of the project and to gather information on how to take on these challenges from territorial policies.

The Seminar was presented in a dynamic and participative manner through: on the one hand, four sheets, one per challenge, on which a series of affirmations extracted from the first round were evaluated quantitatively through the technical ranking exercise; and on the other hand, the qualitative assessment from general questions that were presented for each challenge.

The persons that participated in the seminar were:

- .- José Mari Jiménez. Technical Director of the Regional Spatial Planning Programmes of Navarre.
- .- Luis Zarraluqui. Representative of the Spanish Association of Urban Planning Technicians.
- .- Maite Domínguez. Director of the Economics Service of the Government of Navarre.
- .- Pedro Zuazo. Director of the Environmental Quality Service
- .- Manuel Ferrer. Professor of Geography of the University of Navarre.
- .- José Antonio Marcén. Director of the Spatial Planning Service of the Government of Navarre.
- .- Idoia Madariaga. Managing Director of Navarre de Suelo Residencial S.A.

Conducting this seminar where we brought together different experts was a complete success. Through this technique and due to the fact that the correct persons were grouped together, abundant information was obtained and different data could be compared which led us to a correct evaluation of the region.

The schedule plan was:

- Mid April: Have Round 1 of Qualitative Analysis completed
- Last week of April: Discussion on results of Round 1 with partners
- End of May: Round 2 completed
- Early-Mid June: Draft of Qualitative report
- End of June: Qualitative Report completed

## 4. Globalization

The notion of globalization is a fairly abstract one, meaning both increasing trade across the globe, inducing competition with increasingly

productive areas in other countries, but also the submission of more and more parts of human life to market forces. One of the consequences of globalization is that, on the world scenario, Europe is losing its role of control "centre" of a "periphery". This fact is brought about by countries increasingly playing this same role, while the connections and dependences that define the relations between the territories are changing, aggravated by the world economic crisis. On the policy level, Europe has noted the challenge that globalization signifies, converting it into one of its greatest objectives in the Lisbon Strategy as well as in the new EU 2020 Strategy.

The regional policy, in turn, must focus increasingly on the enabling factors of competitiveness in order to achieve an increase in their productive capacities, while having to confront the consequences of greater European integration. In addition, the impacts of globalization are not only limited to competitiveness, but rather the competitiveness causes other derived effects on the regions, whether in terms of mobility, attraction of highly qualified personnel, specific demands of emerging industries (healthcare, culture, high technology, green technology...), rural-urban relations, provision of public services, multicultural integration... These factors, taken within the economic context in which the regions define their specific role and their economic model, will be those that contribute to the general European growth rate and, therefore, to the position of Europe as a whole within the group of commercial blocks.

#### 4.1. Awareness of the macro challenge

Globalization is evidenced and has diverse consequences worldwide and also specific characteristics for each country and region. This is evidenced in Navarre through economic, educational, social, and especially labour characteristics; through industries that come to Navarre, personnel that move to other countries either to work or to receive training... The most significant territorial impacts produced by globalization are the relocation of industries and the locating of the most powerful economic sectors in certain spaces in detriment to others, which makes the problem of the increase in the territorial disparities more acute.

The enlargement of the European Union (EU), in turn, has had an impact on the economic, social and territorial cohesion, particularly with respect to the integration of Eastern Europe and the new Member States on the subject of transport and energy infrastructures. As a consequence, the

transportation flows have increased and a concentration has taken place in those that have a greater environmental impact (highway, air...).

As for Navarre, it currently has a territorial model of centre-periphery with strong concentration of Gross Domestic Product (GDP) in the most central areas. North-south and east-west differences are observed in the economic growth within the European context, as well as in the potential of the urban areas, in the differences in the investments and in the R&D potential. This is producing alterations regarding the population, the structuring of the territory, the economic activity and the fitting out of the territory.

In the region, and in relation to the perception of the globalization, no consideration of the concept of globalization as such, but as an element of analysis, is shown in some documents related to the Region, such as the Territorial Strategy of Navarre (ETN) and the Regional Spatial Planning Programmes (POT); while other documents at the sectorial level do contribute a perception of globalization. Navarre has from 2008 an Internationalization Plan of Navarre (PIN), where the general policy perspective is expressed in relation to globalization; it deals with a specific plan to define and coordinate the policies related to internationalization in all aspects, taking on the vision of globalization in the territory of Navarre.

Likewise, in 2010 the plan referred to as the Moderna Plan was approved, which defines the new model of economic development of Navarre for upcoming years. One of the cross sections analyzed in the Moderna Plan and on which a strategy was created is internationalization. The stakeholders consider that both plans consolidate the general policy perspective existing on globalization in Navarre, and coincide in that it would be necessary to continue working on it.

Navarre used various supra-regional analyses as a basis when profiling the different plans. In the Internationalization Plan of Navarre (PIN), different international rankings were studied, principally European, to analyze the strong and weak points of Navarre on the international level. Through these analyses and predictions, policy measures have been profiled: according to the results of the analysis and the evolution of Navarre, policies will be undertaken that are necessary to maintain and improve the ranking of Navarre.

As for the time frame, the PIN considers a time frame (2008-2011) that allows adjusting the adopted measures around internationalization with the needs of the current moment. Furthermore, the functioning of the Plan

includes a Council that meets annually to update the measures that were adopted according to the needs that are being suggested. The vision of globalization was based on the experience of different entities involved in internationalization and on the knowledge that their experience has given them.

Likewise, for the elaboration of the Moderna Plan, other "Moderna Plans" in the world were studied, especially experiences in Europe and the United States. In addition, the elaboration process of the plan itself had a list of indicators comparing the situation of Navarre with other European regions and some on the global level in order to set objectives based on the results. As we said, on these analyses and predictions used, Navarre has launched the Moderna Plan that defines the economic model that Navarre will have in the upcoming years, crossing predictions, the current situation and characteristics of Navarre. The Moderna Plan has its horizon in 2030.

## 4.2. Consistence of policy bundles

Currently in Navarre there are two main documents in relation to the challenge of globalization, one on the specific level, the Internationalization Plan of Navarre, and another on the general level, the Moderna Plan.

### Internationalization Plan of Navarre (PIN)

In 2008 the Internationalization Plan of Navarre 2008-2011 was launched as a strategic document to define the policies regarding the internationalization of Navarre. It is a complete plan that takes on areas such as education, business internationalization, international alliances, capturing investments and participation in international projects and contracts. It focuses its time frame on the short term (2008-2011) in order to be able to adapt the adopted measures to the needs of the moment. The Plan took on the challenge of globalization; specifically, by having as one of its objectives "to take advantage of opportunities of the global setting".

It was intended to be a single document, a road map, in everything referring to the policies of internationalization, ensuring its coherence and looking for synergies in this area. This Plan was complemented by the Moderna Plan, which is of a broader nature.

The PIN arose from a previous discussion in which participated representatives of 21 entities, in addition to the public administration itself. Five working groups were created with experts that debated the five areas that later would comprise the PIN: education, internationalization of companies, economic image of Navarre, alliances and networks and the capturing of European and international projects. Many of these agents currently form part of the Internationalization Council of Navarre, where the evolution of the Plan and the actions that must be executed are discussed. This Council is composed of 25 persons representing the same number of organizations, and its functions are, in addition to getting the involved socioeconomic agents to participate in the Plan and its advance, to supervise the monitoring, compliance and updating of the objectives and actions framed in the Plan.

The Internationalization Plan is based on specific and quantifiable objectives starting with indicators. It has 58 actions, each one of which is planned with some dates and some indicators that permit a posteriori measuring the results of the Plan. It has more or less direct measures related to internationalization and, in many cases, with globalization, measures taken in keeping with the vision provided by the participants in the drawing up of the Plans. For each one of the 58 actions of the PIN, time periods were defined: with dates for the preparation, execution and obtaining of results of the actions, and each action has a budget assigned and is consequently reserved in the budgets of Navarre for each financial year.

In addition, the Plan has a scorecard for the management and monitoring. Two bodies were also created along with the PIN to evaluate the Plan: the Internationalization Committee and the Internationalization Council. The first, formed by members of the Government, supervises the compliance of the PIN and coordinates the defined actions and activities. The second has a consulting nature and proposes improvements providing relevant information and coordinating the involved agents.

#### Moderna Plan:

In addition to the Internationalization Plan, Navarre has the aforementioned Moderna Plan, which defines the economic model for Navarre for the upcoming years and serves as an umbrella instrument for all the Plans of the Government of Navarre, for which reason a close relationship exists between these Plans and the Moderna Plan.

Other "Moderna Plans" in the world were studied in order to draw it up, especially experiences in Europe and the United States. At the same time,

it was a model with much participation, since 3,000 persons participated in its preparation, including citizens, administrations, experts, companies and other institutions, and also in its Management Committee, universities, agents, experts, etc., participated.

For the determination of the objectives for Navarre, indicators were used for comparison with other European regions, some on the global level, all of them related with globalization (English, international companies...).

As for the horizontal as well as vertical coordination to respond to the territorial challenges, the Moderna Teams have been created, interdisciplinary working groups formed by the agents that will make possible the change in their work areas (public administration and policy area, private enterprise and social agents, educational system, universities and technological centres) and the Moderna Foundation. At supra-regional levels, the Plan was presented in Brussels to the European Commission and it follows the European Directive 2020, while at the municipal level the Navarre Federation of Municipalities and Councils is a member of the Internationalization Council, thus having a voice in the system itself.

The Moderna Plan has financing through the budget of the Regional Government. In addition to public financing, it also has private financing through entities that are showing interest in financing certain projects such as the case of the Moderna Scholarships for entrepreneurs.

There are also other more specific plans or programmes in diverse sectors dedicated to culture, to the attraction of talent, Training Plan and the Mobility of R&D Research Talent; to the promotion of the technological sectors, Technological Plan of Navarre; as well as the already mentioned Territorial Strategy of Navarre, one of whose directives is focused on the creation of markets for Navarre production; and the Spatial Planning Plans.

With respect to the success of the measures implemented in both plans, the effectiveness of the policy bundles is pending being demonstrated in general, despite the fact that at a more specific level various indicators show its effectiveness; and specific and innovative cases of good practices have been achieved, such as, for example:

- Implementation of teaching models based on immersion in English.
- Specific scholarships for training in foreign countries of young people from Navarre (Erasmus, master's degree scholarships,

- Moderna scholarships for entrepreneurs...), with the condition that afterwards they have to return to work in Navarre.
- Implementation of systems for the proactive capturing of investments for Navarre.
  - Observatory of international rankings.
  - Support programmes in international tenders for companies of Navarre.
  - Creation of a network of Navarrans in other countries.

### 4.3. Future threats/opportunities of the macro challenges

Globalization concerns aspects whose trends will be more pronounced in the future than today. These trends can be taken advantage of by the Regional policies in a positive as well as negative manner, leading to diverse threats and opportunities that the policies will have to take on. When defining these threats and opportunities that globalization can generate, the role of the different agents will be very important, especially that of the stakeholders on the European level, as well as the role of the sectorial policies. The fact that these policies are involved will be very important since their territorial effects could increase the disparities. Therefore, it will be necessary to integrate the territorial dimension in the European policies for the purpose of improving coherence in the territorial development of the European Union.

#### Threats

Globalization is presented as a threat against diverse aspects, both social and economic:

Globalization has a close relationship with the demographic challenge, since the latter can produce depopulation of the most vulnerable areas and creating tensions on the Territorial Development Model defined for Navarre. An example of this would be the alterations in the urban system provoked by the strength of the Metropolitan Area of Pamplona in contrast to other territories such as the Pyrenees. Furthermore, the concentration of the population can provoke the deterioration of the welfare system through the lack of facilities.

Another threat would be the fact that a loss of competitiveness of the region could be generated because of the relocation of companies and mobility of capital towards other regions that offer greater profitability,

especially as concerns the strongest economic sectors in certain areas could increase the territorial disparities and cause the decline of the region's cohesion. In addition, many of these location decisions are taken outside Navarre and they might not be coherent with the territorial dynamics and strategies.

### Opportunities

Navarre is an exception to the high vulnerability index on globalization that the Mediterranean States present according to the Regions 2020 Report of the European Union. Therefore, it is in a position of competitive advantage since it has the opportunity of being perceived as a singular territory for attracting investments that continue improving productivity, employment and education.

As for the economic and productive activity, Navarre works above all in being a pole of attraction for foreign investments compared to other destinations that for economic reasons may seem a priori more attractive. The traditional opening of the region to the outside and the high commercial balance is an important factor when opting for international tenders and contracts, taking advantage of the experience of the Navarran business fabric. Besides, Navarre is considered as one of the most creative and innovative regions of Spain, for which reason it has a better ranking in the change towards the knowledge society and innovation.

In the area of human capital, globalization offers innumerable opportunities of training and job mobility, experience that in the last instance can revert in Navarre if these persons return to work in the region. The attraction of persons with talent would also be compensated by an increase of productivity in the region.

As for demography, the current challenge is found in the adaptation and strengthening of the urban system and promotion of inter-regional cooperation and coordination, especially between Navarre and its neighbouring regions, so that the region is seen as a region-city led by the Metropolitan Area of Pamplona.

On the cultural level, the festival of San Fermín, in Pamplona, is known the world over, for which reason it would also be possible to take advantage of this asset and convert it into an opportunity for globalization and internationalization of Navarre.

## 5. Demography

Currently, and after three decades with low fertility rates, the growth of the population in nearly all of Europe is nil or negative. This decreasing evolution of the population contrasts with that of the majority of the rest of the world in which the population continues growing for which, in general terms, the migratory processes turn out to be much higher numerically than the births and deaths, especially on a local scale. The demographic challenge has been taken into account in the European Union, in particular through the Territorial Agenda and the EU 2020 Strategy. The Territorial Agenda is focused on the role that the territorial effects of the demographic change have on the job market, showing the changes in the needs for services of general interest as well as in the housing market, development of the structure of settlements and in how the people inhabit the cities and regions. The EU 2020 Strategy registers the demographic trend within the European structural weaknesses, in particular in relation to the contraction of the active population in coming years, which will signify, along with the higher number of retired persons, an obstacle for the different welfare systems.

On the regional level, the measures show significant differences between regions, being able to arrange them in various groups according to the type of population structure and with each of these types having to confront particular impacts. The fields on which these demographic changes have the greatest impact on the regional level are, for example, the changing demand for housing, access to services and wellbeing and the provision of commercial and transportation infrastructures. At the same time these impacts will produce new rural-urban divisions with the relocating of persons from the urban setting to the rural, fundamentally of an advanced age, and of the young population in the opposite direction, with problems of social exclusion being able to occur. Locally, these changes can make the local government modify their expenditure needs, for example, farther from schools and nearer to the healthcare services, as well as the domestic economies.

### 5.1. Awareness of the macro challenge

The characteristics of the population are a very important conditioning factor when implementing policies in a territory. In Navarre specifically and in Europe in general, the large problems of demography are immigration and the ageing of the population because of the decrease in the birth rate and the increase in life expectancy, both related to an

excessive concentration of population in the urban nuclei which results in the depopulation of the rural world.

As regards immigration, the change in the both internal and external migration patterns in Spain, and consequently in Navarre, was in general more abrupt and the arrival of immigrants more sudden than in the rest of Europe. In general, the immigrant population maintains its reproductive norms in its place of arrival, characterized by a higher birth rate than that of Spain, which means an increase in the birth rate. In the case of Navarre, it was from the decade of 2000 when the birth rate increased considerably with respect to previous dates; for example, in 2001 the overall birth rate was 8.47, reaching 10.80 in 2010. These data coincide with the great arrival of immigrants, especially from South America, to Navarre. The data show the following: the migratory balance in 2003 was of 1,294, rising in just one year to 6,257. It should be pointed out that due to the current global economic crisis this behaviour is changing since it went from a migratory balance of 12,306 in 2007 to 2,508 in 2009.

Generally after their arrival, the immigrants are installed in certain municipalities or districts that can become "ghettos" with the problems that this brings. A first fact to stress is that it can be expected that, due to the economic crisis, conflicts with the immigrant population could arise but this has not occurred in Navarre, considering very difficult that later on they will appear as the situation improves. A second fact is that a very high percentage of the cases of gender violence take place within this population group.

Throughout recent years, the increase of the population produced by the arrivals of immigrants has obliged the public administrations to destine greater resources especially to healthcare, education and social services, and to provide more attention to the distribution of the population, due to the increase of the territorial imbalances and the lower degree of the territorial cohesion by the concentration of the population in urban areas.

In the different documents of policies and planning instruments it is recorded that in general in Navarre there is no general policy perspective in relation to demography; there does exist, however, perspectives of a sectorial nature, for example, for the allocation of services to the persons, immigrant offices... but they are included in other plans. The Territory Organization policies (Territorial Strategy of Navarre-ETN, Regional Spatial Planning Programmes-POT, Strategy Development Plan of the Pyrenees-PEDP) are the ones that contribute most to this general perspective, but the demographic studies within these plans are not well known or

discussed, for which reason territorial planning instruments that take on this challenge are needed.

When profiling the measures, studies exist for the Region of Navarre on demographic forecasts in regional planning instruments such as ETN and the POT, as well as by statistical institutes on the regional or national level, such as the National Statistics Institute and the Statistics Institute of Navarre.

The Statistics Institute of Navarre conducted in 2004 a demographic project up to 2022 while the National Statistics Institute (INE) prepares, annually, short-term population projections (ten years) on the provincial level, and every three years it prepares long-term projections (forty years) on the national level. However, these studies are generally not used and there is no debate about them, as occurs with the predictions on the supra-regional level.

Analyzing the demographic perspectives prepared in 2000 and 2002 (ETN and Statistics Institute of Navarre), we observe that no foreseen scenario took into account the high rates of immigration that, subsequently, were reached in Navarre, with the population growing much more than was expected at that time. This example shows the need for constructing scenarios that go to the possible extremes, since only in this way can we discern what types of situations could be reached and they should be taken into account in defining territorial or sectorial policies. For this purpose, more recent analyses such as the projection made by the INE at the beginning of 2009 or the prospective analyses made for the POT consider high rates of immigration.

The scenarios of the POT took as a starting point shared and coherent suppositions about the population, later preparing some prospective scenarios based on the analysis of the possible and desirable growth in each area, under the supposition that the region as a whole would not lose population. The result was three scenarios, called concentration and depopulation, maximum cohesion and POT planning. The first, concentration and depopulation, reflects the current trends; the second, maximum cohesion, implements as far as possible the model of territorial development of the ETN; and the third, POT planning, proposes an intermediate road, more possible to achieve than the "maximum cohesion" scenario.

However, these population-increase rates might not correspond to the future growth of the region. Despite the fact that immigration continues

being the key to relieve the low birth rates, the ageing and the consequent decrease of the active population, studies conducted on the European level indicate that the Spatial Planning still does not recognize the usefulness that a negative population growth could entail. In this regard, Navarre is not different from the rest of Europe, where the demographic challenge that one must take on is not only the ageing of the population but also the negative population growth.

The perspectives are not the same for Navarre as a whole. The Area of Pamplona grows in each scenario, but areas such as the Pyrenees, the Atlantic and the Mid-Zones are under the constant threat of depopulation and they show progressive ageing. Spatial Planning is precisely the discipline that could influence the trends, since it works to achieve a more balanced territory by means of the promotion of poles of development and residential areas outside the Area of Pamplona.

## 5.2. Consistence of policy bundles

In this section, the documents existing in Navarre on the subject of demography are analyzed, as well as the strategic capacity of the policy bundles that are implemented in each of them, and their effectiveness, conditioned by the contents of these bundles.

The demographic challenge in Navarre is taken on coherently in various documents, ETN, POT, Strategic Development Plan of the Pyrenees (PEDP)... However, the focus of these documents on the demographic challenge does not go beyond the analysis and diagnosis of the situation, with there being no specific and clear measures for taking on the detected problems.

On one hand, the challenges that demography signifies are indeed broadly debated, for example, the possible lack of resources by the administrations to be able to confront a large number of pensions, but on the other hand, the planning system does not define a specific content in order to confront these demographic challenges since they do not propose specific actions. When combating these problems the sectorial problems are predominant, while the spatial planning policies or the territorial strategies, such as the aforementioned Strategic Development Plan of the Pyrenees, for example, carry out the analysis of the situation and diagnosis.

The vision of the demography contained in the policies is based on knowledge and framed in the territorial perspective, existing coherence among the different documents, strategies... despite the fact that many of these policies are not shared with the people as they aren't subjects of debate with a lot of interest as others, with the exception of the Navarran Pyrenees area. What is needed is a vision on the specific objectives to achieve, since we have said there is no general policy perspective.

The ETN defines the demographic development model for Navarre, but does not define specific actions to implement it, neither are they a priority, nor is there any budget for undertaking them for which reason the trends continue. Furthermore, the ETN defines monitoring indicators that evaluate the situation of the region in this area; however, these are not capable of evaluating the evolution of the results obtained by the different actions in order to achieve the proposed objectives.

The planning on the municipal level also presents deficiencies regarding the demographic challenge, in the urban plans, for example, very superficial demographic analyses are conducted and, besides, the objectives to achieve are not reflected with effective specific measures. This is the case of the formation of "ghettos", a subject analyzed in the conducted diagnoses but for which no measures are taken.

With regard to the efficiency and effectiveness of the policy bundles, one of the principle problems in taking on the demographic challenge in Navarre is that there is no single department that undertakes the measures with respect to the challenge, but rather there is a division of the policies among various departments and until now they have not defined coordination formulas: Social Affairs, Institutional Relations for subjects of Immigration, Education, Healthcare, Spatial Planning.

In relation to the adopted measures, despite being coherent with each other and with the plans themselves, there are no systematic measures of authentic significance and the majority are of a sectorial nature, for example, the allocation of services to persons, the integration of the immigrant population... What comes closer to measures that combat the demographic challenge are those above-mentioned policies of spatial planning (ETN, POT, PEDP).

The effectiveness of the measures referring to the integration of the immigration population works, with no important conflicts being observed in this area. However, the measures aimed at achieving the objective of territorial and population balance do not function sufficiently in a

convulsive economic scenario. The depopulation of areas and the concentration of the population in the Area of Pamplona and surrounding areas in the 1990-2009 period was accentuated, especially between 2005 and 2009.

In this way, the stakeholders of the region propose policies that promote the birth rate and the correct distribution of the population in the territory, for example, through the conversion of the rural depopulated areas in more attractive areas for the establishment of the population, such as for example the immigrant population, in view of the good functioning that the integration measures have demonstrated.

### 5.3. Future threats/opportunities of the macro challenges

The demographic challenge concerns aspects whose trends will be more pronounced in the future than at present. These trends can be used positively or negatively by the policies of the Region, resulting in different threats or opportunities that the policies will have to address.

#### Threats

The principal risks that the demographic challenge entails are closely linked to the two principal causes, immigration and the ageing of the population. In order to combat them, the region will have to face policies related to the distribution of the population, which can be concentrated in certain areas, provoking a suburbanization and dispersion of the city at the same time as a depopulation of the rural areas.

The ageing of the population could create problems regarding the dependence of these older persons and the capacity of the region to attend them, to which would be added a lack of population in working age that could economically sustain the pensions of the elderly.

In turn, the increase of fertility due to the arrival of immigrants could be a focus of tension in relation to the integration or the education of this population in the framework of the Navarran population. In addition, this situation is considered as a "patch" in the problem of the ageing of the population, and not as an effective measure because in order to resolve it, a change in the trends would be necessary.

There are cases in other regions where they are working with greater emphasis on these matters, through measures that tend to favour the family, for example, providing inexpensive rental property.

The Natural and Cultural Heritage, likewise, can be altered as a consequence of the demographic changes. Due to the abandonment of the rural medium and to the ageing of the population, the jobs that were historically carried out such as cleaning of forests, maintenance of pastures through extensive stock farming, maintaining agricultural landscapes, traditions, culture... would gradually disappear.

At the same time, this fact would cause alterations in the urban system regarding structuring, due to the territorial imbalance for the decline of the cohesion and the concentration of the population. It is this concentration of the population in urban areas that could lead to a scarcity of facilities and to maladjustments in the job market, and, therefore, to the detriment of the welfare system.

#### Opportunities

The population distribution model that is proposed in Navarre through the ETN and the POT is differentiated from the natural trends in various scenarios. Therefore, one of the opportunities that are presented is the knowledge of these natural trends, affected by various factors, and the analysis of their impacts on the Navarran territory in order to be able to adapt better its long-term strategies. Furthermore, Navarre can analyze the key mechanisms that reach a greater influence to a greater extent for the development of its different areas.

On the other hand, the increase in the fertility due to the arrival of young immigrants could be a factor that avoids the negative natural growth, rejuvenating the population, but as we have seen previously without the application of other measures this would simply be a "patch" to the problem.

If the population continues to increase due to the arrival of immigrants or even to a change in the birth rate trends, the critical mass would grow and it would be easier to undertake policies and actions to favour the regional development.

Also, this same immigrant population could facilitate the dissemination of Navarre in other countries by acting as a distribution channel for the region, becoming a bridge to external markets, in investments as well as in human capital.

Finally, the ageing of the population must lead to a better use of the "senior" human capital and mitigate in this way the lowering of the productive capacity of the region.

## 6. Climate change

The climate change is considered to be the greatest environmental threat of the future, often with unpredictable consequences, especially on the local scale. The emissions coming from transportation, industry and other sectors entail an increase of the greenhouse gases in the atmosphere that, in turn, cause climate changes; increases in temperature, differences in the annual precipitation, occurrence of extreme climatological phenomena, etc. In the European Union's agenda the climate change is one of the priorities; the policies on energy and climate establish for 2020 the objectives of a 20% reduction in energy consumption and emission of the greenhouse gases, having to have been reached through a mixture of policies that exploit the potential of the new technologies. The document, "Adapting to Climate Change: Towards a European Framework for Action" (2009), indicated the fields that present greater challenges and those that the European regional policies will have to address to achieve the adaptation and mitigation of the climate change: healthcare and social policies, agriculture and forests, biodiversity, ecosystems and water, marine and coastal areas, production systems, tourism...

### 6.1. Awareness of the macro challenge

The climate change presents characteristics common to all the regions of the global level as well as specific characteristics for each region.

Globally, the climate change affects different areas, producing alterations in the natural heritage (agriculture, biodiversity, water...), in the urban system (territorial balance, services) and in the socioeconomic area (healthcare, facilities...). In turn, the geographic characteristics of Europe are being seen modified by it, producing changes particularly in the coastal areas, the mountain areas or the hydrographic basins.

Navarre, taking into account its reduced extension, possesses great climate diversity. On the one hand, one finds the northern area with an

oceanic-rainy climate, influenced by its proximity to the coast, although it only presents characteristics typical of a maritime climate in the Valley of Bidasoa; the climate conditions in this area are softened by their proximity to the sea. On the other hand, in the southern area, the climate has a much more continentalized Mediterranean character and separating both climates, in the middle of Navarre, one finds a strip of transition climate. Finally, in the northeast of the region we find the Pyrenees area, with a mountain climate. The climatological differences between the diverse areas also make for very different temperatures and precipitation. The northern area presents lower temperatures and has more precipitation than the southern area.

Currently, the regional changes in the temperature and the rain due to the climate change are having impacts that are already perceptible in the physical and biological systems. The climate change is associated with a greater risk of adverse climate phenomena such as floods, fires, temperature increases... that are leading to changes in agricultural quality and productivity. If this situation continues to increase, in the long term, these climate patterns in certain areas could displace and concentrate population and economic activity towards other areas.

Therefore, and counting on the impossibility of stopping it, the importance resides in being able to mitigate and adapt to the climate change.

The perception and general policy perspective of the climate change obtained through the policy documents and planning instruments of the Region of Navarre show that the climate change has not had much importance on the organization of the territory in Navarre. It does not appear referred to as such in the Territorial Strategy of Navarre (ETN), the instrument of spatial planning that tries to apply in Navarre the principles of spatial development of the European Territorial Strategy, since the document avoids its use as a concept although not as an element of analysis. The same thing occurs with the recently approved Regional Spatial Planning Programmes (POT) of Navarre, which are the ones that carry out the contents of the ETN and in which, for example, the problems caused by the floods were taken into account, however not from the view of climate change, but rather due to the awareness that exists on the subject in the region.

The documents that explicitly take on the climate change in the Region, The Strategy against Climate Change of Navarre and its Action Plan for the Climate, are characterized in their preparation by the lack of awareness of the Government Departments of Navarre as well as on the

social level, which shows that in Navarre the climate change has not been assumed as a challenge and there is no generalized awareness of it or a global vision of the importance of the subject, despite the fact that in sectorial debates the subject of the climate change is present.

In this regard, one of the subjects that concern most the stakeholders is the increase of the awareness and interest towards the climate change by the Government Departments of Navarre and the society in general.

In relation to the predictions on the impacts of the climate change in Navarre, while the ETN is for a 20-year time frame, 2005-2025, the Strategy against Climate Change of Navarre is for a more reduced period, of ten years from 2010 to 2020. The effects that are forecasted in Navarre will be principally the increase of temperatures and the changes in the frequency and intensity of precipitation, and consequently, less availability of water resources. These changes will impact negatively on agriculture, key economic sector in the region of Navarre, on biodiversity, on human health...

## 6.2. Consistence of policy bundles

The effectiveness of the policies on the climate change is seen conditioned in Navarre by the content of the different documents that address them. Thus, in the region there are various documents in relation to climate change; however, as we have stated, it does not appear as such in any of them, not in the ETN, whose objectives are, among others, to search for social awareness of the environmental problems and to educate the citizens in habits that reduces the ecological footprint, and not in the POT where the use of the term is avoided as a concept although not as an element of analysis. In their content, the POT address sustainability, understood in its triple meaning --environmental, social and economic-- and propose a Natural Heritage strategy through the protection and restoration of the diversity and environmental, landscape and cultural value of the territory, constituting a productive resource.

The need to draw up a document that addresses the climate change directly was gradually made clear. In view of this situation, the Government of Navarre prepared the Strategy against Climate Change of Navarre 2010-2020 and its Action Plan for the Climate of Navarre, assuming in this way its responsibility in face of the common objectives

posed at the national and European level with the strategies against climate change.

The Strategy was coordinated principally with all the Government Departments of Navarre, since it defined actions that involved all of them, and started from numerous research studies; however, the writing of the document had little interest despite the long process of public participation from the spring of 2009. This lack of awareness, as well as the adjustment to the situation in the economic context that the region was suffering, caused the preparation process to be extended over time.

The objectives posed by the Strategy are four: reduction, preparation, transformation and traction, to which are added 124 actions to implement in 11 areas of activity, each measure counting on its own budget and monitoring indicators to be able to evaluate their implementation. The most important actions defined against the climate change in Navarre were the same that were posed on the European level. These actions are aimed at the capacity of mitigation and adaptation to the changes that are going to occur. In the case of Navarre, the actions are especially focused on the mitigation processes. Their elaboration took as the starting point the situation regarding emissions and the reduction measures already in effect, culminating in the identification of new measures that could be put into practice for the purpose of contributing to reaching the established objective of emission reduction.

Therefore, one of the measures that the stakeholders demand is that the climate change be taken up as a challenge and the definition of a general policy perspective on it, through a vision on the specific objectives to achieve. In turn, the introduction of the climate change problems in the Spatial Planning instruments is requested.

The efficiency and effectiveness of the policy bundles were lessened by the lack of consensus that has caused Navarre to miss the mark on integrated action of measures that could effectively replace those that were put into operation up to now, since these are not functioning sufficiently. One of the causes of this fact could be the framework of economic crisis in which we currently experience, which makes the resources be dedicated to more "tangible" commitments than climate change. Therefore, a scientific methodology of risk assessment that takes into account the climate change studies and efficient use of the dedicated resources is required for the region, advocating for the identification and prioritization of the measures of energy savings and efficiency.

However, despite the general impression of lack of effectiveness of the measures, there are also successful cases, such as the regulation of the water resources regarding quantity and quality, the infrastructure of the Canal of Navarre for irrigation or the renewable energy policies. One of the more specific examples of good practices is the Municipal Plan against Climate Change of the town of Noáin, near Pamplona, that recently was awarded the International Award of Municipality and of the Habitat Programme of the United Nations for the best environmental practices.

As regards coordination and cooperation with other agents, Navarre and the State are coordinating especially on subjects of prediction and planning, and at lower levels a quite lower degree of coordination occurs. As horizontal cooperation, the Strategy has served as the first exercise in uniting the involved sectors.

### 6.3. Future threats/opportunities of the macro challenges

The climate change places importance on a need for early and gradual adaptation. In turn, it emphasizes the global perspective, taking into account, for example, polluting emission quotas and market, as well as the local perspective, combating, mitigating and using, as far as possible, the threats and opportunities that these changes can produce on the landscape, agriculture, stock raising, flora and fauna, distribution and rain and temperature structures, etc.

#### Opportunities

The action against the climate change offers greater opportunities in the areas that are already in a good position, such as energy savings and efficiency, sustainable tourism, renewable energy, waste management, efficient dwellings... as well as in other sectors, tourism in general, agrofood, R&D&I; subjects that as a group can make possible Navarre's political and business leadership in relation to the climate change.

#### Threats

Many of the opportunities that the climate change can offer can turn into risks without proper planning, for which reason it is important to take into account these variables when addressing actions to adapt to the climate change.

The natural heritage, understood as biodiversity, protected natural areas, etc., is the focus of risks as it has greater vulnerability. The so-called greenhouse effect could cause the proliferation of droughts, floods, fires, besides the tensions between the rural and urban systems, especially in various economic sectors such as tourism, and that of the mountain, or energy production, whose increase of installations could saturate the territory. In agriculture, crops could be affected by the loss of soil fertility and an increase of pests and illnesses.

There is a growing risk of human health issues: increase of malnutrition, increase of deaths, diseases and damage due to extreme climate events, increase in the frequency of cardiorespiratory diseases, alterations in the spatial distribution of some infectious diseases, etc. The demand for water could be increased in comparison with the lower availability of water resources, although in Navarre no relevant deficit of water is predicted.

All of this can seriously affect the demographic distribution in the territory due to the possible depopulation of the most vulnerable areas towards those that have better circumstances, being able to cause depletion in certain areas and consequently a loss of competitiveness and of cohesion in the region.

## 7. Energy

Europe is confronting changes without precedents with respect to energy as a result of its high dependency on energy imports, of global concerns on the supply of fossil fuels and of the effects of the climate change, factors that lead to an overexposure to the global ratios of energy supply and demand.

By sectors, in the EU the transportation sector is the largest final energy consumer (30% of consumption in 2006), consumption that has been increasing in recent years due to the entry of new Member States and the expansion of the transportation sector in the old Member States. The consumption in the sectors of trade and industry have remained relatively stable due to improvements in energy efficiency, while in households it has increased marginally, with the higher use of energy being offset by an improvement in the living conditions with the improvements of energy consumption of the applications for the home. The European Commission, in EU Strategy 2020, has set some objectives to confront this energy

challenge, such as the reduction of greenhouse gases by 20% from the 1990 levels, the provision of 20% of the energy consumption from renewable sources and the reduction in the use of primary energy in comparison with the projected levels, achieved through the improvement of energy efficiency. On the regional level, the lack of regional data on the production and consumption of energy makes the analysis difficult on the impact that the energy challenge can have, generally being linked to the energy intensity that the industries demand, the level of dependence on transportation and the local capacity of energy production, especially renewable production. Therefore, these are fields in which the policies will have to act in order to achieve greater adaptation in face of the energy challenge.

### 7.1. Awareness of the macro challenge

The energy challenge is evidenced and has different characteristics and consequences depending on the region concerned. In Navarre, the energy challenge presents very different characteristics from those of many European regions because of the precocity with which measures were taken to adapt to the change.

The society is on the verge of a profound transition due to the growing scarcity of traditional energy resources of the 20th century: the fossil fuels. Increasingly, the regions are committing to saving on their consumption and the transition towards an energy system with greater presence of renewable sources, two challenges that, in addition, will help to combat the magnitude of the climate change by means of the reduction of greenhouse gases that are associated with the traditional energy resources. Navarre, a region lacking non-renewable energy sources, is profiled since the 1990s as a pioneer region in renewable energy, and it tries to take advantage of the great economic opportunities that this transition entails.

Traditionally, the consumption of energy has followed the same trend as the economic growth. That is, an increase of the Gross Domestic Product (GDP) signified a comparable increase in energy consumption. Navarre and Spain have experienced high economic growth and, consequently, the consumption of energy grew rapidly in recent decades. In addition, the consumption levels in Navarre, expressed in energy intensity, are at a very high level in compared to Spain and to the rest of Europe. The sectors that have contributed most to the increase in energy consumption

are transportation and domestic use, while the energy use of the industry has decreased relatively.

Currently, energy consumption in Navarre is higher than the production, which could indicate, along with the growing energy needs, deficiencies in the electrical supply, decreasing the potential for development of the region.

Likewise, the patterns of energy dependency are different, since despite the fact that the region produces more electrical energy than it consumes, considering the total energy consumption, Navarre has a supply level of only 13%, with most of the energy in the form of oil and natural gas.

The energy challenge is closely related to globalization. The fragility that the market of fossil resources shows and the risks associated with nuclear energy make this type of resources more expensive worldwide, including in Navarre, which leads to a higher cost of this energy, especially noticeable in remote and rural areas.

In Navarre there is a general policy perspective in relation to energy, also favoured by the successive energy plans that were drawn up in the Region, the last one with a 20-years perspective.

When designing measures, predictions are used whose results are used as feedback for later analysis. For example, through the analysis of best practices in other countries and regions, it is known that the urban and territorial design has considerable impact on the mobility of goods as well as of persons. Up to now, up to now, there is a lack of precise data concerning the development of the use of transportation in order to relate it to the spatial planning of residential areas, areas of economic activities, services and trade in Navarre.

## 7.2. Consistence of policy bundles

The effectiveness of the energy policies is conditioned in Navarre by the content of the different documents that address them. In relation to the documents on energy matters, for several years Navarre has had planning instruments on this subject: the energy plans, with Energy Plan I dating from 1996. Previously, in 1989 the Government of Navarre began its journey in this field through the company EHN in order to explore renewable energies and to reduce its high exterior dependence. The

commencement was the development of mini-hydraulic plants, installing in 1994 the first wind farm in Navarre.

From the years 2004 and 2005, years in which the Horizon 2010 Energy Plan was in force, a decoupling took place in Navarre between energy consumption and economic growth. The commitment to save energy began to have effects thanks to innovation, technological develop and the substitution of products by others more efficient.

However, the absolute consumption in Navarre as well as in Spain has continued to grow as a consequence of the relatively high economic growth in recent years.

From the first Energetic Plan, Navarre was committed to the implementation of renewable energy and energy savings, with the region, as a result, becoming a pioneer in the production of renewable energy. Most of the electricity generated in Navarre comes from this energy, much above the Spanish average and that of the EU and, in addition, the production of electricity is higher than consumption.

Currently it is in the development phase of the Energy Plan II of Navarre Horizon 2020, whose general objective is to maximize the contribution of the production, transformation and energy consumption for the sustainability of Navarre in their social, economic and environmental aspects. This document must be coherent with the Moderna Plan, which specifies the model of economic development of Navarre for upcoming years. The objectives to achieve are mainly the strengthening of the green economy, achieving leadership in the sector of renewable energy, and the maintenance and creation of employment and companies in the energy sector; a sector in which the principal Spanish companies and institutions already operate. The Plan, which contributes a very sectorial perspective, has a group of indicators of the situation to synthesize the principal characteristics of the energy model of Navarre and to facilitate their analysis.

The Energy Plans are cross-section plans, for which reason there is coherence between the different documents, strategies and policies of Navarre. However, as regards the territorial policy, some contradictions are noted. The Territorial Strategy of Navarre is committed, on the one hand, to sustainability, driven by the use of renewable energies and looking for energy savings, but, on the other hand, it promotes the intensification of the urban-rural relations and between Pamplona and other structured nuclei of the territory, which in the medium- and long-

term will provoke an increase in energy consumption. Therefore, it would be advisable for these large territorial models to be incorporated also in the Energy Plans and for them to ensure compatibility of energy planning with sustainable development.

The efficiency and effectiveness of the policy bundles in Navarre is more than demonstrated: the application of the energy policies has achieved that today in Navarre more than 80% of the electrical energy comes from renewable energy. The energy production in Navarre, which has surpassed the expectations placed in it, in addition to being generated through sustainable processes, is being achieved also through the energy architecture with the measures proposed by the Spatial Planning policies.

It has been reached not only the involvement of firms in Navarre in the field of renewable energies in the construction and maintenance of electrical installations, but also in the research, development and export of renewable technologies and the management of production facilities in abroad.

Besides the generation of energy, there are processes in the Navarran territory that help save energy. Notably the construction of new more energy-efficient neighbourhoods such as the Ecocity of Sarriguren, with 5,500 dwellings, where solutions, such as the orientation towards the sun of the buildings and the incorporation of good thermal insulation, that allow saving up to 30% of the energy have been incorporated.

Thus, for better efficiency and effectiveness of the policies, the strengthening of Navarre's leadership in the renewable energy sector is demanded from the region and more specifically in the self-supplying energy efficiency by means of the commitment to sources that better adapt to the characteristics of Navarre.

### 7.3. Future threats/opportunities of the macro challenges

The adaptation to the energy of the future poses various challenges to Navarre, with the greatest being the gradual change of non-renewable energy to renewable energy as an efficient resource. The energy savings must be another of the points to take into account, since their strengthening implies sustainable development. Currently Navarre is a pioneer in the production of renewable energy; the wind farm sector is

well developed, and it is also currently committed to encouraging other sources of energy such as solar or biomass energy.

Renewable energy has an outlook of great growth, depending on the technological development, the investment capacity, the tax measures and the price corrections. However, inadequate management of these factors, made difficult by the volatility of policies, prices subsidies... in each region and in each country, could affect the competitive position of Navarre in the subject of renewable energy. Another dilemma that arises is whether to centre the region's efforts on all the sources of renewable energy or, on the contrary, in a single sector, taking into account the size, natural characteristics and the business structure of Navarre.

### Threats

The policies defined on the European scale, such as the European 20-20-20 Directive, do not involve a special risk for the region with regard to the fulfilling of the objectives, since the demanded minimum has been achieved.

Another of the risks that involve the development of the energy of the future, closely linked to that of globalization, is that the region can remain outside the national and international alliances that can take place in this field. This external dependence could provoke regional imbalances, and a flight of companies from certain regions to others.

The lack of territorial planning is another of the risks with various consequences on the region. The main problem related to energy and the territory is due to the so-called "pendular movements" or daily mobility. The growth of the peripheral neighbourhoods and the towns around Pamplona have increased the mobility of the persons in the Area of Pamplona, for which reason public transportation might no longer provide adequate service to their needs (inefficient routes, difficulties in transferring, low frequency or inexistence of service), with the majority of them preferring to move in private cars from their homes to the place where they work or study. Furthermore, at that time the infrastructures for non-motorized alternative transportation for short distances (bike routes, pedestrian areas) are not sufficiently implemented in the Region, although advances are being made in this respect.

Another aspect to consider is the environmental and landscape impact of the energy sector. The increment in the implementation of these types of energy may or may not pose the need for creating "energy landscapes" and of a new design and distribution of the infrastructures, concentrating

the installations (panels, mills, mini-plants...) in certain areas and integrating them in the landscape.

### Opportunities

The opportunities that are presented in the region in relation to the increase in the presence of the renewable energy sector result in economic development, in GDP and employment. In addition to the companies of the sector already installed, policy and business leadership could be established for the creation of other companies specialized in this field, and not only with regard to the process of converting energy into electricity but also in the development of applications for other sectors such as transportation and industry. For this reason, the Government of Navarre is currently promoting the creation of "neuralgic" centres or renewable energy clusters, not only in the Pamplona basin (Sarriguren, City of Innovation), but also in towns in the rural area, such as the industrial park in Venta de Judas (Lumbier), where a plant of the company Acciona is being built for the manufacturing of aerogenerators, and the Aerogenerator Testing Laboratory of the National Centre of Renewable Energy (CENER) in the town of Sangüesa. These centres can improve Navarre's position as world leader of renewable energy, in addition to promoting the inter-company collaboration, the creation of jobs and competitiveness of the region.

The development of the productive sector around renewable energy also presents an opportunity of internal structuring of the territory of Navarre, by means of investment in rural areas, generating local employment (for example, in tasks of maintenance of installations or through the production of biomass). Renewable energy could be a dynamizing factor of the rural world of Navarre. In order to achieve this situation, one of the challenges would be to verify up to what point it is feasible for this sector to contribute to the increase in employment and production in these rural areas and to analyze how one must facilitate and influence the location decisions of new biomass electrical plants in different points of the territory.

Facing the future, there may be new models of production and energy consumption that require spatial planning decisions such as electrical cars, construction of new electrical lines for transport and distribution or the creation of installations of thermal, electricity or hydrogen storage, with the risk levels that this implies. In addition, it is necessary to anticipate the consequences of a structural increase of the energy cost in areas far from the city, although it can also affect urban areas, taking into account that the production system in Navarre has a vulnerability above the

average of the European regions, according to a recent study of ESPON (*ReRisk Regions at Risk of Energy Poverty*).

## 8. Resilience of the planning system

### 8.1. Strategic capacity of the planning system

Each planning system, whether regional or structured on the national level, has a different manner to react to the macro challenges and to the trends that have important territorial impacts. This is determined by their capacity to understand these impacts and to take on the territorial processes strategically; in order to coordinate and integrate policies between different sectors and public administrations; in order to coordinate multi-scale policies, without incurring in contradictions with other levels; and in order to share objectives that involve the interested agents, both public and private, with participation processes.

#### 1.1.1. Vision

In general there are differences with respect to the global vision that the planning system in Navarre has on the four macro challenges: globalization, climate change, energy and demography. Basically, the treatment that is given to the macro challenges when taking them on is fundamentally sectorial, through measures that sometimes may be considered more successful and other times less so.

The vision of the macro challenges is found explicitly in the planning system but they are defined in greater depth in the sectorial plans. For example, both the Territorial Strategy of Navarre (ETN) and the Regional Spatial Planning Programmes (POT) mark the general lines that the region's territorial development must follow, but it is through the sectorial plans that the actions are specified and carried out.

In some cases, these challenges are not assumed as such, for which reason changes can occur, and in fact are occurring. In these aspects that are not of concern by Government and social agents, the lack of awareness can provoke delays in the preparation of documents and in the application of measures that in the long term can worsen the problem.

On the other hand, in aspects in which Navarre already had a vision taken into consideration for the policies, the region is in a position of leadership

in facing the challenge, since that vision, apart from being defined and agreed, has been periodically updated. This is the case of the policies around the development of the renewable energy, that have favoured the installation and the development of the most important companies in this sector, and, to a lesser degree and more recently, the policies referring to globalization.

### 1.1.2. Shared objectives

All the documents of the planning system of the Region of Navarre in which the macro challenges are present have some objectives defined to a greater or lesser degree, the majority of them being established from indicators.

These objectives are the ones that lead to the proposal of diverse measures in various areas, the majority of them posed with dates and indicators that allow monitoring a posteriori the results. In the case of the ETN 80 directives were posed that specify direct measures to follow, but one must recall that the ETN is not binding.

The measures adopted in relation to the macro challenges are coherent with the vision contributed by the participants, to the extent that these involve the writing up of the plans. However, on occasion, systematic measures are needed to achieve better results.

All the documents in the region have a limited time frame; however, while in some documents a schedule for the actions and objectives has been established with dates for the preparation, execution and obtaining of results of each action, in others there is an unspecified long-term time frame for the objectives.

Neither the ETN nor the POT have a budget that helps to execute them. On other levels, the objectives, and to a lesser degree the defined actions, normally have a budget assigned in each financial year, either directly or indirectly. However, in some cases this budget is insufficient to take on the macro challenge in its full consideration or it is even unfeasible.

The interested parties have the opportunity to become involved in the definition and objectives of the different documents in Navarre through the public participation periods of each document. However, differences arise regarding the participation according to the macro challenge being dealt with; while in some documents, such as, for example, the Internationalization Plan of Navarre or the Strategic Development Plan of

the Pyrenees, the actors that in one way or another are related with the macro challenge are involved and represented (whether they are institutions, companies, city councils, associations, etc.); in others, such as the documents in relation to the climate change, greater participation of the involved agents is needed.

### 1.1.3. Monitoring

The planning system relies above all on tools for analyzing the situation, while the monitoring tools for the evaluation of the policies under way are not always implemented in the plans. For the case of the ETN, a biennial evaluation was defined through the LFOTU based on the collection of data and interviews of the Government Departments of Navarre. The report of the resulting evaluation must be approved by the Social Council of Territorial Policy (CSPT).

For example, on the sectorial level, the Internationalization Plan has two bodies, besides the indicators, for its evaluation, the Internationalization Committee and the Internationalization Council. The Strategy on the climate change has monitoring indicators to be able to evaluate the implementation of the policies. The documents that address the demography, despite containing monitoring indicators, do not deal with the policies or on the actions carried out.

### 1.1.4. Communication

Any preparation of plans or strategies in the Region of Navarre must have a prior participation process where the contents must be broadly discussed. There are divergences regarding the debate of the contents in the planning system according to each macro challenge. For example, on the sectorial level, the Moderna Plan and the Internationalization Plan of Navarre suggested a prior debate and with participation of multiple agents, while the contents of the demographic plans, perhaps for being a subject of debate deemed less interesting, have not had a prior broad discussion on the contents.

## 8.2. Horizontal coordination

The majority of the documents that take on the macro challenges in Navarre are capable of providing the horizontal integration between the

different sectors and interested parties for a better response to the territorial challenges.

Both the ETN and the POT have developed effective processes of participation through which the horizontal coordination between the different agents and administrations was facilitated.

As for globalization, for the Moderna Plan the "Moderna Teams" were created, interdisciplinary working groups that could make the change possible in their work areas: public administration and policy area, private enterprise and social agents, educational system, universities and technological centres. In addition, the Plan is an umbrella instrument of all the Government Departments of Navarre, so these follow a common and coordinated line of endeavour.

As for the Climate Change, the Strategy served as the first exercise to unite the different sectors in relation to the challenge, and was coordinated with all the Government Departments.

The subject of renewable energy had wide acceptance in Navarre due to the good management and information by the Government of Navarre, which adequately involved the agents and citizens, in contrast with other regions in which larger impediments arose. This management was done in a coordinated manner among the technical services of the involved Departments, Industry, Environment and Spatial Planning, along with other entities such as for example the Renewable Energy Producers Association (APPA).

Lastly, the demographic challenge, by being one of those that presents less awareness by the interested agents, has a low or nil capacity to promote horizontal coordination, with the sectorial actions predominating.

### 8.3. Vertical coordination

#### Upper levels

In the majority of documents the vertical coordination exists to the extent that the different strategies, plans or programmes are adapted to the directives that come from European as well as State institutions, with much coordination, especially with the General State Administration regarding the planning and the prediction activities.

### Lower levels

The main agents involved are the local entities such as associations, city councils, etc., that begin to assume the importance of the macro challenges and their ranking as the primary agents in combating the changes. Cases that demonstrate this fact are, for example, the requests of the local infrastructural entities to combat depopulation, the numerous municipal energy plans that have been drawn up in Navarre or the interest of the towns in the Internationalization Plans of Navarre, the Strategic Development Plan of the Pyrenees, etc.

## 8.4. Cooperation and participation

As for the cooperation and participation, all the documents, plans, strategic programmes developed by the Region of Navarre must have a public participation process in which the interested agents can express their points of view. In general, the cooperation continues to be a pending task within the public institutions as well as other involved structures.

However, there are divergences according to the macro challenge being dealt with; while in reference to the renewable energy much cooperation is allowed, and in fact exists, between the Government of Navarre, interested agents and experts, such as, for example, the CENER; in reference to the climate change or demography, the strategies are drawn up with little participation of the interested agents which results in a lack of cooperation. In the latter, there exists the capacity for cooperation on the demographic aspects instead of on demography, for example, by the Navarre's Immigrants Council, the cooperation of different NGOs, etc.

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## Recommendations

Once this analysis was concluded, we could extract the following recommendations:

Regarding the globalization challenge, it is necessary to confirm the effectiveness of the policies as a whole on a general level besides on a specific level. In this regard, we must wait for this confirmation to occur as the results of the Moderna Plan are compiled, since it is still in the initial phases of its application.

The demographic challenge is a problem highly considered in Spain as well as on the regional level, and the necessary attention is not being given to it. In addition to the direct consequences, other problems linked to it can be triggered. For this reason, it is necessary to define specific and lasting actions in time to combat the detected problems, as well as to appoint the persons responsible for them and in charge of their evaluation and monitoring.

On the climate change challenge, it's worth to remark the lack of concern detected by the public administrations to confront the defined actions, resulting in a lack of coordination when implementing the proposed actions. Therefore, it is necessary not only to make the public administrations aware of the need to act on the climate change, but also to convey the need of a common and lasting strategy to all political groups with decision making power in the region.

The good ranking of Navarre with respect to adapting to the energy challenge should not be an obstacle so that it may continue improving in this aspect. It is necessary at lower levels to improve the coordination with the local entities and that these can be involved even more in the planning on the regional level. Similarly, it would be especially positive for

the efforts in the Region to be focused not only towards renewable energy for the production of electricity, but also towards a broader objective regarding the energy supply as a whole.

In conclusion, it must be indicated that the interrelation between the challenges make essential a joint action of the agents involved. Once again, cooperation and coordination on the internal level in Navarre as well as on the external level with other regions and State and European entities is indispensable in facing the problems that are posed and that may be posed in the future.

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