Work package 2- Historical and recent attitude of stakeholders

Case 3:
Trinitat Nova Ecocity energy efficiency project

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*C*ultural Influences on *R*enewable *E*nergy *A*cceptance and *T*ools for the development of communication strategies to promot*E* ACCEPTANCE among key actor groups

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1. Introduction

This case study explains the Trinitat Nova, a Barcelona's neighbourhood, participatory process that was implemented when rethinking the reconstruction of the area. One part of this process related as well to the improvement of new buildings energy efficiency and the increase of renewable energies use. The study starts with an introduction to the country and the local context. Afterwards, it settles the objectives to be reached within the neighbourhood, the different actors involved, their roles and interactions and finally it analyzes the process successes and failures.

2. Country and Local Overview

2.1 Energy Overview

For the last 30 years Spain has increased its foreign energy dependence, around 80% of the energy demand is provided from abroad. Spain imports electricity from France, oil mainly from Africa - Libya, Nigeria and Algeria - (40%) and the Middle East - Saudi Arabia, Iraq and Iran - (30%) and gas from Africa (70.5%).

The consumption distribution is transports 41%, industry 33% and offices and housing the last 26%. The tendency of electricity and gas consumption is growing. In just one year, 1999-2000 the electricity demand increased 1% and the gas increased a 2% (passing from 12% to 14%).

In this context in 2005 the Ministry of Industry, Tourism and Commerce approved the 'Renewable Energies Plan 2005-2010' which has two main objectives:
1. Promoting and improving energy efficiency.
2. Increasing the renewable energies sources.

The specifics aims for 2010 are that the 29.4% of the electricity production should be from renewable sources, increasing 5.75% the use of bio fuel for transport and using renewable energies sources at least for the 12% of the consume. This last objective is only possible with the development of systems using renewable energies and reducing the energy demand. All together these objectives will contribute to reduce the energy foreign dependence.

At local level, Barcelona City Council, being conscious that the 75% of the world energy use goes to maintaining the cities, developed the 'Plan for energy improvement in Barcelona' (PEIB).

The energy Plan has the following objectives:
- Reducing atmospheric emissions.
- Reducing the consumptions of non-renewable energies.

The strategy for achieving the objectives is:
- Increase the consumption of clean energy.
- Increase the use of renewable energy sources.
- Reduce energy consumption while maintaining the same levels of goods production, welfare and mobility.

The PEIB includes the city's energy diagnosis that takes an 'energy picture' which allows planning the necessary changes for achieving the objectives. The consumption of energy in Barce-

lona increased a 23.11% in the 1990-1999 period and the total consumption of final energy in Barcelona (1999 - reference year) was 50.78 PJ, with the following distribution:

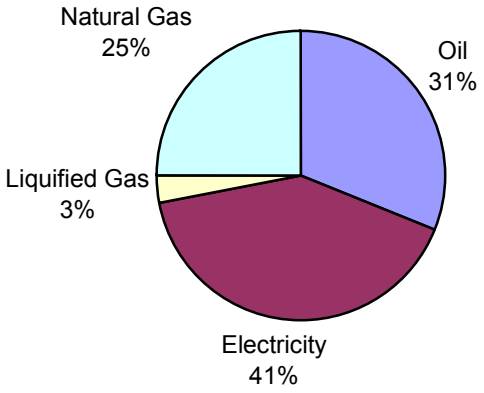


Figure 2.1 *Final energy consumption in Barcelona (50.78 PJ)*
Source: Plan for Energy Improvement in Barcelona (PEIB).

The distribution of the final energy consumption is 37% tertiary and industry sectors, 30% domestic and 33% for transport. In the housing sector there is a predominance of using natural gas and electricity as the main energy sources and there is still a substantial use of liquefied gas (butane gas and propane), but its use is decreasing. The housing consumption of other energy sources like gas, oil or renewable ones is actually insignificant.

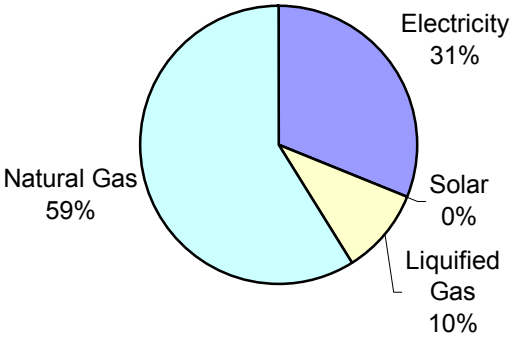


Figure 2.2 *Domestic consumption and energy sources in Barcelona, 1999*
Source: Plan for Energy Improvement in Barcelona (PEIB).

The energy is used for heating, domestic hot water and the household appliances in a 30% each, while the consumptions for lighting and air-conditioned are minimum.

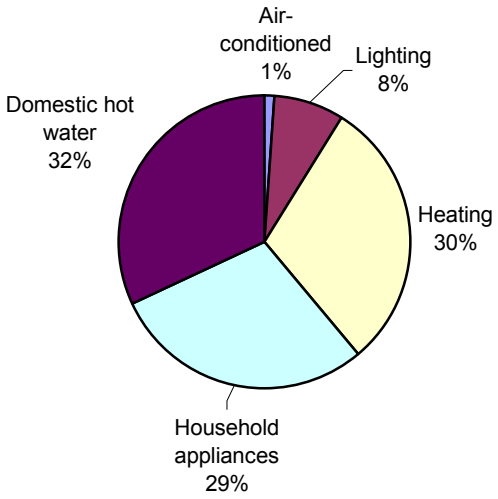


Figure 2.3 *Domestic energy use*
Source: Plan for Energy Improvement in Barcelona (PEIB).

The PEIB establishes a set of local actions and measures addressing the achievement of a more sustainable city model. Its implementation is coordinated by Barcelona Energy Agency and aims reducing the environmental impact through energy savings increasing the use of renewable energies and energy efficiency. Energy efficiency and energy savings are only two aspects of the overall aim to improve the environmental quality of the city and to promote sustainable development at local level. Other aspects of this new model for a more sustainable city are related to urban mobility, public space, public services and urban green spaces.

In this context, different neighbourhoods are carrying out participative processes (community plans) in order to transform their districts and to improve housing, public services and public space. The Trinitat Nova Community Plan was one of the first initiatives carried out in Barcelona. Energy efficiency, energy savings and the introduction of renewable energies are forming part of a global transformation project.

2.2 Trinitat Nova Overview

Trinitat Nova is a Barcelona's neighbourhood with 7,700 inhabitants, that even though it is actually integrated in the city, in the 90s the neighbourhood still had some of the characteristics of the working-class area of the 50s: Trinitat Nova was built without urban planning, totally insufficient basic facilities and very bad quality buildings, the housing were small (30-50 m^2) and had serious structural problems.

In the nineties the social and economic conditions got worse: the process of demographic ageing as the youth left the suburb increased the social assistance and health demands while the social and health public services did not increase.

Historically, the Resident's Association was the driving force for demanding improvements for the urban and social conditions. But in 90s, Trinitat Nova Resident's Association was aware that they had lost capacity of social representation and social leadership. In 1996 the Resident's Association started an internal reflection process with the support of some academics connected with the suburb that helped the Association starting a Community Plan. In 1997 The Resident's Association, the General Direction of Community Services (Social Welfare Department of the Generalitat de Catalunya -Regional Government-) and the Barcelona City Council approved the Neighbourhood Agreement for the Trinitat Nova Community Plan.

The Community Plan is the framework of the project for energy efficiency and rational use of energy in houses of the Trinitat Nova's area. The Community Plan is a participative structure that allows the social actors that live or act in the area (inhabitants, local associations, public services ad local public administrations) to work together in a local transformation process.

3. Summary

The structure of the Community Plan is the framework that establishes 'the participatory game rules' that allows the social local actors (inhabitants, local associations, public services ad local public administrations) to negotiate the urban transformation of the Trinitat Nova's Area.

One of the main issues of the transformation is improving the welfare and the housing conditions, building new ones and reorganizing the urban structure. But the process became more ambitious and all the social actors decided to transform Trinitat Nova in an Eco-quarter. It involved the transformation of Trinitat Nova into a social and environmental sustainable neighbourhood. The efficient use of energy and the use of renewable sources became one of the main issues in the new construction of buildings: the project foresees building around 900 new houses costing around € 110 million. The Community Plan negotiated with the local administrations include the incorporation of ecological criteria.

But the negotiations results were not good as expected. Among all the proposals for saving energy, for the rational use of energy and the use of renewable sources, only two were accepted: the installation of solar thermal systems for hot domestic water and the realization of two environmental-energy saving campaigns among the new buildings residents.

In the energy field, the participatory process has two different levels:
1. During the first years, the participatory process and structure of the Community Plan took the overall decision that the energy efficiency and the use of renewable sources were important issues, and decided what should be done.
2. The execution of the energy programs.

The main actors involved during the whole process are: Trinitat Nova's Residents Association, Social Welfare Department of the Generalitat de Catalunya, Barcelona City Council and Community Team. The last one is a small group of experts in community planning that offered the technical support to the Plan. This group is directly paid and controlled by the Residents Association, which, as result, would become the clear leader of the whole programme.

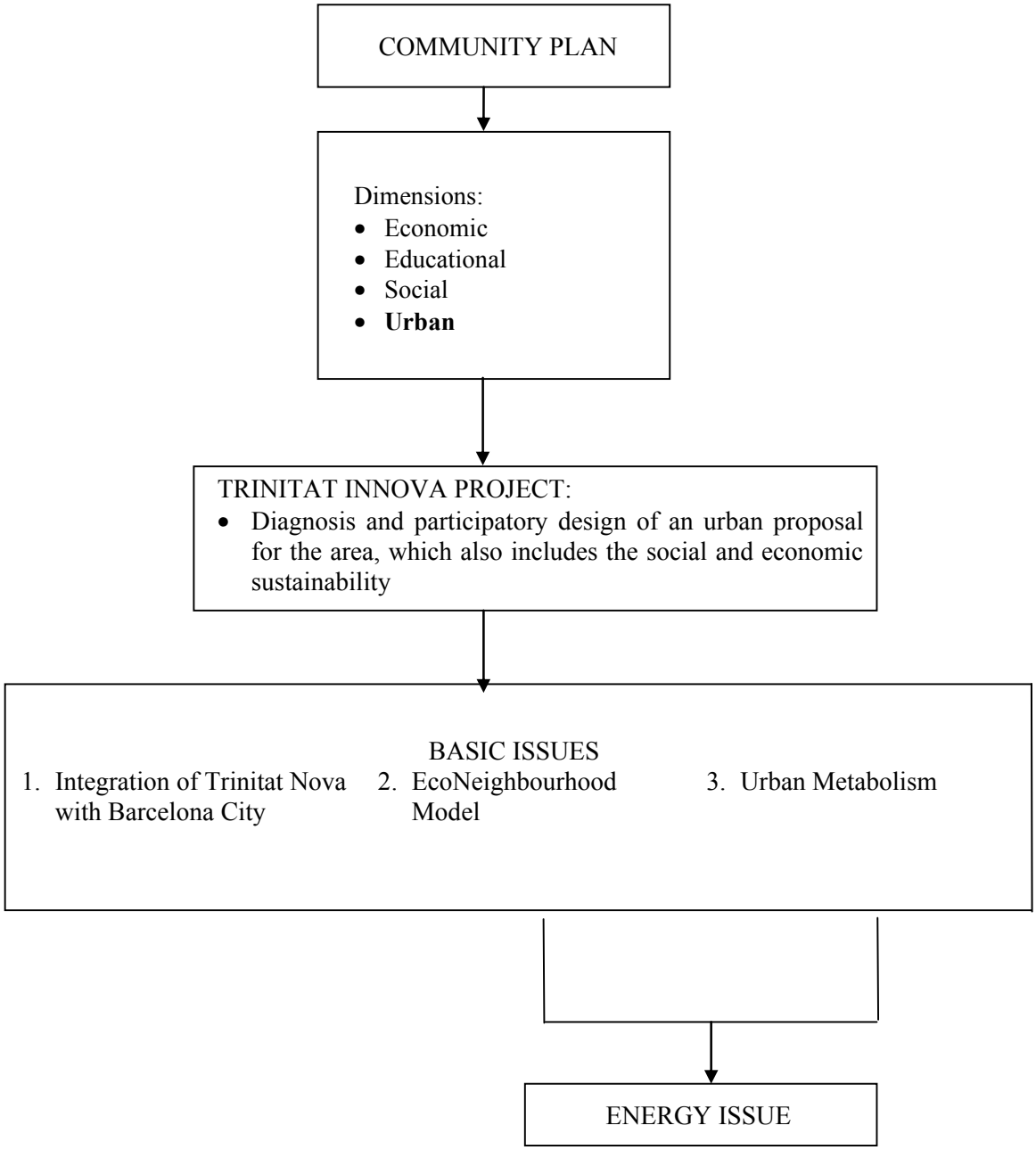
There are other actors involved in specific moments of the process, like experts on the different issues (water, energy, environment, etc.), other local agents, like the local trade association, youth associations and other social agents like trade unions and public servants from public social and health Trinitat Nova's services.

There were also other stakeholders involved:
- Aiguasol, an engineering firm that promotes integral solutions for using solar energy and a rational use of energy in buildings.
- The environmental educational team of the Community Plan.
- The Barcelona Energy Agency.

The information sources used to investigate the Trinitat Nova case study were on one hand, the papers, reports and publications made by the actors and on the other hand the interviews made to the main actors involved in the process.

4. STEP ONE: Possible futures?

Step one identifies the objectives related to the energy issue in the case study. In order to get a better understanding of the process, we include a diagram of the Community Plan framework, which shows where the energy dimension is treated in the Trinitat Nova Community Plan:



As the diagram shows, two of the basic issues included in the Trinitat Innova Project are related to the energy issue. Thus, the two different references to the energy issue are:

1. On building: 'Habitability and bioclimatic adaptation'. Included in the EcoNeighbourhood Model issue
2. On energy specifically: 'More quality with less energy'. Included in the Urban Metabolism issue.

The energy objectives settled by these two approximations were:

1. On building: Basic Criteria 'Habitability and bioclimatic adaptation'

- Reducing the energy and the building materials costs during the construction

- Using bioclimatic designs (based on the building geometry and its elements) and renewable energies for reducing the building's energy consumption and maintenance expenses during all its life.

The key aspects for achieving the objectives is that the orientation and topography of the area are suitable for a bioclimatic design of the buildings. The terraced area, where the buildings are, is oriented South-Southwest and it reduces the problem of the solar obstruction among buildings.

2. *Specifically on energy: Basic Criteria: 'More quality with less energy'*
   The project for saving energy and improving the energy efficiency in the Trinitat Nova's buildings is related to the bioclimatic design of the buildings and it has one basic criteria: 'More quality with less energy' and the following general criteria:
   - Reducing the energy demand and the environmental impact of the buildings life cycle.
   - Increasing the efficiency of energy consumption.
   - Reducing the buildings and the public areas maintenance costs and, at the same time, guaranteeing similar or better comfort.

   Objectives:
   - Reducing the energy demand.
   - Reducing the emissions generated by non-renewable energy sources (oil products and solid fuels).
   - Replacing the consumption of non-renewable energy with renewable energies for the uses where it is technically possible and economically acceptable, mainly the use of solar energy for producing domestic hot water.
   - Improving the efficiency of the available energy resources, using each of them where it has the most efficient use.

There are two key issues in the project: the energy issue approach (integration of renewable energies, bioclimatic design, energy efficiency and the rational use of energy in one global approach) and the procedure for the participatory process.

We can differentiate two levels of the participatory process: the first refers to a more general approach to the issue within the Community Plan and the second one to a more concrete level within the local community. In the Community Plan Level the participatory key issue is how all the different actors (public local administration, associations, inhabitants, technicians, etc.) reached an agreement that energy is an important issue and defined the general energy related objectives for the area. This key issue was developed in two participatory experiences: the participative diagnostic (RAP methodology) and the EASW Workshop.

The second participatory level is how the energy issue is carried into the community. The Community Plan required technical studies about energy use/consumption and the possibilities of improving energy efficiency in the new buildings. Moreover it required to start an environmental education process for new buildings residents. It is important to see the negotiation process between the Community Plan actors and the Public Administrations in order to include the improvement for the energy aspects in the new buildings design.

5. STEP TWO: Which were the case expectations?

The Step two introduces each of the actors that took part in the process, and it explains some of their interactions and their different expectations.

Community Plan - Actors

There were four main actors in the process: the **Community Services General Direction of the Social Welfare Department of the Generalitat de Catalunya, the Barcelona City Council, the Trinitat Nova's Resident Association and The Community Team.**

In 1997 the Community Services General Direction of the Social Welfare Department of the Generalitat de Catalunya started a subvention programme for the development of community plans and programmes, and this made easier for the Resident's Association to get economic support for the Community Plan.

In July 1997 the Community Services General Direction, Barcelona City Council and Trinitat Nova's Resident Association signed the **Neighbourhood Agreement**.

Initially the Neighbourhood Agreement had a three-years lenght (the first one 1997-1999), but every year the three main actors agreed the budget for the activities of the Plan. This Neighbourhood Agreement ended in 2002; following that the Community Plan decided by its own the activities and the budgets, without the negotiations and agreements.

The Residents Association[1] is the referent of the Community Plan in the area and it allows the citizens to do personal or neighbourhood-related demands, and to organize and implement activities. The Residents Association is also the interlocutor with the public administration.

The **Community Team**, is a group of professionals and experts in different fields contracted and paid by the Resident's Association that supports the Community Plan coordinating, programming and planning the activities. All in all, the Community Team is the driving agent that supports the decisions on the Community Plan organizing the actions and putting in contact the social actors, creating social networks and helping with the development of endogenous social and human resources.

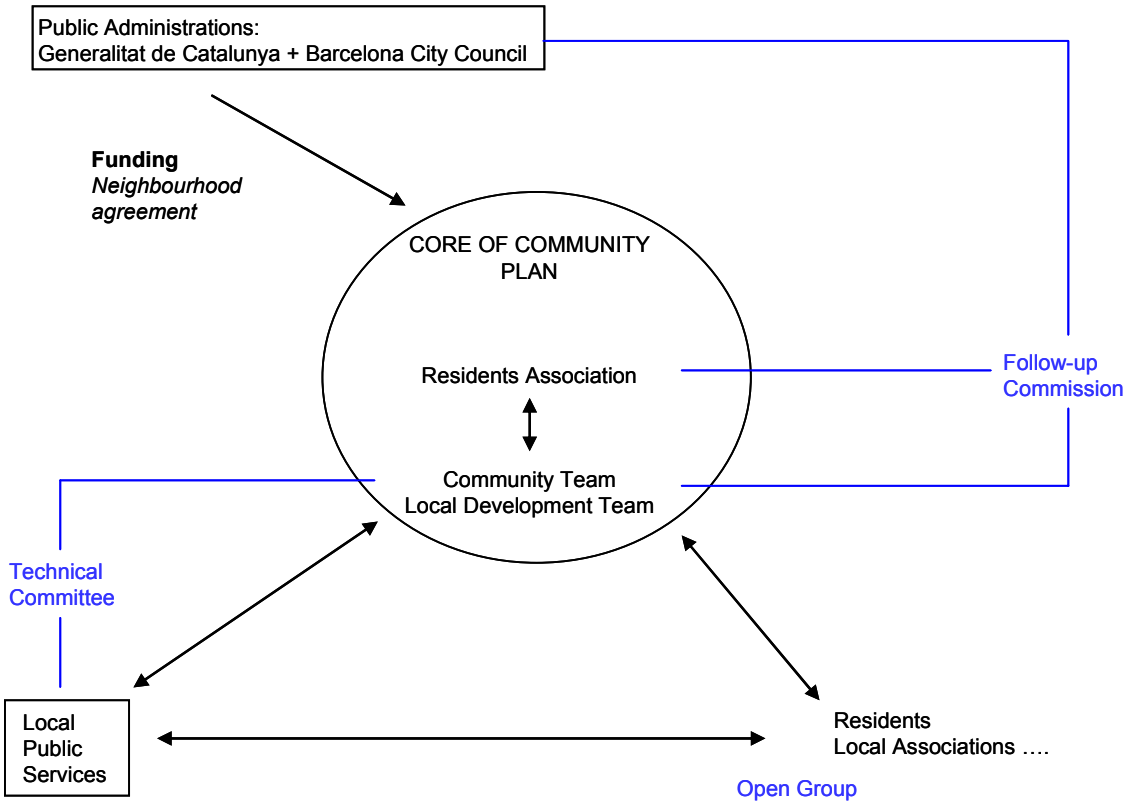
Finally, the **Local Development Team** is founded in 2002, before that time, the Community Plan was working with a little group of environmental educators or other professionals that helped the Community Team in mediating and dinamyzing the Community Plan. In 2002 the local development team was made up with professionals that in on one hand developed the Econeighbourhood Proposal and the urban projects, and on the other hand they developed and managed the community services for the local residents.

Community Plan Organizational Structure

The Community Plan has a participative structure where the different actors at different levels negotiate and reach an agreement. The role and expectations of the different actors are related to the different participation committees or commissions to which they participate.

The following diagram shows the general scheme of the organizational structure. It locates the social actors (in black) at the different steps of the process, and it shows its interactions. The fix participative structures are marked with Blue lines.

[1] It is an area based organization, mainly based on voluntary work in premises granted by the local administration , which activities target a specific urban area. Its activities are open to all people living in the same area and it aims defending the neighbours' interests in every relevant thematic area related to the community interest (public spaces, services, premises and development).



Follow-up Commission: The Public Administrations that finance the Community Plan, the Residents Association and the Community Team form the Follow-up Commission. Initially, the Residents Association presented the annual project to the 'Follow up Commission', which checked the activities of the last year and presented the future projects. The Public Administrations gave the money to the Residents Association who, together with the Community Team, decided which activities will be done and how to distribute the money for the different activities.

Actually there is no more Neighbourhood Agreement, but the financing goes on and the Follow-up Commission is the main framework for the dialogue among Public Administrations and the core of the Community Plan.

From the Community Plan there is a positive assessment of its relationship with the Public Administrations because the economic and technical collaboration with the Public Administrations is carried on without loosing the independence of the Community Plan. The formalized framework of the Community Plan gives the possibility of sharing the strategic agendas with the Administrations.

The Public Administrations as well makes a positive assessment because they get an innovative relationship with the social network based on the positive construction of a project, instead of the confrontation toward their actions.

Technical Committee: Committee formed by the Trinitat Nova public services professionals (health, education, public safety....) and the Community Team. This Committee works for the integration of the local public services in the Plan and develops some programs coordinated by the Plan like the Educational Residents' Project or the Resources Guide of Trinitat Nova.

Open Groups: it is the Meeting Point for the local associations and informal groups related to the Community Plan. These groups help improving the social network among associations and other social groups, coordinating activities and adding efforts. The Community Plan promotes

the Open Groups because the Resident's Association wants to delegate the leadership of the Community Plan to this structure when it could assume it.

Energy Area - Actors

In July 1999 Trinitat Nova resident's Association, in collaboration with the Community Team, organized a European Awareness Sustainability Workshop (EASW) in order to define the main elements of a 'sustainable neighbourhood'. This workshop was a reaction to the event of the Trinitat Nova's rebuilding project that the Barcelona City Council and the Generalitat of Catalunya made, because this event did not allow the inhabitants participation.

This workshop involved representatives of the public administrations (politicians and technicians of the City Council and the Generalitat), independent experts, local associations, storekeepers, town planners and inhabitants.

The workshop main issue was how to incorporate the environmental public awareness framework and welfare to the planning of the urban redesigning of the area with the participation of all social groups and professionals involved.

The result with more votes of the participants was:

> ***'Building a sustainable area'***
>
> The redesigning of Trinitat Nova offers the opportunity of including sustainability criteria. Trinitat Nova could be a pilot experience in the field of environmental sustainability. For concreting this idea it is necessary:
>
> - Building sustainable housing (thermal insulation buildings, with alternative systems of energy - solar energy- reusing grey water...)
> - (...)
> - Doing educational projects with the aim of stimulate the sustainability culture among the inhabitants.
>
> Source: EASW Document

As a result of the Workshop and the Trinitat Innova Project, the Community Plan entrust to **Aiguasol** the technical studies for the implementation of energy improvements in the new buildings. Aiguasol is a consultancy firm on sustainable energy solutions (renewable energies, energy efficiency...).

On the other hand, in the field of education and efficient use of the energy, the **Environmental Educational Team**[2] (the team of environmental educators paid by the Community Plan) together with the inhabitants created, and implemented an Environmental Education Community Programme that included 'The initiative of environmental education for the energy saving promotion'. Later on, when a part of the new buildings was finished, the **Local Energy Agency** of Barcelona financed another energy efficiency campaign among the inhabitants of new buildings in 2006.

[2] Later integrated in the Local Development Team.

Table 5.1 *Actor - expectation - speaking for publics*

Actor	Expectation	Speaking for Publics
Trinitat Nova Resident's Association	Build a sustainable neighbourhood where the rational use of energy and the use of renewable energy are central issues. Add the contributions of the technical energy research to the area's new design.	Historical leader of the area, personify the historical area demands. Trinitat Nova's Residents association is the central actor of the Community Plan. The Resident's Association represents the Trinitat Nova's inhabitants and is the recognized interlocutor with the Public Administrations and inhabitants.
Generalitat de Catalunya and Barcelona City Council	At the beginning, they wanted to control the participatory process. Now they are building of the new edifices.	The public administrations have an ambivalent attitude: at the high political level (autonomous government ministers and city mayor) there is a great acknowledgment of the quality of the proposals and there is a high political commitment. But the intermediate level of politicians and public servants that develop the urban projects are resistant to buildings sustainability changes arguing that they are very expensive.
Local Energy Agency of Barcelona	Keeping the Trinitat Nova's solar installations in good working order and promoting the rational use of energy by doing campaigns.	Promote and control the Solar Ordinance in all Barcelona, and the energy efficiency
Aiguasol	Adding the energy efficiency perspective, the rational use of energy and the use of renewable energy to the design of the Trinitat Nova's new buildings	Aiguasol is the technical guarantee that studies the possibilities and cost of including the energy improvements suggested in the participatory processes.
The environmental educational team of the Community Plan	Improve the quotidian use of the energy sources and the solar installations	The environmental educational team helps the inhabitants to improve their use of energy

6. STEP THREE: Understanding 'participatory' decision-making: negotiating expectations

Step three explains how the participatory project was implemented, and which was the role took by the different actors while negotiating their expectations.

The viewpoint of the Community Plan is the idea that the participation cannot be improvised and that it is necessary to design the participatory process keeping in mind the Community Plan

requirements. As a consequence, the Plan uses methodologies and techniques like EASW or PAR (Participatory Action Research).

The Community Plan is the structure of the participatory project that wants to transform a suburb in a sustainable area. The concept of sustainability includes social, economical, urban and environmental issues. On the environmental and urban issues the energy is a very important aspect. In this section we only try to explain the participatory processes linked to the energy area.

In 1997 The Resident's Association, in collaboration with the university, started the process with a participative diagnosis (PAR Methodology) that establish the main important issues for improving the area. The same year the Community Plan started.

The Resident's Association, as it will be seen during the participatory process explanation, has taken an 'intermediary' role in the project. As it was the actor that started the process, it sets itself as an 'interlocutor', the bridge between the residents, the public authorities and the experts. Before, in 1992, the Housing Municipal Council of Barcelona detected serious structural problems in approximately 600 housings in Trinitat Nova, that demonstrated the necessity of taking measures.

On 13th December 1997 the Residents Association organized the Conference 'Urban Renewal and citizens participation', with the aim of boosting the urban dimension of the plan. At this point the Trinitat Innova Project was born for defining and concreting the criteria and the strategic proposals for building a sustainable area.

After that, in 1998, the Community Plan made a survey on the conditions of the housing in the area. It was an opportunity for spreading the Community Plan Project and asking the inhabitants to participate in the project. The survey served also for knowing the economic conditions of the families. This information helped later the Residents Association for negotiating the economical conditions that the inhabitants had to support for remodelling their houses.

The economic agreement for remodelling the houses was finally approved in April 1999.

One of the key moments of the process was the European Awareness Sustainability Workshop of 9-10 July 1999. This workshop, organized by the Community Plan, was a reaction to the publication of the basis of the public tendering of the project that did not allow the neighbours' participation.

This workshop served to get an agreement among all participants regarding the criteria, proposals and main points of the urban remodelling, including the 'sustainable Neighbourhood' where the energy is one of the main issues. In this two days workshop participated more than 40 people among inhabitants, associations, politicians, public servants, experts and businessmen of the area. They worked during two days on urban problems and challenges, the remodelling criteria and the concrete proposals. The sustainability, the public participation, and the increase of the endogenous resources on the area were the main criteria for developing the proposals.

Another important moment was the second participatory workshop organized by the Community Plan where the residents and the members of the Technical Committee discussed and agreed on two questions: What kind of neighbourhood we want? And what king of housing typologies we want?

As a result of the participatory process carried out until the moment, in March 2000 the document 'For a new sustainable neighbourhood (Trinitat Innova)' was published. The document represents the key points for the sustainable planning of Trinitat Nova and it includes the energy matter in two different related aspects: the Eco Neighbourhood Model and the Urban Metabolism.

Finally in 2001 the first phase of the rebuilding of houses started. But the Special Plan for Internal Renewal (in Spanish PERI), the urban master plan for remodelling the area, was not approved until March 2002. The process for approving the PERI started in September 2001, when the Resident's Association together with their own assessors, negotiated the incorporation of the criteria of Trinitat Innova document.

When the resident's Association started the negotiation with the Public Administrations, the first phase of the rebuilding was in an advanced stage. Then, the Resident's Association and the Public Administration agreed not to go back with the works made in the first phase, but to incorporate some of the Trinitat Innova criteria in the next phases of the urban renewal. On energy issue, there was not a specific participative structure in the negotiations for adding the energy improvements (basically the improvements related to the bioclimatic design) published in 'Trinnitat Innova Project' and elaborated by Aiguasol.

In March 2002 there was a public conference 'Trinitat Nova Community Plan, challenges and perspectives'. This formal event got all the main actors involved in the Community Plan: Public Administrations -Generalitat de Catalunya and Barcelona City Council-, Coordination of Community Plan and the Resident's Association. They assessed the 6 year of the process.

This formal act is related to the Neighbourhood Congress (12, 13 and 14 December 2002), a participatory congress for assessing the six years of Community Plan and doing new proposals for the future. The Congress had two parts, one addressed to technicians and professionals and the second one addressed to the residents. The participative workshops were structured in different areas: habitat and urbanism, education, health and economy and work.

In 2003 part of the first phase of the new buildings finished and the first campaign of environmental education for energy saving among the residents that live in the new buildings was realized. The campaign consists in informing the residents on the thermal insulation measures, climatization, hot solar water, how to properly use the new energy systems, how to save energy and advising them on buying and using new electrical appliance and lightings.

In 2006 the first phase of rebuilding finished, with the construction of approximately 250 houses. Once the first phase of the urban renewal ended and when the residents were settled, the second energy saving campaign started, financed by the Local Energy Agency of Barcelona City Council. The Community Plan and the Local Energy Agency agreed doing a Campaign for the residents on the new buildings consisting in door to door visits to the residents, giving them a handbook of the energy system and explaining them the technical information of the solar systems installed in their housing.

Now, in May 2006 the second phase of renewal, with the building of 104 new housing, started.

Table 6.1 *Forms of participation: type - organisers - involvement - purpose*

Type	Organizers	Involvement	Purpose
Participatory action research diagnosis	Resident's Association with university assessors	Local residents, associations and local public services	To produce (with the main social actors) the basic document for knowing the starting point
Conference 'Urban Renewal and citizens participation'	Resident's Association	Local residents, public authorities and experts	To boost the urban dimension of the Community Plan
Survey	Community Team	Local Residents	To know the conditions of the housing
EASW	Residents Association	Residents, associations, politicians, public servants, experts and businessmen of the area	To define the criteria, and proposals for the sustainable area (including energy issue)
Participatory Workshop: What area we want? And what housing we want?	Community Team	Technical Committee and Residents	To discuss and agree the characteristics of the new housing
Informal meetings/ working meetings	Residents Association, Public Authorities or Community Team	Residents Association, Public Authorities or Community Team	To negotiate the economical conditions and the incorporation of the Trinitat Innova's Project
Conference 'Trinitat Nova Community Plan, challenges and perspectives'	Community Team	Public Administrations, Coordination of Community Plan, Resident's Association	To assessed publicly 6 year of Community Plan
Neighbourhood Congress	Community Plan	Technicians, professionals and residents	To assessed publicly 6 year of Community Plan
Demonstrations	Resident's Association	Local Residents and Associations	To demand the improvement of the area
Informal meetings	Local development Team	Residents	To spread the Plan
Energy Campaign	Environmental Educational Team / Local development Team/Local energy Agency	Residents	Environmental and energy education

7. STEP FOUR: From visions to reality

The last Step focuses on the objectives that have been achieved during the process, and it tries to understand the successes and failures of the different participatory methods used.

Initially, as an answer to a situation of urban and social degradation of the area, the Resident's Association wanted to transform Trinitat Nova's in an Eco-neighbourhood. Thus, during 10 years, they have been working and negotiating with the public administration in order to reach agreements in the framework of a participative structure (Community Plan). At last, the Community Plan reached some energy improvements on the new buildings but did not get the implementation of all the suggestions done for energetic improvements.

Concretely, from the initial objectives, the project achieved:

- New buildings include solar installations for domestic hot water (an objective included in the Building approximation, from the EcoNeighbourhood Model issue of the Trinitat Innova Project).
- Improving the efficiency of energy use, since the residents learned how to use the new installations (because there were two educational campaigns), an objective took from the Urban Metabolism issue of the Trinitat Innova Project.

However, a lot of the innovations suggested by Aiguasol were not incorporated. The main positive result is that the process established another way of communication and cooperation between the social actors and the public administrations. But this collaboration did not got all the expected results and it has caused a debilitation of the main social actors and the whole participatory project.

On one hand, the weakening of the Resident's Association happened because at last, there were three or four people who worked tirelessly in the project. And ten years of work with little results and without generational renovation causes demotivation.

On the other hand, participatory processes like Community Plan have two types of results: strengthening the democratic culture of the citizens and obtaining the expected results (change the area, improve the energy efficiency...). Both of them are linked and they reinforce each other. In this case, both results (social and energy ones) are ambivalent.

Most of the participatory methods were doubtlessly useful to reach an improvement in the energy issue during the process. They mainly allowed spreading the position of all actors and creating interactions among them to change the process direction. However, one of their failures was that they were not always taken into account in the decision-making final process. The variety and mix of forms of participation utilised in this case study can be seen as attempts to find the best way to influence decision making and to involve the community. All actors agreed that one of the most successful methodologies in order to build a common vision between all actors was the EASW workshop carried out in an early stage of the project, as it provided a basis for all following steps.

8. Key lessons learned

- The main lesson learned from this case of study is that the 'participation' is not a guarantee of obtaining all the expected results. Using participatory mechanisms and having a participative structure accepted by all the social actors, stakeholders and shareholders, helps to build dialog bridges and that implies that the main actors can negotiate the different proposals. But there is no guarantee for the negotiations and project success.
- Despite of this, it is better to have a formal structure for negotiating than informal meetings. The formal structures are considered by all the actors as the legitimate space to discuss and achieve agreements. Maybe, one of the project failures was not to establish a formal participatory structure for negotiating exclusively the energy proposals. Although it would have not been a guarantee for success, the formal structure could have better supported the inclusion of some other proposals in the project implementation.

- The Residents' Association had the historical embedded role to act as 'interlocutor' between residents and public authorities. They tried to perform an 'intermediary' role promoting the creation of a new formal structure in order to reinforce the relationship between actors of public authorities at different political levels. The actors at regional and city level did not commit themselves to formalize this relationship.
- Politicians commonly use these kinds of projects to improve their social image. However, the public administration can have an ambivalent role. On one hand, they can use the project as a personal political achievement, and in this framework all political actors of all levels used the 'political output'. But on the other hand, at technical level they supported only the minimum actions, as it happened in Trinitat Nova (the improvement of energy efficiency in new buildings construction could have been greater than it was achieved).
- Sometimes the 'human factor' is more important than we suppose. In this case, the project has been possible thanks to the personal relationships among the Resident's Association President and some university professors.

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