



NAVARRA, A REGION SUPPORTING THE SUSTAINABLE
ENERGY

D6-7 Final Report of sustaiNAVility Awareness and Training programme

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1 INTRODUCTION

This document is a summary of all the training, capacity building programmes and awareness days on energy efficiency and renewable energies held in Navarra during the sustainAVility project.

The training program is aimed to ender users and consumers and also to advising services and suppliers.

All the activities in the training and capacity building programme, have been published through <https://www.sustainavity.eu/publicaciones/> website of the project.

This website can also be accessed through the Energy Transition Service of GNAV website: http://www.navarra.es/home_es/Temas/Empleo+y+Economia/Energia/inicio.htm.

All the promotion activities have been held with the support of professional associations, universities, technology centres and entities attached to the project. There have been specific training and awareness seminars and thematic guides' presentations for different target groups, which were face-to-face in the year 2019 and online the activities developed in 2020.

2 TRAINING OF USERS AND CONSUMERS

Task 6.1 of WP6 proposes the development of a training programme in energy efficiency and renewable sources oriented to different target groups, included users and consumers, both in the public and private sectors. Its main goal is increasing the efficiency of investments in sustainable energy developed under the sustaiNAVility project.

The awareness programs were intended to help citizens approaching energy efficiency, responsible energy consumption, and understanding of saving on electricity bills, electric mobility and self-consumption energy communities.

In order to educate consumers and ender users on energy efficiency technologies management and a more efficient and responsible energy consumption, the following awareness activities have been carried out in the years 2019 and 2020:

AWARENESS ACTIVITIES	CONTENT	DATE	ATTENDANCE
RESPONSIBLE CONSUMPTION AND ENERGY COMMUNITIES	Awareness days about responsible consumption and energy communities.	21 st and 28 th , November, 2019	15 attendees
THE BENEFITS OF RESPONSIBLE CONSUMPTION	Awareness of the benefits of responsible consumption. Practical cases.	4 th December, 2019	2 attendees
PRESENT AND FUTURE OF ELECTRIC MOBILITY	Awareness of present and future of electric mobility.	26 th November, 2019	16 attendees
CAN I REDUCE AN ELECTRICITY BILL AT HOME?	Awareness of how to reduce the electricity bill at home.	28 th November, 2019	4 attendees
SELF CONSUMPTION IN COMMUNITIES OF OWNERS	Awareness of the possibility of self-consumption in communities of owners	26 th , November, 2019	1 attendee
SAVE ENERGY AT HOME	Awareness of the possibility of saving energy at	25 th November, 2019	1 attendee

	home.		
DISCOVER ELECTRIC RATES	Awareness of the electricity rates.	26 th November, 2019	1 attendee
ENERGY POVERTY, FROM INVISIBILITY TO EMPOWERMENT	Awareness of energy poverty, from invisibility to empowerment.	27 th November, 2019	2 attendees
ELECTRICAL MULTIMODAL AND SUSTAINABLE MOBILITY	Awareness of electrical modal and sustainable mobility.	22 nd November, 2019	1 attendee
DISCOVER THE ELECTRICITY BILL	Awareness of what we pay on an electricity bill. Components of the rate	3 rd November, 2020	35 attendees
FROM COLLECTIVE SELF-CONSUMPTION TO ENERGY COMMUNITIES	Awareness of the possibility of being part of an Energy Community and its benefits.	4 th November, 2020	38 attendees
GET TO KNOW THE TRAPS IN THE ELCTRICITY BILL	Awareness of the tricky parts of an electricity bills and possibilities of saving in electricity.	5 th November, 2020	37 attendees
UNDERSTANDING OF AN ELECTRICITY BILL	Awareness of the parts of an electricity bill.	9 th November, 2020	30 attendees
HOW TO SET UP AN ENERGY COMMUNITY	Awareness of the process of establishing an Energy Community.	10 th November, 2020	59 attendees
ENERGY COMMUNITIES MADE REAL, SOME EXAMPLES	Awareness of Energy Communities made real by learning from some examples.	11 th November, 2020	60 attendees
HOME EFFICIENCY, HOW TO REDUCE ENERGY CONSUMPTION	Awareness of the possibility of saving energy at home.	12 th November, 2020	39 attendees
ENERGY POVERTY, FROM INVISIBILITY TO EMPOWERMENT	Awareness of energy poverty, from invisibility	16 th November, 2020	24 attendees

	to empowerment.		
SAVINGS, EFFICIENCY AND SAFETY AT HOME	Awareness of efficiency, safety and saving at home	17 th Novembe,2020	22 attendees
COMPENSATION OF SURPLUS IN SELF-CONSUMPTION	Awareness of the benefits of compensating energy in self-consumption.	18 th November,2020	32 attendees
SELF-CONSUMPTION IN HOMEOWNERS COMMUNITIES	Awareness of the benefits of self-consumption in communities of homeowners.	19 th November, 2020	35 attendees
SAVE ENERGY AT HOME	Awareness of the ways of saving energy at home.	23 rd November, 2020	27 attendees
ELECTRIC MULTIMODAL AND SUSTAINABLE MOBILITY	Awareness of the multimodal, sustainable electric mobility	24 th November, 2020	20 attendees
SUSTAINABLE MOBILITY: EXPERIENCE RIDING AN ELECTRIC BIKE	Awareness of the benefits of using an electric bicycle.	25 th November, 2020	21 attendees
SUSTAINABLE MOBILITY: EXPERIENCE DRIVING AN ELECTRIC CAR	Awareness of the benefits of driving an electric car.	26 th November, 2020	22 attendees

Total Awareness days: 24

Total attendees: 544

In the year 2019, 9 awareness days have been held and 15 in the year 2020. All the awareness activities in the year 2019 have been held face-to-face and in the year 2020 were online webinars. In the year 2019, there were 43 participants and 501 in 2020. This means that there has also been a significant increase in participation according to the number of participants last year, due to the growing interest and the fact that the events have been developed online with the advantages that this implies.

3 CAPACITY TRAINING FOR ADVICING SERVICES AND SUPPLIERS

The training programs were aimed to create capacity building for auditors and project’s designers, technical installers and managers of installations, retrofitting agents and building renovation managers. Target Groups for these training courses have been: city councils, companies, foundations, cooperatives of users, social partners, educational institutions, taxis and buses owners, homeowners communities and citizens in general.

3.1- Training courses:

The training activities have taken place with the support of public and private professional associations, universities and technology centres. Intending to saving energy and to reducing CO2 emissions into the atmosphere and promoting adequate policies, the following training courses have been developed in terms of capacity building, which implies changes in the methods of production, distribution and the incorporation of renewable energies.

TRAINING COURSE	CONTENT	DATE	TARGET GROUP	ATENDANCE	SATISFACTION DEGREE
DISTRICT HEATING	Binding regulations, economic profitability in installations of collective use. Design and implementation of an installation in district heating. Visit a biomass installation.	17 th and 18 th October, 2019	ESCO companies, cooperatives of users, social partners, educational institutions, communities of homeowners and citizens.	5 attendees	Very high 9/10
ENERGY PLAN FOR LOCAL ENTITIES	Energy saving practice approach. Describing the most important equipment and energy consuming processes. Training to be able to assume responsibilities related to energy management and how to achieve maximum efficiency in energy management.	October 2019-January 2020 (4hours a week)	City councils administrators,	7 attendees	Very high 9/10
SELF CONSUMPTION (seven modules)	Economic aids for photovoltaic self -consumption facilities, current regulations, technical-theoretical design and analysis of facilities installations. Electrical vehicles and charging points, storage, grids and microgrids. Micro wind farms complementarity with self-consumption photovoltaic installations.	17 th and 18 th October 2019	City councils, companies, ESCOs cooperatives of users, social partners, educational institutions, communities of homeowners and citizens	127 attendees	Very high 8,7/10

1st CONGRESS NAVARRA SELF-CONSUMPTION AND DISTRIBUTED ENERGY GENERATION	Organizers: FIN (Foundation Navarra Industry) and COIINA (Engineering association of Navarra) Participants: Participants: Economic and enterprise Development Counsellor, Regional legal and technical experts in energy efficiency and self-consumption. Regional administration and expert agents supporting Navarra 2030 Energy plan on local communities of energy, technologies, digitalization, business models and their development. The current situation of the development of distributed energy generation, self-consumption and demand management and integration of energy management, municipal production and purchasing of public energy into a Municipal Energy Strategy.	10th October, 2019	ESCOS, house building companies, city councils, cooperatives of users, social partners, educational institutions, communities of homeowners and citizens	202 attendees	Very high 8,7/10
PASSIV HOUSE TRADESPERSON	Passiv house, as buildings with almost zero energy consumption. Methodology to achieve Passiv house certification.	3 rd , 4 th , 10 th , 11 th October 2019	City councils administrators, house building companies, cooperatives of users, educational institutions, communities of homeowners and citizens	17 attendees	Very high 8,6/10
THE TIGHTNESS OF A BUILDING ENVELOPE: WORKSHOP BLOWERDOOR	The aim of the workshop is to learn how to perform a Blower test to identify possible energy leakage. Current state of of tightness in home buildings in Spain and Europe. Existing tools to detect and locate air infiltrations.	10 th October, 2019	City councils administrators, house building companies, cooperatives of users, educational institutions, and citizens communities of homeowners	24 attendees	Very high 8,6/10
WORKSHOP ON ENERGY SELF-CONSUMPTION	Regulatory framework, technically and in administrative procedures. Self-consumption modalities, collective self-consumption and its conditions.	25 th November, 2019	City councils administrators, companies, cooperatives of users, educational institutions, communities of homeowners and citizens	24 attendees	High 7/10
BUILDING REGULATIONS ORIENTED TOWARDS THE NZEB	Energy efficiency regulatory framework. European Commission recommendations. Different International reference models. Analyzing an NZEB building.	29 th October, 2019	City councils administrators, house building companies, cooperatives of users, educational institutions, communities of homeowners	6 attendees	High 7,6/10

			and citizens		
DOMESTIC AEROTHERMAL	Aerothermal energy and comprehensive installation solutions. Commitment to renewable energies. Improvement of the energy efficiency of the facilities.	24 th , 31 st October, 7 th November 2020	House building companies, cooperatives of users, educational institutions, communities of homeowners and citizens	8 attendees	Very high 8/10
CIRCUIT DESIGN FOR HEAT PUMPS	Design of heat pump installations. Wise selection of equipment and materials, commercial capacity improvement by increasing technical and general knowledge. Optimal use of regulation	6 th October, 2020	ESCOS, House building companies, cooperatives of users, educational institutions, communities of homeowners and citizens	8 attendees	Very high 8/10
SELF-CONSUMPTION (Seven modules)	Economic analysis and economic aid current regulations, technical and theoretical design, and analysis of photovoltaic self-consumption facilities. Electric vehicles and recharge points. Electrical storage and microeolic complementarity in photovoltaic self-consumption installations. Grids and microgrids	8 th October-20 th November, 2020	ESCOS, House building companies, automotive cooperatives of users, educational institutions, communities of homeowners and citizens	25 attendees	
II CONGRESS NAVARRA SELF-COSUMPTION, TIME FOR CHANGE	<u>Organizers:</u> FIN (Foundation Navarra Industry) and COIINA (Engineering association of Navarra) <u>Participants:</u> Economic and enterprise Development Counsellor, KISAR, ARANKOA (Energy Communities early steps) UNEF (Food sector), APPA (Energy Communities developed in Navarra) Self-consumption regulations and national strategies. Local and regional proposals. Current self-consumption, opportunities and boundaries. Self-consumption examples and Energy Communities.	14 th October, 2020 14 th October, 2020	ESCOS, house building companies, city councils, cooperatives of users, social partners, educational institutions, communities of homeowners and citizens	streaming 114, face-to-face 59 attendees 288.000 impacts in twitter	Very high 8,5/10
II CONGRESS PROGRAM PRACTICAL WORKSHOPS	-Self-consumption and energy communities. Legal situation -Shared self-consumption and energy communities. Technical -Shared self-consumption and energy communities. Citizenship and participation	-21 st October,2020 -28 th October, 2020 -4 th	ESCOS, house building companies, city councils, cooperatives of users, social partners, educational institutions, communities of homeowners and citizens	59 attendees	Very high 8,5/10

		November, 2020			
PASSIVHAUS TRADESPERSON	Theoretical and practical view of Passiv houses, buildings of almost zero energy consumption. Basic procedure for the certification of energy efficiency of buildings	28 th , 30 th October, 4 th 6 th November, 2020	ESCOs, House building companies, city councils, cooperatives of users, social partners, educational institutions, communities of homeowners and citizens	65 attendees	High 7,8/10
THERMOGRAPHY WORKSHOP APPLIED TO BUILDINGS	Basic principles of infrared radiation at the service of buildings for carrying out thermographic inspections and other purposes. The use of a thermal imaging camera to make a detailed study of construction systems and their problems based on specialized interpretation of the image.	24 th October, 2020	ESCOs, House building companies	51 attendees	Very high 8,4/10
SELF-CONSUMPTION IN BUILDINGS	Urgent measures for the energy transition and consumer protection which recognizes the right to self-consumption of electricity. Legal framework, design of a photovoltaic installation, collective self-consumption. Control of execution and monitoring.	18 th , 19 th , 25 th and 26 th , October, 2020	ESCOs, House building companies, city councils, cooperatives of users, social partners, educational institutions, communities of homeowners and citizens	41 attendees	High 7,5/10

Total training courses: 16

Total attendees: 935

There have been 7 training programs in the year 2019 and 8 training programs in the year 2020. Three out of the eight courses developed in 2020 have been replicated from the previous year, specifically Self-consumption, the regional Congress and Passiv Haus Tradesperson. In the year 2020, all the training program activities have been face-to-face due to pandemic reasons. According to the surveys, participants' satisfaction degree was high or very high. The participation degree was also high or very high.

There has been a significant increase in participation according to the number of participants from the previous year, due to the growing interest and the fact that the events have been developed online with the advantages that this implies.

3.2- Specific Thematic guides:

The following Specific Thematic guides and its presentations are aimed to create capacity building among the described target groups in order to learn how to save energy in buildings, installing renewables, to foster energy plans in local entities, to learn about district heating and to make an energy consumption diagnosis of buildings.

GUIDE	CONTENT	URL	GROUP	TARGET	PRESENTATION DATE
INTEGRAL ENERGETIC REFURBISHMENT IN BUILDINGS	Saving energy efficiently by integral energetic refurbishment, installing renewable energy or other measures.	https://www.sustainavility.eu/wp-content/uploads/2020/02/REHABILITACION.pdf		House community owners and administrators	September, 2019
PHOTOVOLTAIC ENERGY FOR SELF-CONSUMPTION	Proper photovoltaic installations for each type of house and encouragement to be prosumers or consumers of the produced energy.	https://www.sustainavility.eu/wp-content/uploads/2020/02/ENERGIA-SOLAR-FOTOVOLTAICA-PARA-AUTOCONSUMO.pdf		Communities of home owners and final users	22 nd September, 2020
ENERGY PLAN FOR LOCAL ENTITIES	Some ideas to foster implementation of energy efficiency and renewable energy in local entities.	https://www.sustainavility.eu/wp-content/uploads/2020/02/ENTIDADES-LOCALES.pdf		Municipal and other local entities administrators	10 th August, 2020
CENTRAL AND DISTRICT HEATING	A guide to help getting advantage of central and district heating	https://www.sustainavility.eu/wp-content/uploads/2020/02/CALEFACCIONES-CENTRALES-Y-DE-BARRIO.pdf		Home owners, administrators and district agents	September, 2019
ENERGY EFFICIENCY IN RESIDENTIAL BUILDINGS	Energy diagnosis of a building and ways of improvement in terms of efficient consumption of heat, electricity, compensated shared self-consumption and sustainable mobility	https://www.sustainavility.eu/wp-content/uploads/2020/02/EFICIENCIA.pdf		Communities of home owners administrators	5 th March, 2020

All these guides have also been disseminated on a single webinar held on 5th of March, 2020 with **104 attendees** and they have also been published on the sustainAVility web

3 TRAINING OF LOCAL SMEs TO DEVELOP THEM AS LOCAL ESCOS

One of the barriers for the implementation of projects of sustainable energy at local level is that local companies are not often prepared to take a more dynamic role acting as ESCOs or Micro-ESCOs at local level. "Local ESCO Business Model" guide was created by AIN to introduce models of local ESCOs, in order to assume part of the risk of the investment projects through training, technical and financial advice, such as the energy saving performance contracts, and there has been professional support and expert tutoring in the process.

The companies, individually or in joint venture will assume the development of investment projects in sustainable energy that they can mobilise from the project, both public (municipal) and private (corporate and residential).

GUIDE NAME	CONTENT	URL	DATE	ATENDANCE
BUSINESS MODELS FOR LOCAL ENERGY SERVICES ENTERPRISES (ESCOs)	How can local ESCOs help SMEs implementing energy saving and energy efficiency, as they find some boundaries	https://www.sustainavility.eu/wp-content/uploads/2020/09/TECHNICAL-GUIDE-FOR-BUSINESS-MODELS-OF-LOCAL-ESCOs-3.pdf	16 th September, 2020	134 attendees

This guide was adapted to the local reality and published in the project's website.

5 CONCLUSIONS: EXPECTED AND FINAL RESULTS

Training and awareness programs on energy efficiency and renewable energies developed for technical installers and managers, technical advisers, suppliers, building renovation managers, SMEs, ESCOs local financing groups and ender users and consumers have been successfully held and widely exceeded the goals set in the GA. On the table below the comparative between the expected results and the achievements is detailed.

EXPECTED RESULTS	ACHIEVEMENTS
- 4 training actions for ender users and consumers (2 GNAV, 1 NASUVINSA, 1 AIN)	- 24 Training actions for ender users and consumers given
- 40 end users and consumers participating in training actions.	- 544 end users and consumers participated in training actions
- 5 training activities to suppliers and technical advisers (2 GNAV, 1 NASUVINSA, 1 AIN, 1 CENER)	- 50 training activities for suppliers and technical advisers given
- 50 suppliers and technical advisers participating in training actions	- 685 suppliers and technical advisers participated in training actions
- 2 online training guides	- 6 online training guides have been developed
- 5 SMEs participating in ESCO's training programme	- 15 SMEs participated in ESCO's training programmes
- 5 participants in the Local Financing Working Group	- 7 financial entities participated in the Local Financing Working Group
- 2 Local ESCOs Business Models Developed	-No local ESCOs Business Models have been developed
- 2 New Financial Models Developed	- 1 New financial Model has been developed



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