



Action Plan for the region of Almada



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Part I – General information

Project: INTENSIFY, More Carbon Reduction through Intense Community Engagement

Partner organisation(s) concerned: AGENEAL, Local Energy Management Agency of Almada

Country: Portugal

NUTS2 region: Lisbon Metropolitan Area

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Part II – Policy context

The Action Plan aims to impact:

- ✓ Investment for Growth and Jobs programme
- European Territorial Cooperation programme
- Other regional development policy instrument

Name of the policy instrument(s) addressed: ROP Lisboa 2020, Thematic Objective 4: "Supporting the transition to a low-carbon economy in all sectors". ROP Lisboa 2020's TO 4 includes specific Investment Priorities 4b "Promoting energy efficiency and the use of renewable energy in business", 4c "Support for energy efficiency, intelligent energy management and the use of renewable energy in public infrastructures, in public buildings and in the housing sector" and 4e "Promotion of low carbon strategies for all types of territories, including the promotion of sustainable multimodal urban mobility and adaptation measures". It addresses a broad scope of sectors, public and private, relevant for climate change actions (energy efficiency and renewable solutions).

Further details on the policy context and the way the action plan should contribute to improve the policy instruments:

As was defined in the Application form, the Investment Priorities 4a, 4b and 4c target the main economic sectors relevant for the policies addressed. However, it does not provide tools or objectives for synergies between the different sectors. Cooperation amongst sectors towards a common local and national mitigation goal is also not sufficiently addressed.

Background

In Almada, transport and buildings sectors, represent 2/3 of the total energy consumption of its territory, as can be seen in the following picture:

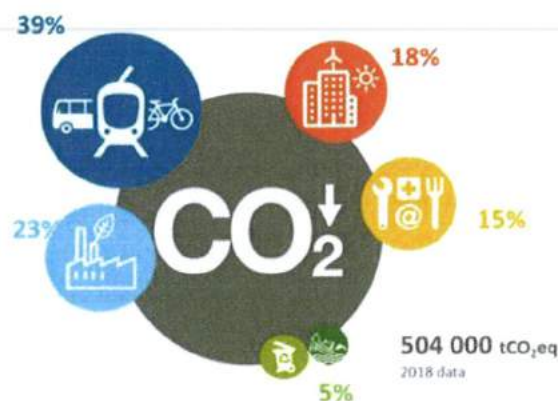


Figure 1 – CO₂ emissions by sector in Almada, data from 2018

However, despite setting up ambitious targets in terms of the GHG emissions reduction (20% reduction on GHG emissions in 2020 and 80% in 2050), the City Council of Almada is only responsible for 5% of this energy consumption and corresponding GHG emissions. Therefore, roughly 95% of the effort needed to reach the goals for the overall municipality are upon sectors not directly under the management of the City Council. Consequently, achieving a high level of cooperation between the Local Authorities, Private Sector and key Stakeholders is absolutely relevant for overcoming this challenge - the Paris City Hall Declaration, which Almada endorsed, implies not only a reduction of 80% on GHG emissions but also that cities commit to engaging the private sector and civil in low-emission projects.



A first step developed in Almada was the creation of the of the Local Climate Change Stakeholder Platform (PLAC). The PLAC is a voluntary participation forum in which its partners discuss, share and disseminate information to support local action to contribute to the de-carbonization of the activities in Almada and promote the resilience of the territory, thus supporting for global effort to combat climate change. It has now over 75 members including local authorities, civic institutions, industry, and commercial sector among many other representatives.

However, in order to achieve a successful strategy and a strong commitment from the community and local stakeholders, there were still learning needs that need to be addressed:

1. How to obtain more reliable baseline data regarding missing information: emissions from big industry, travel patterns of non-residents, recent demographic dynamics;
2. How to overcome staff and financial constraints to power local communities effectively;
3. Besides the Cooperative model which provides a good support for project scalability, which other financing schemes and models are available and might be useful for Cities/Local Communities;
4. How to explore links between project development financing which seem quite advanced and boost local communities. How's this correlate? Can one be made without the other? What should come first?

INTENSIFY Project allowed to provide answers for several of these questions, through the peer-to-peer learning process and the exchange of experiences between AGENEAL and the 8 other Project Partners during the Thematic Events and Study Visits organized within the framework of the Project. This Regional Action Plan will support the implementation of energy efficiency and renewable energy projects through innovative and strong community engagement. The work developed within the PLAC, is a major tool to implement/boost these projects but it is only a starting point, and the effort must be increased in order to achieve the expected impacts.

Current situation

Lisbon Regional Operational Programme 2020 (ROP 2020) has not produced yet specific calls focused on the development of Energy communities or innovative ways of Community Engagement towards carbon reductions, which is an objective of Almada's RAP within the framework of INTENSIFY. However, even if the policy instrument is named ROP 2020, it will continue to fund projects and launch calls until 2023 as part of the "execution recovery plan" approved by our "interministerial board for the partnership agreement" in February 2020 which intends to *"identify approved projects with delays in their contractualisation and implementation, in order to proceed with its resolution or deactivation, placing the free funds to tender for support for new projects in relevant areas"*. aim is that, through the actions proposed in this RAP the Regional Operational Programme will be improved through Improved Governance and New Projects. AGENEAL has been consulted by the managing authority quite often on specific details of future calls. Though this communication and by a regular support of the MA, we can influence the ROP in a concrete way.

Part III – Details of the actions envisaged

ACTION 1:

Name of the action: Implementation of a Digital Social Platform for the PLAC Community

1. **Relevance to the project** *(please describe how this action derives from the project and in particular from the interregional exchange of experience. Where does the inspiration for this action come from?)*

So far, the establishment of the PLAC, Local Climate Change Platform of Almada, has allowed for the creation of a community of stakeholders and citizens with the common goal of reducing Almada's GHG emissions by 80% until 2050, an ambitious objective signed during the Paris COP21 and that will require a strong effort not only from the City Council, but also a common vision from all the local actors with impact in energy consumption and CO2 emissions.

As already mentioned, the Policy Instrument addressed ROP Lisboa 2020, Thematic Objective 4: "Supporting the transition to a low-carbon economy in all sectors" and its Investment Priorities 4a, 4b and 4c target the main economic sectors relevant for the policies addressed. However, it does not provide tools or objectives for synergies between the different sectors: cooperation amongst sectors towards a common local and national mitigation goal is also not sufficiently addressed. The implementation of a **Digital Social Platform for the PLAC Community** is a fundamental tool to boost the development and support to new projects addressing the main improvement to be delivered to the policy instrument: **new carbon reduction projects** integrating

different sectors and increasing **stakeholders and community engagement** in order to achieve these goals, the digital platform will help in obtaining baseline data and act as “GHG Emissions Observatory” showing the reduction efforts achieved so far, facilitate partnerships and common procurement procedures within its members, promote climate literacy and showcase success stories.

Learning processes between members dealing with barriers to funding access under the ROP but also successful strategies, benchmark projects and innovative synergies between different funding mechanisms will be valuable inputs for fine tuning new calls under the ROP with the direct support of AGENEAL to the Managing Authority has already done in past calls. Furthermore, the development of the PLAC and its DSP has the ultimate goal of developing and boosting of projects in cooperation between its members in a cross sectoral approach dealing directly with one of the improvements needed in the ROP: increased synergies between sectors for optimization of the funds allocate instead of a strictly sectorial approach. Given the diversity of public, private, NGO’s, institutional, academic and research institutions involved in the PLAC it is highly likely that projects boosted/benchmarked/replicated/improved through this platform will be financed by the ROP until 2023.

A glimpse of the existing members, advisory members and ambassadors, that signed the commitment to address this issue within their own organizations and cooperate together in achieving the overall Almada targets, is below:

MEMBERS



ADVISORY MEMBERS



AMBASSADORS



The Development of the PLAC's digital social platform is an innovative action that addresses Almada's previously identified learning needs. These were validated during INTENSIFY's Thematic Events "Targeting" and "Motivating", and the webinar/Study Visit to Milton Keynes in June 24th helped Almada in defining effective ways to develop a digital social platform including tools, targets, framework, existing strategies, integrated apps development. By participating in this webinar/Study Visit Almada was able to learn about one of the INTENSIFY's Good Practices, an already established DSP (**Milton Keynes Power Water Communities**), what worked best/challenges faced, and also getting useful tips on how to implement a similar Platform to create a smart, proactive and connected Energy Community in Almada.

The aforementioned Study Visit served to take an in-depth dive on several of the previous learnings already taken and explored in Thematic Event 4, Digital Social Platforms, held at Vitoria-Gasteiz on May 2019, where Milton Keynes Water Power DSP was presented by Theo Fernandes. There were two main outcomes from this Thematic Event and following activities that will be included in the new developments of the PLAC and its associated DSP: "tools are there, just push them in the right direction" and "platforms are tools, they are not the community". This is translated in some specific technical characteristic of the Milton Keynes DSP which Almada will import which are the easiness of integration of existing successful tools (such as social media tools, already developed and successful platforms, apps, API, or simple e-mail distribution lists and discussion groups). This will also be visible in the architecture of the DSP which will be, as the **Milton Keynes Power Water Communities** is, an "issue agnostic" platform which allows for total flexibility and reuse of the system for different purposes. A relevant approach to be adapted is also the open-source software concept in which the architectural code of the platform is freely available at [github](https://github.com) which allows for communities to improve, adapt and develop their own solutions

In fact, this link provided the opportunity of including Mr. Theo Fernandes expertise and company in the discussions and reflections held at the regional stakeholders group from Almada and explore possible solutions. This was derived from the networking established during the different interregional learning processes and also by the coincidence that the headquarters of the company developing these solutions for

Milton Keynes is also nearby the city of Almada, allowing for an easy and direct face-to-face discussions (at least before the pandemic restrictions were introduced). These meetings between representatives of AGENEAL, the municipality of Almada, The Faculty of Sciences and Technology and Chimp strengthened the evaluation of learning needs and discussion on effective ways to develop a digital social platform. Tools, targets, framework, existing strategies, integrated apps development. And most of all, Almada has found a concrete and relevant partner to develop the technical solutions that the community will need. Following the concept of the PLAC these will be developed after the community agrees on what are the most effective and necessary tools.

In practical terms, one of the objectives will be already existing virtual infrastructures (such as Milton Keynes DSP open source system) for Almada's purposes which are creating an engaged climate change mitigation community that delivers carbon emissions reductions and linking this more complex information/tools/methodology with currently massively used social communication tools already in place in cities (institutional or not).

2. Nature of the action *(please describe precisely the content of action 1. What are the specific activities to be implemented?)*

The development of the PLAC DSP should first of all start with an assessment and re-evaluation the members of the PLAC, checking for missing actors and develop a methodology to identify those who are really committed not only for action but also for support and putting up the word of mouth. These actors will also provide valuable input about what should be the key elements of such Platform and how best to integrate those elements and engage and "energise" community activities and projects. AGENEAL will then proceed to disseminate the engagement approaches and effective results of the INTENSIFY Good Practices to energy investments by the community and PLAC Partners through Import Workshops. In parallel, outcomes of this process will be used to feed technical and operational procedures of future calls under the ROP in AGENEAL's capacity of advisor to the Managing Authority. With the support from Institutional, Technical and Scientific Partners, this action will result in the creation of the PLAC overall stakeholder engagement platform which is a two-fold platform: the community platform in itself and the Digital Social Platform that supports the community as depicted in the figure below.



Figure 2 – Main tasks to be developed for boosting PLAC Almada Community

The technical development of the DSP and the community engagement process should be focused on the main functionalities and steps identified:

STAGE T1. PLAC COMMUNITY - Creating a community with a common vision

Goals:

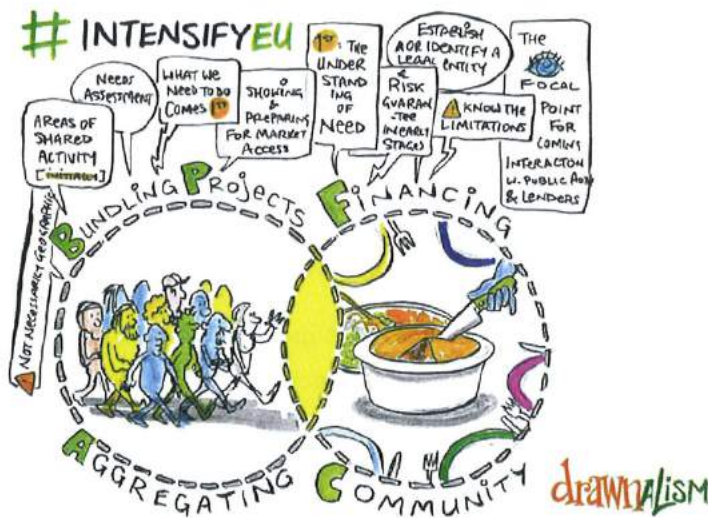
The main goals of the PLAC Community development is to identify individual & group perceptions, define a shared vision of the future and common goals and to develop the pathways to achieve the co-created vision. This will enhance the sense of belonging (within the members, counsellors and ambassadors) alongside with the definition and willingness to adopt measures and actions aiming to reduce carbon emissions. This will allow for a framework in order to enhance the collaborative production of knowledge.

The main subtasks to be developed are listed below:

1. Stakeholder analysis – refine, enhance and validate existing list of stakeholders;
2. Capturing perceptions: Defining expectations; identify possible contributions; collect new ideas (e.g. creating a regular newsletter of the community & other initiatives);
3. Analyzing and defining Climate Change issues from the perspective of the municipality;
4. Identification of barriers to action with a specific focus on access to structural funds either directly in the case of companies, research institutions and local authorities, and indirectly in the case of small social/educational institutions
5. Analyzing and defining the importance of local and individual actions to address climate change;
6. Building a common vision for the future (including the definition of the PLAC role);
7. Building the pathway to achieve the desired vision with concrete actions for different sectors
8. Strategies to overcome collectively some hinges in funds access, including innovative financing mechanisms.

- Dissemination of outcomes to relevant stakeholders and participants, including the ROP Managing Authority, with details on improvements to be addressed in future calls.

The tools used to develop the tasks defined are online surveys, following the experience and results of the baseline and impact surveys developed within INTENSIFY, collaborative workshops and visioning & backcasting processes already tested during the Thematic Events, namely TE 2 – Motivation “Empowering local communities to own the problem” held in Treviso in December 2018 (community values identification exercise, co-creating visions for 2050, co-creation of roadmap definition of policies and measures to be implemented in the timeline until 2050 and prototyping real solutions together). Also, proven tools from Thematic Event 3 - Financing Low carbon Communities such as the World Café exercise based on the main identified groups of obstacles and the good practices identified by participants, the low-hanging fruits tree exercise and the development Sustainable Energy Community will be adapted and used specifically to address improvements on funding procedures, including the ROP mechanisms and calls.



Bricks collaborative exercise



Different working groups selected an action from the timeline to prototype. Firstly in an individual exercise and after it combining the different actions in a collaborative discussion on a future community base. This exercise was supported by different materials were used to build the solutions within the community, such as bricks, plasticine, strings, colour pens. Several questions guided the exercise, as for example:
Who do you need for this action? Who are the champions? Who may block? How this idea is integrated with others in the context of the city/community?
The process allowed to build six communities based on the articulation of distinct actions/ideas, fostering co-creation of knowledge and share of experiences.



Figure 3 – Exercises done at TE2 and TE3 to be mimicked for the development of Almada Local Climate Stakeholders Digital Social Platform

STAGE T2. TECHNICAL LITERACY - Building awareness on carbon emissions reduction

Goals:

Technical literacy is critical to involve stakeholders in carbon emission reduction actions, projects and policies. The main goal is to improve literacy on Climate Change mitigation to enhance impact and involvement of stakeholders. This will be done for instance by setting up a database of specific energy consumption and emissions indicators (e.g. kWh / gCO₂/ activity or product); delivering Roadmaps to conduct Simplex inventory in the organizations and info-energy support to citizens alongside with supporting documents.

The main subtasks to be developed are listed below:

1. Brief characterization of energy consumption (last year of electricity, gas and other energy bills) and associated emissions;
2. Identification of clusters regarding the similarities among activities;
3. Development of guidelines "how to..." oriented to the activities within each cluster;
4. Technical education in climate mitigation.
5. Evaluating contributions of local stakeholders action to overall mitigation target regionally and nationally, contributing for coherence between local action and national targets.

The tools to develop the tasks depicted above are simplex Excel inventory for each member (free of charge for frontrunners as a first step and incentive to participation); Capacitation sessions & workshops regarding different sectors and/or measures (Specific clusters); Database of measures to reduce energy consumption and carbon emissions adapted to each stakeholder cluster. These targeting procedures were brought into the project after the reflections and conclusions of Thematic Event 1 especially the Cubic Workshop where a stakeholder analysis and roleplaying games highlighted the main sectors and issues to be addressed in Almada. The focus will therefore be on the sectors identified at that Thematic Event: Transport sector and commercial sector improving baseline data collection with the tools in place. The development of consistent data packages will also ease up the connection and evaluation of measures developed at local level and its correspondence or contribution to national targets, measures and objectives, improving vertical alignment between legally binding targets at national level and voluntary one's at regional and local level.

STAGE T3. PLAC DSP – Developing an Online Platform Making all the knowledge available and connected

Goals:

To design, develop and implement an online Platform to increase the visibility of the community and the base of communication in the medium and long term. It should be easy to be used and to communicate within the community and with the outside.

The main subtasks to be developed are listed below:

1. Assessment of needs form the members and projects to be developed (based on outcomes of previous tasks).

2. Develop a website using current web technologies (HTML, CSS, Javascript, CML, github), based on opensource software (the basis will be the *github* repository used on **Milton Keynes Power Water Communities DSP**)
3. Development of data bases (MySQL/Oracle) for the purposes and tools defined in the previous tasks.
4. Development of multimedia resources to allow edition and visualisation of multimedia contents as sound, video, images, graphs, tables.
5. Possible improvement of the platform and organization of hackathons for sustainability with students communities from the NOVA University and international students.
6. Integrating (simple link or strong embedded link) existing app ecosystem development in Almada, namely "*Almada mais perto*" (app for reporting incidents in public space - https://play.google.com/store/apps/details?id=pt.its.app.almada&hl=pt_PT), geo based applications such as the local shops platform (<https://geoinformacao.cm-almada.pt/BrowserClient/#id=4f66a470-89e2-495e-acd3-b10a31ecb8b0&tenant=SIGCMA>), "*Descubra Almada*" touristic app (https://play.google.com/store/apps/details?id=pt.gravity.descubra&hl=pt_PT), Official Facebook, Twitter and Instagram accounts of the municipality and AGENEAL, info-energia helpdesk offered by AGENEAL, Almada's Carbon Footprint Calculator (<https://www.footprintcalculator.org/pt/12>), Online public transport guide (<https://transportesalmada.ageneal.pt/pt-pt/>), among others.
7. If possible, integrate a subplatform for boosting the 3 Valleys Local Energy Community as detailed in action 2.

STAGE T4. PLAC MONITORING - Let's keep moving and Barometer

Goals

Follow the different members and their initiatives, promoting the support of each partner; Monitoring the actions implemented by the members in each year aiming to inform and motivate all the members and provide municipality with statistics to integrate in the inventory. Using the developed tools and the DSP platform as a continuous monitoring tool. This will also be used to develop a best in class/local transition champions following

The main subtasks to be developed are listed below:

1. Develop and publish indicators to energy consumption and CO2 emissions reduction by technology type;
2. Fostering support among members with specific skills using communication with the DSP platform;
3. Comparing implemented reductions among different members and publishing on DSP;
4. Attribution of awards for the "best in class" with extensive dissemination via the DSP.

Stakeholders involved (please indicate the organisations in the region who are involved in the implementation of the action1 and explain their role)

AGENEAL will be the focal point and the established local Forum for the sustainable Energy in Almada. Together with Almada City Council, it will be responsible for compiling the information to be presented in the

Energy Observatory and provide liaison between the different stakeholders, community and PLAC members for the development and implementation of Energy Communities and common initiatives. The development of the Digital Social Platform will be done by Chimp, a technological partner and a leading player in the design and development of applications in the orbit of earth sciences, public engagement and sustainability. FCT/NOVA University will work as a Scientific and Technical Consultant and is already an established PLAC Member and an active participant in Sustainability Projects. All the remaining PLAC members will be actively involved and will provide contributions and ideas to the DSP. The actors depicted will allow for the horizontal alignment of the project. The Managing Authority and the Lisbon Metropolitan Area will be involved in supporting the vertical alignment of the project with regional and national targets and programs. Besides the support given by AGENEAL to the call for application procedures under the ROP this partnership will also address the gap between national and local policies on climate and ensuring a better use of structural and similar funds in these areas. It is recognized that lack of alignment between national and local priorities is one of the main factors for poor funding application.

3. **Timeframe** (please specify the timing envisaged for action 1)

This action will be implemented during 2 years. The DSP as a ready to be used product, especially the sub-platform related to action 2, will be available at the end of the first year and will be improved and integrated with other functionalities along the remaining period. This is the timeframe for the implementation as it is expected that the platform will keep on evolving and endogenously working long after this 2 period timeframe.



4. **Indicative Costs** (please estimate the costs related to the implementation of action 1)

The creation and development of the PLAC DSP will have an estimated cost of 40.000€

5. **Indicative funding sources** (please describe how action 1 will be financed. Is it through the policy instrument(s) indicated in part II):

This action will be fully financed by Almada City Council.

ACTION 2

Name of the action: Implementing the 3 Valleys Local Energy Community

1. Relevance to the project *(please describe how this action derives from the project and in particular from the interregional exchange of experience. Where does the inspiration for this action come from?)*

The focus on development of local energy communities is a concrete action that can improve the implementation of sustainable energy projects at local level, engaging the communities by giving them “ownership” of the issues related to energy consumption and GHG emissions. This will boost acceptance of Almada's objectives for its Sustainability Energy Strategy and the development of new projects as was intended in the policy improvement outline. Following this line of work, AGENEAL specifically investigated and the Good Practice from Cork related to the **SEAI Better Energy Communities Scheme**. The dedicated webinar/ Study Visit organized in 29th May allowed Almada to learn more about the SEAI Better Energy Communities Scheme and to correctly address the learning needs defined, which were related to strategies to overcome staff and financial constraints to power local communities effectively. This INTENSIFY Good Practice revealed that it is possible to overcome financial constraints if the correct incentives are put in place and also emphasized that the projects should be generated from a bottom-up approach addressing the real desires of the communities and existing momentum. The role of the institutions can be to simply to gather the conditions for the development. A small financial incentive clearly linked to the need to follow a detailed methodology, “business plan” and guideline defined by the program is essential. It also validated the overall approach developed within INTENSIFY of having champions within the community and added the need of a facilitator that is available and whose main work is to follow closely and on location. There are certainly financial resources to be allocated but it is in no way a strong constraining factor if this approach is replicated, having in mind the benefits produced.

2. Nature of the action *(please describe precisely the content of action 1. What are the specific activities to be implemented)*

This action aims to **implement a Local Energy Community in Almada**, by pushing the development of a similar programme in Almada by means of importing and adapting the good practice SEAI Better Energy Communities Scheme among other inputs from the interregional learning process that are detailed below. This will be done through several initiatives:

- Installation of a Photovoltaic Plant at a municipal infrastructure
- Start-up of an energy Community in Pragal – Comunidade de Energia dos Três Vales (3 Valleys Local Energy Community)

- PLAC involvement and community mobilization through thematic meetings with partners and local activities
- Dissemination of resources/project ideas/possible implementation partners within the PLAC Members via its Digital Social Platform

The first step is to build the conceptual framework for Almada's energy communities' scheme, supported in the new Renewable Energy Communities' legislation, the PLAC tools and stakeholders combined with investments in municipal buildings such as wastewater treatment plants. Afterwards, Almada will proceed with the development of the online group for energy communities which could be also a sub platform of the overall PLAC stakeholder engagement platform.

The 3 Valleys Local Energy Community will be built around a specific area of the city where social services, municipal services, rural areas, residential areas and industry all share the same territory.

The recent European Directives in this area ((EU) 2018/2001 and (EU) 2019/944) has the objective to facilitate the creation of new energy communities, in order to promote self-consumption of electricity and facilitate decentralized activities in the sector, namely: produce, consume, store, share and sell electricity. Thus, two relevant figures are foreseen Directive (EU) 2019/944 "Citizens' Energy Community" and in Directive (EU) 2018/2001 "Renewable Energy Community",

Almada intends to position itself as one of the firsts municipalities to promote a pilot local energy community. In fact, the directive provides that the members of the community are natural persons, local authorities, including municipalities, or small businesses that can act on the entire energy value chain from production to commercialization.

The reference document for Sustainability and Resource Management Efficiency (which defines the conditions and general financing rules for operations presented under the Investment Priorities and Intervention Areas, specifically the ROP Lisboa 2020, Thematic Objective 4: "Supporting the transition to a low-carbon economy in all sectors", which is the Policy Instrument addressed), was recently improved to include these developments and interest from local authorities and other groups. In practical terms this means that **local authorities and energy communities (in which local authorities can also be included), are now eligible for new types of innovation projects to be developed.** The specific calls to be implemented will focus a bit more on the type of projects to be financed, and there is also an opportunity to include **NEW PROJECTS** under this framework. The work of **setting-up a pilot energy community boosted by the municipality will be a strong advantage in developing other projects.** With this action, a pilot project on energy communities and energy poverty will be implemented. This is an innovative and new approach for which private stakeholders, citizens and public institutions need to be trained. The outcomes of the project, including an internal regulation benefit

sharing schemes, legal and institutional barriers identification and strategies to overcome them in practical on-sets, will contribute for more efficient call for applications within the ROP 2020 (and also for future structural funds and resilience and recovery plans).

As already mentioned in action 1, ROP 2020 it will continue to fund projects and launch calls until 2023 as part of the “execution recovery plan” approved by the “interministerial board for the partnership agreement”. Through the development of Action 2, at least one new project on energy communities will be implemented and will contribute with its experience for better application procedures within the ROP 2020 and also for future structural funds. AGENEAL has been an advisor to the managing authorities quite often on specific details of calls for application which is a very concrete way of influencing the ROP.

IMPLEMENTING THE 3 VALLEYS LOCAL ENERGY COMMUNITY

Stage A PV pilot installation SMAS Almada

A relatively small photovoltaic system will be installed at a wastewater treatment plant owned by the water and wastewater municipal services of Almada (SMAS Almada), which is part of the municipality of Almada. SMAS Almada are also a member of the PLAC and an associate of the Local Energy Agency which make them a strategic partner to the development of the pilot project. They are a public enterprise, hence their processes and management solutions have a large replication potential both por the private and public sector. The location itself is also strategical for the development of the project: in its vicinity there is a terrain that offers expansion possibilities, it is back to back to the SMAS workshops and Civil Protection buildings, the local gross supply market, a municipal owned school, a large district Hospital, a youth hostel, the headquarters of the national infrastructures institution, a large industry, a residential neighborhood and the one of the largest social housing neighborhood in Portugal. Most of these institutions are also members of the PLAC which increases the interconnection and success potential and almost unlimited expansion possibilities.



Figure 4 – Mock up of PV installation on waste water treatment plant and link to residential neighbourhood (Matadouro)

Nevertheless, the first step will take advantage of existing legislation and focus on a very simple approach of collective electricity self-consumption. The national legislation already provides the

framework for simple projects to be developed and is also being built on a **step by step approach** which the 3 Valleys energy community will follow. After this first phase (expected to happen during 2022) the impact of the legislation will be assessed and the more complex schemes for energy communities will be regulated by the national bodies. This means that the first approach will be to **deliver excess energy production to a nearby residential neighborhood** (Bairro do Matadouro) which will enable from the start the build up of an energy community **with direct participation of common citizens**. The PV installation, according to current legislation will be optimized for self-consumption within the wastewater plant itself but, even the best established optimization always lead to a certain amount of excess electricity production which can be used by nearby installations using **a simple algorithm for benefits sharing within the community**.

Stage B Financial and legal appraisal

Even if the first step depicted for the startup of the 3 Valleys Energy Community implies a fairly simple benefit sharing between the wastewater plant excess electricity and the Bairro do Matadouro residents a financial and legal appraisal of the existing framework at the development stage will be crucial. This evaluation is especially important in a very dynamic framework both on legislation and technological development. It will ensure that the solution is perfectly in line and optimized for the existing legal framework but also flexible enough for future foreseen developments. The financial appraisal will also help to define and test future financial flows between members of the community, testing benefit sharing algorithms, invoicing and communication and innovative solutions development with the national electricity distributor (EDP Distribuição which is also a member of the PLAC and the Local Energy Agency). It will also help to clarify how to define financial flows between public and private institutions and identify possible barriers driven from public procurement and financial procedures. It will help define the necessary and possible adaptations to these innovative setups.

The outcomes of this subtask will be clearly monitored and reported to the Managing Authority, Lisbon Metropolitan Area and regulators/advisors (such as the national energy agency ADENE, a member of the board at AGENEAL and ERSE, the national energy regulator), in order to advise future calls on energy communities development and innovative technologies and processes for energy communities. This information will ease up the uptake of the recent changes to ROP related to these mechanisms as detailed in the previous section.

Stage C Dissemination with residents and bringing them on board

A **dissemination, communication and participation strategy** will be setup with the **target audience being the residents of Bairro do Matadouro**. This will include:

- The appointment of **an independent facilitator**, a staff member of AGENEAL, which will act as a focal point for all contacts and drive the engagement strategy and help the residents to understand the benefits and explore the implementation plan to be developed. This process was directly inspired and imported from Cork's City Council good practice on sustainable energy communities which was one of the main learnings explored in the interregional learning process. It also derived from some of the

most successful engagement strategies shared during INTENSIFY's thematic event 2, Motivation – "Empowering local communities to own the problem", held in Treviso. Key expert stakeholders also brought by Cork City Council (Catherine Sheridan, Catriona Brady) shared several success stories where the facilitator/expert figure was crucial for the development of the projects and enhancing community trust.

- **Dedicated communication and door-to-door/face-to-face information campaign** to the residents will be developed and lead by the appointed facilitator. The involvement of the community will be eased up at the first approach since the project aims at delivering free electricity to the first selected residents. At the first stage the amount of resident's and electrical energy available from the wastewater plant is fairly limited but an overall engagement strategy will start from the beginning to capacitate the community for expansion options. **Community workshops will be developed** to ensure that the expansion steps also take into account the residents community interests. *Are they interested relay interested in energy communities? Are they interested in co-investing? Which are the main benefits they see from a sustainable energy community? What is their vision and priorities for action? What is the need and usefulness of a Digital Social Platform for the community? Can the energy community serve ancillary benefits/needs of the population?* The workshops will be developed **using several tools tested during all of the thematic events including the visioning and role-playing exercises**. They will also address and test challenges and envisaged solutions depicted and developed on Thematic Event 3 – financial instruments on the startup of a sustainable energy communities.

Stage D Energy diagnosis on volunteers from the community

This will be developed by the Local Energy Agency **with a three-fold objective: an extra free benefit for the community, increasing trust in the project and "profiling"** to check who has a consumption pattern linked to excess demand in order to optimize the system. It will also be useful to **Finding Champions! in the community**. They can then be better prepared and motivated for the future expansion possibilities on the energy community and serve as motivators for other energy communities. The use of energy champions and ambassadors also follows guidelines and examples depicted in the Good Practices and Thematic Events already detailed. This bottom-up approach is very much in tune with the discussions and results taken from Capacity Building Event 3, held in September 2021 where it was clearly identified that the bottom-up approach is a better solution than the traditional participation methods. The community workshops planned for the energy community are a good tool to make this concept a reality. Also, one of the conclusions taken from Vauban district experience in Freiburg, presented by Hans-Jörg Schwander, is the need to have simple yet effective "carrot" approach to bring people together and build their trust. In Vauban's case, they used informal gatherings and coffee and cake among other strategies, to set-up the vision and keep people on board. In Almada an energy diagnosis, community workshops together with this

coffee and cake and other small gifts approach will bring people on board, learn about their expectations and build the community around their defined constraints/opportunities and needs.

Stage E Setup of online platform for communication between members of the community and data sharing

This platform will be used and built upon the requirements of the community and specific needs driven from the dissemination, communication and participation strategy depicted in point 1C above. It will be included as a possible subplatform of the overall PLAC Digital Social Platform and, depending on the real needs of members, can be as simple as a link to a social media group in an established social network. This is a possibility that also derives from the learning procedures of Thematic Event 4 – Digital Social Platforms (DSP) and related Good Practices such as the Milton Keynes WATER DSP: “tools are there, just push them in the right direction”. Still it can also be boosted with data sharing on energy consumption and production from the community and other more advanced features.

Stage F Setup of energy community

The final step is the formal setup of the energy community as a legal entity that has as frontrunner members the Municipality of Almada, the municipal water and wastewater company (SMAS), the Local Energy Agency, Residents, Associations on services in the Bairro do Matadouro neighborhood. The Local Energy Agency, besides the pivotal role as a facilitator will position itself as the “Collective Self-Consumption Managing Authority” for this community, a legal entity foreseen in the national legislation for energy communities. This entity defines (sharing algorithm) fixed coefficients of distribution of production according to its members in order to optimize the use of the energy produced. It will also be this entity that relates to the different market operators, both in the management of the network and in the sale of surpluses to the market if they exist. Although this entity is not mandatory for the simple collective self-consumption scheme, it will be fundamental for the expansion options and development of a bigger energy community.



Figure 5 – mock up of a possible 3 Valleys Local Energy Community in 2050

3. Stakeholders involved (please indicate the organisations in the region who are involved in the implementation of the action 1 and explain their role)

AGENEAL and Almada City Council will be responsible for identification and dissemination of renewable energy production opportunities and boosting the energy community, PLAC Members will support and mobilize the implementation of the local community projects, National grid distributor (EDP Distribuição) will support the smart energy metering systems and overall support for grid management, SMAS Almada will deploy renewable energy investments in the area and FCT/NOVA University and Chimp will provide overall support for the creation of the online community and community engagement process in close relation with the development of the PLAC procedures. The ROP Managing Authority, Lisbon Metropolitan Area and regulators/advisors (such as the national energy agency ADENE, a member of the board at AGENEAL and ERSE, the national energy regulator), will be kept in close contact with the development of the 3 Valleys Local Energy Community. The experience and barriers identified will be outlined and reported to improve future calls on the ROP, but also the very dynamic legislative process on energy communities and “ancillary” funding opportunities such as the national resilience and recovery plan, the national investments plan and the next structural funds period.

4. Timeframe (please specify the timing envisaged for action 2)

To be developed and fully implemented until mid 2022

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
3 Valleys Local Energy Community tasks												
A PV pilot installation SMAS Almada												
B Financial and legal appraisal												
C Dissemination with residents and bringing them on board												
D Energy diagnosis on volunteers from the community												
E Setup of online platform for communication within the community												
F Setup of energy community												

5. Indicative costs *(please estimate the costs related to the implementation of action 2)*

PV system in waste water plant: 20 000€

Communication material (leaflets, info-mail, gifts, graphic design): 10 000€

Stakeholder engagement logistics (meetings, dedicated materials for events, etc): 3 000€

Development of online platform: 10 000€ (possibly to be included in overall PLAC DSP but with dedicated functionalities and management)

6. Indicative funding sources *(please describe how action 1 will be financed. Is it through the policy instrument(s) indicated in part II):*

This action will be fully financed by Almada City Council, except from specific PV installations of other institutions which will be financed by the respective institutions or by using alternative financing mechanisms within the community or by means of external funding (ECOS's, crowdfunding cooperatives). AGENEAL will support with technical expertise and the application to future calls of the policy instrument will be evaluated but are still under consideration and will largely depend on the conditions applicable.

Date: 15/10/2021

Name of the organisation(s): AGENEAL, Local Energy Management Agency of Almada

Signatures of the relevant organisation(s):



AGENEAL
AGÊNCIA MUNICIPAL DE ENERGIA DE ALMADA

