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POLICY BRIEF - FOCUS ON THE SCALE-UP OF ENERGY EFFICIENCY PROJECTS

The project Publnef – Supporting Public Authorities for Implementing Energy Efficiency Policies funded by Horizon 2020 - assists EU Member States in effective implementation of sustainable energy policies across different administrative levels with use of identified within the project best practices and tools. After a research phase of the project during which the comprehensive analysis of good cases and needs regarding the energy efficiency policies were performed, project partners started to implement specific roadmaps in their countries engaging national, regional, and local representatives of public bodies.

“The roadmap is going to enhance public authorities’ capacity to actually implement energy efficiency pathways towards sustainability. Starting from the national objectives and policies, the emphasis will be put on local and regional level authorities and actors materializing these policies into concrete actions (...). The specific roadmaps will gear towards improving the design, implementation and/or functioning of specific elements of the existing energy efficiency framework that require attention (expressed needs). These roadmaps will support the existing policy framework and strategic plans that require a “push” in the right direction”.¹

In this policy brief, energy efficiency experts share their insight on the conditions and main drivers to consider when attempting to up-scale energy efficiency projects. The roadmap leaders from Ireland (Tipperary Energy Agency) and Austria (ÖÖ Energiesparverband) explain how they managed to unlock sustainable energy investments at local and regional level by up-scaling small projects into larger programmes supporting energy efficiency investments.

¹ Publnef EE roadmap guideline document, December 2016.



1 STATE OF PLAY OF AGGREGATION IN EUROPE

Whenever energy and financing are discussed within the European Union, the term “aggregation” pops up somewhere along the lines. Aggregation is often seen as the innovative solution to remove market barriers (e.g. energy efficiency perceived as risky investment by lenders) for mainstreaming sustainable energy financing, build up pipelines of bankable projects that attract private investors’ interest and minimise transaction costs in order to boost competitiveness. European local and regional governments are also pressured to aggregate their projects in order to build up critical investment volume that would enable them in theory to better access funds from big financiers such as the European Investment Bank (EIB). [In some energy efficiency policy roadmaps developed under PUBLENEf](#), aggregation also plays a key role.

Hence, there are numerous EU funding schemes that specifically focus on aggregating sustainable energy projects. The [ELENA facility of the EIB](#) supports public authorities in building up the required technical, economic and legal expertise for preparing substantial (aggregated) investment programmes for energy efficiency, renewable energy and urban transport. The EU Commission, through its Executive Agency for Small- and Medium-Sized enterprises (EASME), has a longstanding funding stream for aggregation and project development assistance (PDA). [Under the EU Horizon 2020 programme, the current PDA facility](#) supports public and private project promoters similarly to the EIB-ELENA programme, but focuses on smaller investment volumes (between EUR 7,5 – EUR 50 million). Aggregation is also key here, as project proposals have to deliver organisational innovation in the financial engineering and/or in the mobilisation of the investment programme (bundling, pooling, etc.) in order to have a chance of getting funded.

Aggregation also has a prominent place in EU energy policymaking. As part of the Clean Energy for all Europeans legislative package, [the EU Commission has launched the ‘Smart Finance for Smart Buildings’](#)

[initiative](#). This new initiative has three major goals: making more effective use of public funds (financial instruments such as blending, energy performance contracting (EPC), etc.), de-risking energy efficiency investments and fostering aggregation and project development assistance. Dedicated local or regional one-stop shops are also foreseen to enable project developers to better bundle and pool sustainable energy projects. Furthermore, the EIB has set up a ‘Smart Finance for Smart Buildings’ facility which will use EU grants as a guarantee for energy efficiency projects (in particular those in residential buildings), thereby creating an attractive market for bankable energy efficiency projects in Europe and also multiplying the effect of the EU money invested.

But alongside the ‘rush’ to aggregate, bundle and increase the scale of energy projects, another narrative is also emerging in Europe. The cross-sectoral ‘[Small is beautiful](#)’ campaign for example advocates for a space for small-scale, locally owned and distributed renewables projects in the new EU Electricity Market Design framework, thereby not jumping on the aggregation bandwagon. In European local and regional governments with limited human and financial resources, aggregating energy projects would entail too high organisation, procurement, organisational and maintenance costs, which is why they focus on small-scale projects to still advance in their clean energy transition.

This State of Play shows that while aggregation is championed by EU institutions as a key solution to break the gridlock in financing sustainable energy projects, it is also clear that aggregation is not for every energy transition actor the one-size-fits-all solution.

2 AGGREGATION POLICY IN ENERGY EFFICIENCY PROJECTS

UPSCALING STREETLIGHT RETROFITTING - FEEDBACK FROM TIPPERARY COUNTY, IRELAND



Interviewee:

Paula Gallagher, Tipperary Energy Agency

Refurbishing the public lighting in Tipperary County has been the main focus of your energy efficiency policy roadmap. What were the main barriers you had to address and what opportunities were available to you?

In the frame of PUBLENEf we undertook a Local Needs Assessment in Tipperary County, specifically focusing on identifying the main constraints towards the implementation of the county's Strategic Energy Management Plan. The barriers identified included:

- ✓ significant funding deficit to deliver the whole action programme, particularly as extensive investments in the public lighting network were needed and local authorities only have enough internal resources to complete very small upgrade schemes per annum. A solution was required to financing a total LED retrofit programme for the whole county of Tipperary (~12,000 lights);
- ✓ national energy performance model contracts are hugely complex, have not delivered any proven solutions to date, particularly in the public lighting area;
- ✓ more cooperation at regional level could help, currently there are little frameworks in place to support this joint approach to resourcing and financing;
- ✓ need for training of the elected representatives regarding energy efficiency issues – whilst it is recognised that they are generally well informed there is always a need to improve and build on existing knowledge base.

The objective of this roadmap was therefore to overcome the barriers to implementation of these objectives, actively engage with the local authority to

make step change progress towards implementation, present technical and financial solutions to the identified barriers, engage with best practice experts in this field from across EU to replicate existing good practices, facilitate specific trial retrofitting projects within the local authority as a demonstration of opportunities and prepare a strategy to address the Public Lighting solutions for Tipperary County Council to 2020 and beyond.

In terms of opportunities, following on from Sustainable Energy Authority of Ireland (SEAI) and Customer Contact Management Association (CCMA) reports which identified the barriers to retrofit programmes in 2011-2012 (i.e. Public Lighting in Ireland – Review of Public Lighting Services, and Energy Efficiency & Public



Lighting Report – Public Lighting Special Working Group), new national structures were put in place to support progress. Many of these structures are only now taking effect. Following on from the Tipperary Strategic Energy Management Plan and the Tipperary Sustainable Energy Action Plan under the Covenant of Mayors, specific actions have been identified to retrofit the public lighting stock of Tipperary County Council.

In the frame of your roadmap implementation, you had a successful ELENA application to assist you in up-scaling your public lighting retrofitting in the county. More concretely, what will this TA enable you to achieve?

Indeed, the European Investment Bank (EIB) is supporting the implementation of Tipperary's €37M

investment programme in energy efficiency over the next 3 years. The planned investment programme is designed to realise the actions under the Tipperary Sustainable Energy Action Plan (SEAP), with some of the investments not being geographically bound within the county. These investments are in the four key areas:

- ✓ Deep retrofit of single-family dwellings under the programme “Superhomes”;
- ✓ Public Lighting Replacement Programme (replacement of 4000 street lights of 150W and above to LED lighting, replacement of 150W-400W SON/Sox/MBF with LED);
- ✓ Implementation of renewable heating systems, mobilising investment under the Renewable Heat Incentive (RHI);
- ✓ Implementation of community wide energy efficiency under the state Better Energy Community (BEC) and energy efficiency obligation scheme.

What are the main factors (socio-economic, political, timing...) allowing you to consider aggregation and actually implement it?

In the sphere of public lighting the local authorities' main needs and objectives are “to provide a quality public lighting service to enhance the safety of Tipperary’s Citizens in a cost effective, environmentally sustainable manner”. In order to meet Tipperary’s 2020 obligations for energy efficiency improvement, a reduction of reasonably significant proportions will be required in public lighting. As Tipperary County Council is quite far down the journey of energy reduction, this burden will be less on Tipperary County Council than most other Local Authorities. However, there will be a further increasing of the energy efficiency targets post 2020 for Ireland and for the public sector along with the climate change challenge which Local Authorities are currently preparing Local Adaptation Plans to address. The opportunity exists to take a proactive approach to modernise the public lighting system of Tipperary offering the following benefits:

Direct:

- ✓ Modernization of public lighting: approx. 4,038 lanterns;
- ✓ Stimulation of capital investment of around 3.6 million EUR;
- ✓ Reduction of electricity consumption: 5.6 GWh/y;

- ✓ Reduction of CO₂ emission: 2766tonnes/y;
- ✓ Reduction of operative expenses for Tipperary County Council: annual savings over 70%.

Indirect:

- ✓ Increase economic growth and employment – for 1 million EUR of investment app. 20 newly employed (3.6 million EUR = app. 72 newly employed, aggregate indirect and induced around 100);
- ✓ Development of EPC market in the Republic of Ireland – increased competitiveness, development of new energy services, decrease of prices of energy services etc.;
- ✓ Increased competitiveness of domestic EPC providers (development of know-how among domestic companies – possibility of competition at foreign markets – export);
- ✓ Improve transport safety;
- ✓ Reduce light pollution.

Alongside regulatory eco-design requirements which are eliminating certain traditional Products, market forces, are driving the switch towards LED technology.

What type of support would you like to see in EU’s policies and programmes, specifically to replicate your approach?

- ✓ Clear EU policies supporting energy efficient street lighting as the best practice solution for all national, regional and local plans;
- ✓ Public sector to lead the way in terms of exemplars in street lighting – and not just the LED technology but in terms of smart controls, maximising returns on investments;
- ✓ Need for more direct case studies reports to counteract negative reports across Europe from installed LED schemes, giving reassurance to public sector and the general public;
- ✓ Need for independence of street lighting designs with a focus on delivering a lighting service with maximise energy efficiency targets– not supplier driven. This would need public sector resources to review/assess and establish;
- ✓ Upskilling of street lighting professionals within public sectors.

FROM STRATEGY TO IMPLEMENTATION IN MUNICIPALITIES

- UPPER AUSTRIA'S GEP PROGRAMME



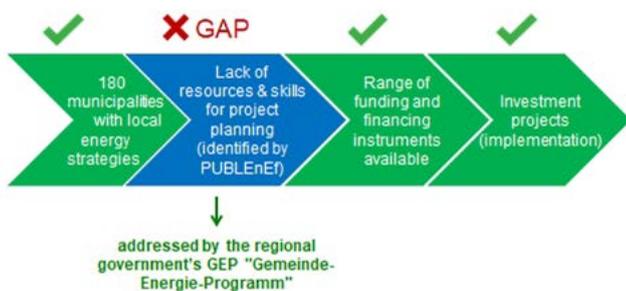
Interviewee:

**Christiane Egger – OÖ
Energiesparverband, the
Energy Agency of Upper
Austria**

Your PUBLnEf policy roadmap focuses on supporting energy-related investments in Upper Austrian municipalities in the form of the regional technical assistance programme "GEP".

Can you please explain what specific needs this programme addresses and how it is being rolled-out?

The GEP programme is based on the principles of activation, motivation and provision of technical advice. It supports municipalities in preparing concrete investments. Municipalities play a crucial role in furthering the regional energy transition. Within a previous programme, 180 municipalities in Upper Austria have adopted energy action plans with clear targets, many of which require investments. There is a range of funding and financing instruments for these investments, both on regional and national levels. However, there is a "gap" which needs to be closed: many municipalities require support for the detailed planning of these investments.



This energy programme for municipalities serves to close this gap. It funds the technical and financial planning of energy efficiency and renewable energy investments, information activities supporting project implementation and the optimisation of installations.

Effective roll-out measures are key to the programme's impact as they assure the link between the energy goals

of the regional government, the financial resources made available and the implementation of concrete projects in the municipalities. Target groups are reached through a mix of activities tailored to their needs. The most important are personal visits to municipalities to discuss their specific measures on-site, providing advice for their investment projects and information events and workshops.

You talk about tailor-made support to municipalities. What benefits do you see in using this approach?

In Upper Austria, we have seen many benefits in using a variety of financing models. There is no one-fits-all solution from other regions. Flexibility permits adapting to specific legal, economic and social contexts of each region and project. It enables us to develop the best business model for each project.

Part of this flexibility is finding ways to implement smaller projects. In some cases, these smaller projects can be bundled (within a municipality or across municipalities) to achieve the investment threshold that makes the project economically feasible. However, sometimes cross-municipal cooperation would require a too high effort in project preparation (compared to savings). This can be a strong barrier to project bundling. And smaller projects can find themselves excluded from funding programmes if prescribed models are imposed.

The approach adopted by the GEP programme is to support municipalities in finding the solution that is best for them. An advantage of this is that GEP can trigger small and large projects alike.

The EU-funded project Streetlight-EPC created demand and supply for EPC projects in 9 regions by setting up regional EPC facilitation services. In this process, partners faced a variety of challenges regarding EPC market development and project bundling. As coordinator of the project, what were the key outcomes regarding this topic?

The EU-funded project Streetlight-EPC (2014-2017) showed some of the advantages and disadvantages of pooling projects across municipalities: It worked very well where a structure of cross-municipal cooperation already existed and a strong facilitation service ensured progress. The financial support available through PDA instruments has shown itself to be a very useful instrument in financing the significant work load required to do this. An active and knowledgeable facilitation service can also work towards standardisation in inventories, audits and contract preparation - this will then actually

decrease preparation costs (which otherwise may not be lower due to the complexity of having multiple decision making bodies involved).

Several disadvantages were also identified: one obviously is the lengthy preparation process - each involved municipality has its own decision making bodies and meeting calendars and a comparatively small change, for example in the contract text, may lead to long delays. With aggregation to larger projects, the risks also increase - in terms of the technical side (e.g. base line calculation) but also in management and financing. Large project sizes also discourage the participation of SMEs in the EPC market.

A number of Streetlight-EPC projects were relatively small investments in one single municipality. The facilitation services also supported local electrical companies in developing EPC services and becoming ESCOs. However, these companies are likely to need additional financing sources for their future projects and here access to European financing would be very beneficial. The outcomes of the Streetlight-EPC project suggest that finding new approaches to include more SMEs in the EPC market would not only support job creation in a new technology-based service industry but also increase the acceptance of EPC among many municipalities who might prefer to work with a local company. Here support to encourage smaller projects might be very helpful.

3 TRYING TO BRIDGE NATIONAL, REGIONAL AND LOCAL ENERGY EFFICIENCY POLICY PLANNING: A FIRST STEP IN EU FUNDED PROJECTS

The development and upscaling of energy efficiency initiatives is (partly) conditioned by regionally and local specific policy and socioeconomic landscapes. Hence, next to (inter)national policies and regulations, such development and upscaling requires complementary regional and local sustainable energy plans and policies. Regional integrated sustainable energy plans can provide a “master vision” that takes into account all the different contextual factors (i.e. socio-economic, political, cultural) of the region, leading to a bearable, viable and equitable regional plan (i.e. a feasible and cost-effective sustainable plan). These plans facilitate municipalities (urban and rural) to develop their own individual plans, i.e. Sustainable Energy Action Plans (SEAPs). Often though, these targets and actions are not aligned from the national to the regional and local levels (and vice versa) and this hinders the full exploitation of the energy efficiency potential and reaching of the national/sub-national targets.

To answer to that, during the EU Sustainable Energy Week 2018 Policy Conference, the PUBLENEf project (which aims to overcoming specific implementation barriers in the process of putting the SEAP policies in place, by carrying out field work with policy makers and matching of experiences) was presented as part of a seminar on energy plans and roadmaps for sustainable future. In total six European Horizon 2020 projects were presented, complementing each other in their

goals and findings. The event was entirely streamlined with the objectives of the policy EU sustainable policy agenda since it aimed to provide insight and information to public authorities in better linking up local, regional and national levels for delivering integrated sustainable energy actions planning and projects to achieve synergies and economies of scale.

The panel started with two projects presenting forerunners in energy roadmaps; The [R4E – Roadmaps for Energy](#) explained how they have developed a new type of energy strategy, the Energy Roadmap in eight partner cities with focus on three “Smart” areas – Smart buildings, mobility and urban spaces. Their interesting twist from existing plans and strategies is in the way that they perceive the roadmapping process. The key is in starting from the future, from the set vision and then backcasting to the present, setting needed steps along the way. One of the findings they shared is the importance of involving all relevant stakeholders, including politicians, and in their work, they emphasize the importance of co-creation and sharing experiences. Another project presenting forerunners was [PANEL 2050](#) which focuses on ten Central Eastern European network in their transformation into sustainable communities of the future, by recognizing local forerunners such as Czech South Bohemia or Hungarian “Coal County” success stories that were presented. The project created a

network of 420 members and has an active forum for the exchange of experiences and discussions on regional energy development.

After the roadmaps and concrete plans are developed, in order for them to be implemented they need to be integrated into existing spatial planning and regional physical and socioeconomic landscaping. Project **INTENSSS-PA** intended to promote such Integrated Sustainable Energy Planning by providing human and institutional capacity to seven regional participating areas. For plans to have a better chance of realization, they have created Living Labs which connect public and private actors with the users and knowledge institutes. In this way, a real-life context is simulated. Inclusive policies are a key to effective sustainable energy policies and **ENLARGE** builds further on this idea by encouraging participatory governance. For this reason, they created a book of best practices in the design of public policies, including 31 case studies.

As so many innovative processes and initiatives for encouraging sustainable energy planning take place across the EU, it is important to be able to use the most of all existing tools and best practices. **PUBLnEf** project closes this gap with its toolbox for guidelines, tools and packages of support easy to browse by interest or topic. For example, keyword “roadmap” returns with six concrete and detailed examples of roadmaps across different EU projects and in various regions. The toolbox altogether covers more than 150 online and offline tools.

When making use of such tools, many front-running municipalities and regions dedicate their human resources to financial engineering and creation of innovative financing schemes that facilitate implementation of their Sustainable Energy Action Plans and help keeping money spent on energy near home. Among them emerge Energy Performance Contracting, revolving funds, soft loans and grants for citizens, guarantee funds, local public companies or public ESCOs, local mixed economy companies (third party financing), local saving accounts, citizens’ cooperatives, crowdfunding and more. Each local sustainable energy action targets different objectives, priorities (social, economic, environmental) and beneficiaries and it is set in a specific local, regional and national context. All these aspects must be analysed and taken into account before the public actors decide which financing scheme is the most suitable for their

project. The ideal means is to create groups (or peers) of public authorities that can exchange these best practices in financing and assist in guiding towards implementing the most appropriate financing for each specific policy need. Here, **PROSPECT** offers a solution through peer to peer learning programme that is currently open for all regional and local authorities in Europe, in order to help them finance and implement their sustainable energy and climate action plans. The programme is organized in five thematic modules: public buildings, private buildings, transport, public lighting and cross-sectoral and is a mix of online and physical meetings run in English.

The concepts presented during the seminar brought together all levels of governance and different sectors (i.e. spatial, energy and socio-economic development) along with the involvement of all stakeholder groups involved in or affected by integrated sustainable energy planning and financing in a systematic, participatory approach that facilitates and expedites plans implementation. Therefore, the focus of the seminar was to present and demonstrate the results of a holistic approach, as derived by **INTENSSS-PA** and **PUBLnEf** projects, which can facilitate the implementation of energy transition (i.e. renewables and energy efficiency targets) if it takes place hand in hand with the implementation of the territorial and urban agenda of the EU. Information was provided on the state of the art and practice on capacity building approaches and a more efficient and effective peer learning concept – compared to the existing alternatives – by demonstrating the competitive advantages of combining the Regional Living LABs co-planning concept developed within **INTENSSS-PA** with the tools developed within **PUBLnEf** and the peer-learning approach implemented within **PROSPECT**. The integration of the approaches implemented within the three projects promotes the development of an ecosystem that creates collaborative decision-making culture and can work on a continuous basis supporting regional and local governments and authorities in sustainable development and energy transition. The key message of the event thus is that in order to align the national, regional, and local efforts in sustainable energy actions, the knowledge tools are there but a systematic approach needs to be undertaken in the various governance levels to increase their communication and mutual learning and understanding of their needs.

ABOUT PUBLENEF

PUBLENEF is a 3-year (2016-2019) project funded by European Union's Horizon 2020 programme, aiming to assist EU Member States in implementing effective and efficient sustainable energy policies (with the focus on energy efficiency). The project helps to empower policy-makers to make use of best practices and policy processes implemented in other Member States at national, regional and local levels.

Specific objectives of PubleneF include:

- ✓ to **assess and learn** from existing energy efficiency policy implementation practices in EU countries, regions, and cities
- ✓ to **strengthen the networking opportunities** for relevant public agencies and
- ✓ to **develop and adjust tools** for public agencies to help them to implement energy efficiency policies.

The results of PubleneF are:

- ✓ to **identify the needs** from national, regional and local authorities for the implementation of EE policies,
- ✓ to **collect the best practices and tools** for overcoming these needs and replicate them to various MS, regions and municipal authorities,
- ✓ to **develop roadmaps** and enhance the process of successful implementation of policies,
- ✓ to build and **strengthen existing networks of policy makers** enabling the **knowledge exchange** from national to regional to local level in EE policy.



PubleneF video:

JIN coordinates the PUBLENEF project, and collaborates with the following organisations:

