

Action plan –South Transdanubia

Introduction

Regional policy context

South Transdanubia (HU23) is a NUTS2 planning statistical region of Hungary. The region is regarded as modest innovator according to the Regional Innovation Scoreboard results.

South Transdanubia is on the one hand ranked among the least developed European regions, on the other **plays very important role in the electric energy production of Hungary**. Two power plants of the region participate in the system-wide coordination of the Hungarian electricity supply. The more important one is the Hungarian Electricity Ltd. Paks Nuclear Power Plant Ltd. of 2000 MWe capacity, the other being the Pécs Pannonpower biomass power plant of 85 MWe capacity.

In the region, as **part of one state initiated pilot project, the Central Smart Metering Co. rolled out several smart meters (electricity, heating, water supplies) at two main cities of the region, in Paks and in Pécs**. This pilot project focuses on public administration buildings and is financed by the Hungarian state revenues coming from the European Union Emission Trading System.

The district heating systems of the main South Transdanubian cities and towns were installed in the 1970s and 1980s. These infrastructures also **provide good opportunities for smart metering of the heat energy and act as electricity smart grid pilots in terms of management of the grid itself** that is in service for providing heat energy at the end points. Such district heating facilities are established in Paks and Pécs as well. In the two cities the residual heat of electricity production is fed into the district heating system to provide for circular energy concerns as well.

The Paks Nuclear Power Plant



Source: official website of the Paks Nuclear Power Plant - <http://www.atomeromu.hu/hu/sajtoszoba/Galeriak/Lapok/default.aspx?gal=L%C3%A1togat%C3%B3k%C3%B6zpont>

Action Plan

Part I – General information

Project: **SET-UP, PGI01484, Interreg Europe Programme**
Partner organisation: **Tolna County Development Agency (TCDA)**
Other partner organisations involved (if relevant): not applicable
Country: **Hungary**
NUTS2 region: **HU23 (South Transdanubia)**
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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 addressed:
Environmental and Energy Efficiency Operational Programme (EEEOP); Priority axis 5 'Increasing energy efficiency and the use of renewable energy sources'.

Part III – Details of the actions envisaged

ACTION 1 – Definition of a support system to adopt a smart grid approach for district heating

1. The background (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

At the beginning of the implementation of the SET-UP Interreg Europe project, project Partners compiled their national/regional focused documents on electricity provision and their electricity smart grid related documents. The **South Transdanubian Region** of Hungary based on this interregional benchmark became a **learning region within the project**.

In Hungary smart grids are still under preparation and the national level government pilot initiative for smart metering roll-out has just been finished. Having this in mind, **during the Good Practice identification phase** and that being reinforced by study visits of the SET-UP project at a later stage, TCDA laid emphasis on identifying those successful Good Practices that can be linked to EEEOP

Priority 5 (Promoting energy and the use of renewable energy sources) measure 3.1, i.e. development of the district heating systems of Hungary with smart grid related solutions.

Besides these interregional level learning activities, **SET-UP has provided formally organized occasions** (i.e. on the “Local Energy Transition Supporters”, in short: during the LETS stakeholder meetings) **to meet the actors of the Hungarian energy market**. On these meetings the technical knowledge was represented by distribution system operators (DSOs), energy companies including the ones responsible for district heating; the funding possibilities were described by the Managing Authority (Ministry for Innovation and Technology); and the consumers were also present (Associations of Consumers, some public institutions). **All these actors could present their knowledge on smart grids and explained their constraints** and expectations for the objective set: **how European Regional Development Fund (ERDF) co-financed operational programmes could facilitate the establishment of electricity smart grids**.

The following SET-UP Good Practices as key or reference points for successful interregional and organisational (plus, even individual) learning **merited the attention of TCDA:**

- **The Sustainable Construction Programme in Andalusia (2017-2020, with the Spanish abbreviation: PICSA)**. This funding programme has two envelopes on sustainable construction (164 million EUR – including smart meters) and smart grids (27 million EUR). The incentive scheme is a good example for efficient funding programme planning and delivery. The lessons learnt from this Good Practice was **that activities co-financed under a given operational programme were in advanced discussed with the final potential beneficiaries**. This approach supported not only the implementation, but the project monitoring phase: smart grid related solutions to support the management of district heating network have wide outreach to several tens of thousands of final customers whose satisfaction with the service purchased does matter.
- **The SMILE project (SMart Ideas to Link Energies)**. This French project from Brittany region itself encompasses, coordinates and funds various other energetic projects in order to achieve greater interconnection, and ultimately develop a smart grid to intelligently manage energy consumption in Western France. The SMILE project **methodology of how implementing partners were chosen** was especially meaningful for the successful delivery of smart grid related solutions to support the management of district heating networks in Hungary.

Taking into consideration the fact that **from the very beginning of Phase 1 it has been the EEEOP Priority 5 Measure 3.1 being dedicated for the development and modernization of the district heating systems of Hungary that had, and still has not committed grants for allocation, the Hungarian SET-UP Action Plan put that into its own focus**. Measure 3.1 provides options for supporting the extended use of the smart grid related solutions and the management of district heating networks. The EEEOP 5.3.1 call for proposals **provides good opportunities for smart metering of the heat energy and acts as electricity smart grid pilots in terms of management of the grid itself**.

According to the commitment of TCDA in the Application Form, the proposed new projects are to be co-financed during Phase 2 of the SET-UP Interreg Europe project by **the EEEOP-5.3.1. call for proposals that have been opened in 2017 and are still open until 31 December 2021**. The new projects include the following optional activities: **installation of new adjusting, metering data collector, telemechanical and remote monitoring systems of operation optimisation**.

The above-mentioned activities in these new projects are all included in section 3.1.2 of the EEEOP-5.3.1-17 call as independently non-eligible activities during the project implementation phase. The quoted call makes clear distinction between two types of activities:

1. **main activities**, including for example the connection of new consumers to the grid, the construction of new primary pipelines, modernisation of furnaces, among others. These activities can be funded on their own;
2. **side activities**: installation of new adjusting, metering data collector, telemechanical and remote monitoring systems of operation optimisation, replacement of primary heat pipelines, insulation of above-ground heat pipelines and placing them underground, installation of heat storage capacities. These side activities have smart metering and electricity grid relevance, and it is equally important that these side activities are not standalone (separate) activities as the respective applications have to contain at least one of the main activities listed above.

As concluded from the EEEOP 5.3.1 grant applications submitted so far, it is only a limited number of projects that intended to take advantage of undertaking side activities that have direct smart grid relevance. **One key aspect that is related to the PICSA Good Practice** is the consultation on the right activities to be co-financed, and also on the wide outreach to large number of customers/end users. **Therefore, during the consultations that will take place after March 2019 the EEEOP Managing Authority will call the attention of the Beneficiaries** (i.e. the public heating companies) **to the aforementioned side activities, moreover it will provide guidelines on the importance and possibility of making use of those as well until 31 December 2021**.

PICSA is also very appropriate to guide the monitoring of the granted activities in these new EEEOP 5.3.1. projects. **TCDA has a self-defined performance indicator** related to the EEEOP i.e. **'Number of additional energy users connected to smart grids - (used by the Jasper programme) - unit of measure: no. users'** to which the programme-level indicators for EEEOP 5.3.1 are also linked. In this regard **the target figure is 150,000 people**, which, in case of district heating companies, based on their total number of private and public customers, is realistic. In total, number of the EEEOP-5.3.1-17 granted district heating companies so far is six, with the total number of their customers being 13,000. **With the currently evaluated applications ca 250,000 customers will be reached** and will be benefitting from introducing the smart energy management solutions by public heating companies. **To support the impact of the new projects, official communication coupled with wide-scale awareness raising** will be achieved by flyers, brochures, or simply by providing supporting information by the concerned public utility companies.

The other key aspect related to the SMILE Good Practice is the involvement of competent contractors to deliver the projects in question. Under the EEEOP-5.3.1-17 call the beneficiaries (i.e. district heating companies) could **consult with wide range of sub-contractors to identify and**

procure the most appropriate smart grid solutions to their systems in use or to upgrade the existing system. It is facilitated by documentations of public procurement procedure(s) (i.e. unpriced and priced budgets) in a similar way how French actors, the experts involved in the SMILE Good Practice provide for properly smart manageable technologies to be used.

Last, but not least, **another indicator is relevant for TCDA in the SET-UP Application Form: the estimated amount of Structural Funds** (from Growth & Jobs and/or ETC) influenced by the project (in EUR). As described under point 6. 'Funding sources' of this Action Plan, the overall amount of European Union grant available for EEEOP 5.3.1-2017 call for proposals was originally 98,343,750 EUR in 2017.

2. Action (please list and describe the actions to be implemented)

The core and most important element of this Action Plan is to support the Managing Authority to **promote new projects under the EEEOP-5.3.1-17 "Energetic modernisation of the district heating sector"** call for proposals by allocating remaining or redistributed grants of the call until its closure on 31 December 2021.

Potential new EEEOP-5.3.1-17 projects can result in smart grid related solutions to support the management of district heating networks in case including the above side activities that option has not been favoured by district heating companies so far. For this purpose **action should be taken in three consecutive steps:**

- 1. EEEOP Managing Authority could address and consult potential EEEOP beneficiaries to encourage the inclusion of side activities available in EEEOP-5.3.1-17 call** for deploying smart grid related solutions to support the management of district heating networks. For this purpose targeted consultations with these public utility companies are needed. The scope of consultations should include monitoring concerns as well: the opportunities for better consumer outreach at the side of district heating companies (150,000 as defined by TCDA in the SET-UP Application Form), and more content consumers making use of smart grid supported heating service. This direction falls under the exclusive competence of the Managing Authority. By including the above side activities, higher project monitoring indicators can be achieved that influence the success of the applications. This, in addition to other benefits of employing such solutions, could be emphasized during consultations with beneficiaries.
- 2. District heating companies would negotiate with private market actor distributors and suppliers to provide for the right smart grid technology they need** to upgrade the district heating system for the benefit of consumers (and for their more cost-effective operation). Involvement of these suppliers is vital for the successful delivery of new EEEOP-5.3.1-17 projects. In this direction the district heating companies negotiate with the local authorities, distribution system operators, private market companies who supply the smart technology to identify the most relevant grid solutions.

3. In order to deliver the results of the Action Plan, **exploiting EEEOP-5.3.1-17 grants that form a support system to adopt a smart grid approach for district heating, the above quoted district heating companies elaborate and submit their EEEOP-5.3.1-17 project proposals for evaluation and contracting. (The potential Beneficiaries will enjoy enhanced information on side activities and perform better in terms of project indicators)** Such new projects, given the fact that those contain the side activities of the call that provide for increase of project monitoring indicators (for example: saving of primary fossil energy use, decrease of Green House Gas emission), receive more points during the evaluation phase. Following their formal approval for funding, their implementation and monitoring is observed by the EEEOP Managing Authority as it is described in the by-regulations relevant for EEEOP. **As a consequence, the effectiveness of policy development initiated by the SET-UP Action Plan can be measured by number of such approved applications. The expected number of approved projects is 8-300.**

The above three steps are interconnected. EEEOP Managing Authority should initiate the motivation of concerned district heating companies first, with fringe benefits as wide outreach to consumers (this is the linkage with PICSA Good Practice). Following that concerned public utility companies should be actively look for smart market technologies and services for making their grids smarter (this is the linkage with SMILE project). As the outcome of the first two steps, in the third one district heating companies submit their project proposals containing smart grid focused side activities. Their successful application will deliver meaningful messages for further smart grid approach projects in district heating. On such results the EEEOP Managing Authority will be able to provide a report by 31 March 2021.

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

- **Managing Authority for Environmental Programmes, Deputy State Secretariat for Environment and Energy Efficiency Operational Programmes, Ministry for Innovation and Technology** (as referred in the Action Plan: EEEOP MA). The EEEOP MA will assist harmonising the findings of the SET-UP project with the content of the policy instrument (i.e. EEEOP). This ensures that the Action Plan and related supporting mechanisms will be in line with the influenced priority and measure of the EEEOP.
- **Local authorities** (i.e. municipalities of Paks, Pécs, districts of Budapest Capital). These players own the district heating grids and public utility companies. These public utility companies are potential EEEOP beneficiaries, therefore local authorities have significant role in ensuring that the delivery of the Action Plan will be in line with the development priorities of their settlements. By this coordination carried out by local authorities further benefits can be obtained linked to the Action Plan delivery: increased exploitation of RES, employment generation at district heating companies to facilitate retaining of local population.
- **Distribution System Operator – DSO (i.e. E.On)**. DSO and TSO will provide information on technological and regulatory solutions on smart meter rollout, with reference to the concerned granted district heating companies.

- **Private market companies who supply the smart technology** to installation of new adjusting, metering data collector, telemechanical and remote monitoring systems of operation optimisation, replacement of primary heat pipelines, insulation of above-ground heat pipelines and placing them underground, installation of heat storage capacities

4. Timeframe

EEEOP MA energetic experts, with thigh cooperation with TCDA, will facilitate the consultations needed with district heating companies for successful application process **to absorb the potential future EEEOP-5.3.1-17 grants until the closure of Phase 2., i.e. 31 March 2021.** The two directions of the action proposed in terms of timing is subject of grant availability. In general terms direction one (negotiating with the Managing Authority) comes first, and is being followed by direction two (negotiation with private market actor distributors and suppliers).

5. Costs

The EEEOP-5.3.1 envelope contains the necessary grants to be allocated so as to contribute to the mentioned EEEOP related SET-UP indicators. These grants also have an impact on the preparation of Hungarian smart grids by pilot district heating management solutions in the concerned public utility companies. The overall amount of European Union grant available for EEEOP 5.3.1-2017 call for proposals was originally 98,343,750 EUR in 2017, whilst the availability of the potential future grants are to be targeted by new projects.

6. Funding sources

The funding sources for the delivery of the new projects proposed in this Action Plan come from the Action 5.3.1. budget of the EEEOP.

Date: 29/07/2019

Signature: _____

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