



cVPP: community-based Virtual Power Plant

Newsletter N°1

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cVPP launches: Kick-off meeting in Eindhoven

Eight partners and ten sub-partners from Belgium, Ireland and the Netherlands join forces in the cVPP project, which runs from 20 September 2017 to 19 September 2020. The main partners of the project consortium are Eindhoven University of Technology as project manager, Sustainable Projects Foundation Loenen, Tipperary Energy Agency, EnerGent, the municipality of Apeldoorn, the Autonomous Province Company Kamp C, Templederry Renewable energy Supply Limited; T/A Community Renewable energy supply and Tipperary County Council. With the financial support of Europe, the partners can count on a subsidy of 3,663,205.49 euros, which covers 60% of the total budget.

The official Kick-off Meeting of the cVPP project was held in Eindhoven on 13 and 14 December 2017. As leading partner of the consortium, the Eindhoven University of Technology (TU/e) represented by dr. ir. Anna J. Wieczorek and prof.dr.ir. Geert Verbong from the School of Innovation Sciences, welcomed the participants to the project's kick-off.

The meeting was attended by representatives of all eight partner organisations as well as by three sub-partners from the Netherlands, Belgium and Ireland. A representative of the Dutch National Contact point for INTERREG Northwest Europe (NWE), Ms. Jacqueline Brouwer, also joined the meeting. The project kick-off was a great opportunity for all partners to review the project objectives, main outputs and work plan.

cVPP goals and motivation

All Europeans are confronted daily with rising energy bills and rising pollution in our local and global environment. We hear it in the news and we know it in our hearts: in order to minimize greenhouse gas emissions, it is important to focus on renewable energy. But is it enough to wait for our governments to take the necessary steps? Do we do enough as citizens to accelerate change in our society? Can we have a bigger impact by working together as a community? We are constantly bombarded by information on smart-grids, batteries in every house and smart appliances. But when, and foremost how, can we actually make use of this rapid technological progress? Shouldn't we, as citizens, demand more say in our energy story? Shouldn't we support our local economies more actively rather than perpetually

What is cVPP?

The cVPP project, or 'community-based Virtual Power Plant', is a new model that aims to boost the production and distribution of local renewable energy, by offering local communities in three countries (Belgium, The Netherlands and Ireland) the know-how to set-up their own 'sustainable-energy power plants'. It aims to empower communities consisting of energy prosumers (producers and consumers) to fulfil their own energy needs with small-scale, distributed low-carbon technologies, thus strengthening and contributing to the democratization of energy markets.

allowing large energy utilities to profit?

These questions are the driving force behind community-based Virtual Power Plant.

Citizens initiatives: together from consumers to "prosumers"

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The cVPP project aims to stimulate awareness about opportunities for public involvement in the energy transition. Within this intensive cross-border cooperation, the local, cultural and regulatory differences and needs will be analysed and bound towards forming a universal model that can be readily used by all European communities that want to set up their own cVPP.

During the project, 3 community-based Virtual Power Plants (cVPPs) will be set up: 1 in the Netherlands, 1 in Ireland and 1 in Flanders (Ghent). Several theoretical guidelines arising from research and input from these

test-cases will be translated into specific questions about how to start up a cVPP. The collected information, tools and guidelines will be collected in a Mobilisation and Replication (MoRe) model that can be used by practitioners such as community members, project consortia, municipal policy makers etc... to set up their own cVPP in a specific context. The MoRe model will, in turn, support the replicating partners in Apeldoorn (NL), in the province of Antwerp (BE) and in Ireland in their efforts to find suitable 'communities' to set up their own cVPP. These local communities will be able to follow and be inspired by the progress of the first examples. The communities will, thus, be able to count on a wide range of specialised organisations and research institutions that will basically do all the leg work to ensure the feasibility and applicability of the model.

Approaching cVPP

A community-based virtual power plant clusters a group of renewable energy sources, energy storage systems and/or controllable loads (e.g. appliances) to act together as a virtual power plant. Depending on the goals set by a community, a cVPP can coordinate the power flows within the community to reduce CO2

emissions, maximize the use of locally generated energy or provide balancing services to grid operators. Benefits will flow back to the local community, who is in charge of the cVPP.

The cVPP model ensures that renewable energy and its infrastructure are managed locally, by a community. Energy produced within the community through Renewable Energy Sources (RES), such as photovoltaic cells, wind-turbines, CHP's (combined heat and power plant) etc. will be shared, managed and stored locally.

A European cVPP network

After its end, the cVPP project aims to inspire the creation of new cVPPs and thus lead to widespread environmental and socio-economic effects. This project hopes to ultimately form the basis for the establishment of an European cVPP network. Thanks to the cVPP model, communities throughout Europe will have more control over their own energy stories. They will be able to expand their role in the energy system by acting together as a community of prosumers, generating and exchanging more energy themselves, thus accelerating the democratization of energy markets and the reduction of CO2 emissions.

Spotlight on Lead Partner TU/e



dr. ir. Anna J. Wiczorek

"Technology alone is not enough. To make it meaningful you have to do it together with the society. You have to involve consumers from the beginning."

– A. Wiczorek

The project is led by the Eindhoven University of Technology (TU/e) which is a research university specialized in engineering science and technology. Dr. Anna J. Wiczorek (Project Director), Mina Mansoor Rankel (Project Coordinator), prof.dr.ir. Geert Verbong, dr.ir. Arjan Kirkels and doctoral researcher ir. Luc F.M. van Summeren are 'driving' this innovative project.

Interview with dr. ir. Anna J. Wiczorek

What does a cVPP project mean to the TU/e?

cVPP is a very unique project for the university because it gives us a very rare opportunity to set real innovations in practice and study them. This is very different to our daily routines when we study innovations that are initiated by others or which happened in the past. Given the current sustainability challenges and the urgency to act, this is exactly the right way to go. It is really great that INTERREG recognises this need and offers

safe space for experimentation with, what I would call, a disruptive innovation.

Describe your role and approach in the project?

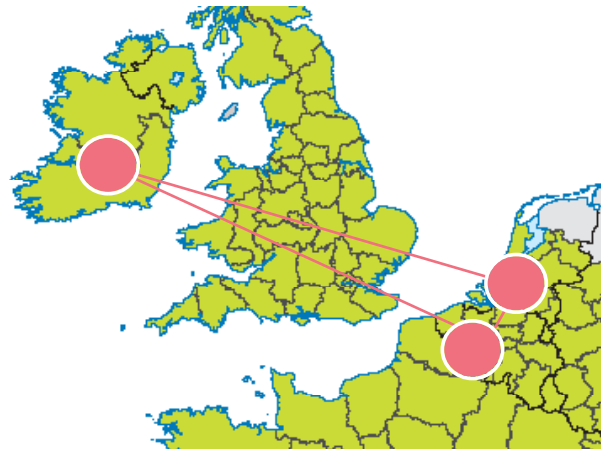
I am the leader of the project so my job is to provide guidance to all partners in and all work-packages. I am also a leader of one of the work-packages which aims to develop a framework we call: a Mobilisation and Replication MoRe model. This model will help other communities configure their own cVPP, should they decided to initiate one, for whatever purposes.

How can other universities learn from this project?

Engineers and researchers at technical universities design innovations to help societies deal with their problems. Very often, however, they do so without close collaboration with the users, so when the novelties are ready, they frequently face difficulties when entering the market. Many of them simply fall into the valley of death. Other organisations and especially technical universities can learn from this project that to really make an impact, it is indispensable to work with and involve the society already in the design stage of technological innovation. Many ethical and moral rationales are this way better embedded in the design and thereby easier accepted by the society, contributing to their smoother replication and upscaling.

When do you consider the project a success?

I will call it a day when three cVPPs are up and running and the MoRe model proves useful to another 9 communities. I will be happy if we can see new cVPPs initiated and contributing to the broad European energy transition. Of course, as an academic, by publishing about the project I hope to evoke interest in researching this new type of disruptive innovation that radically changes the way we organise our energy system.



The cVPP Partnership area

Upcoming events

The 2nd Partner meeting will take place from 11 to 13 April 2018 in Tipperary, Ireland. Information on various events will be published on our website <http://www.nweurope.eu/projects/project-search/cvpp-community-based-virtual-power-plant/www.nweurope.eu/cVPP>

The cVPP Partners

- Eindhoven University of Technology (TU/e)
- Sustainable Projects Foundation Loenen
- Tipperary Energy Agency
- EnerGent
- Municipality of Apeldoorn
- Kamp C (Autonomous Province Company)
- Templederry Renewable energy Supply Limited; T/A Community Renewable energy supply
- Tipperary County Council

Soon to be released!

Do you want to meet all of our partners?

Visit the cVPP-website and watch all partners interviews <http://www.nweurope.eu/projects/project-search/cvpp-community-based-virtual-power-plant/>

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Project information

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#cVPPproject



Linkedin Group:
community-based Virtual PowerPlant
(cVPP)

Spread the word!