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Five hard questions and the need for capacity building

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Blog: 5 hard questions and the need for capacity building

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By Willem van Winden, professor of Urban Economic Innovation at Amsterdam University of Applied Sciences

In the Atelier project, Amsterdam and Bilbao are building Positive Energy Districts: urban districts that create more energy than they consume and do it in a CO2 neutral way. Six other European cities (Bratislava, Budapest, Copenhagen, Krakow, Matosinhos, and Riga) joined the project as fellow cities, also creating PEDs but in a somewhat later stage, building on the experiences of Bilbao and Amsterdam. Developing PEDs may sound like a great idea because climate change is an urgent crisis, and energy prices have risen dramatically in the last months. Many citizens are worried to see their bills go up along with the sea level.

To help the cities realise their PEDs, Atelier includes a capacity building programme, in which professionals in the partner cities can learn from each other and experts how to make their ambitions come true. Amsterdam University of Applied Sciences is one of the partners to design the training, learning, and coaching activities. Here are five hard questions to give an impression on what kind of knowledge and expertise is needed.

1. How does an eventual PED fit the bigger picture of the urban, regional&national energy transition and climate ambitions?

A PED is never an isolated project, it is part of a bigger system. Cities are wise to co-develop, with their citizens, an integrated vision on an effective and fair energy transition. Such a vision and strategy need not only input from the technicians and energy experts, but also from economists (costs, benefits, trade-offs and risks of various options, and how to divide them), from urban planners (what to do where), and from social scientists (behavioral change, participation). A good vision acknowledges that many high-tech and low-tech solutions are available at different prices and stages of maturity. Moreover, the diversity of urban neighborhoods and structures must be taken into account; there must be alignment with national and European energy initiatives and policy levels. A good vision builds on the future scenarios on the energy market and must be adapted regularly. A PED that is not embedded in a comprehensive vision will lead to ad-hoc experimentation with disappointing results.

2. Where should we develop a PED in the city, and what are the boundaries?

It makes a big difference if you create your PED in a run-down area with old, energy-guzzling buildings (very difficult), or in a greenfield new district where you can apply the latest building technology (much easier). Going for the difficult option could make sense because you could yield the highest efficiency gains and help the poor citizens reduce their energy bill.

3. What technologies are available, which ones do we choose, and why?

There are many options: Solar, wind, storage, trading systems, energy management systems, etc. How do we choose, and based on what? This requires a frame of reference based on which one can take such decisions.

4. How to measure and evaluate the results and outcomes?

There are many unanswered questions regarding measurement and evaluation. How exactly do we measure energy consumption, production and use, and efficiency gains? Where do we get the data from? Who owns the data? How to deal with privacy and security? How far do we go with nudging and AI solutions to induce energy saving behaviour?

5. How to engage the stakeholders?

Such as the owners of the building, the energy company, the technology suppliers, and last but not least, the citizens. This is far from easy because developing a PED has consequences for all. It is key here to co-create a PED proposition that benefits all stakeholders, including the ones with the least power: the (poor) citizens. This requires a smart “social design process” where the

stakeholders talk and negotiate what the PED should be, and who gains what.

There are many more questions, and unfortunately, we do not have all the answers. We must learn from each other, from best practices, and from experts. Our task for the coming months is to develop a great capacity building programme, together with the partners. To be continued!

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