Interview Naš stik
(Translation)

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By Staš Zgonik

DSO Entity is an organization that was founded in 2021. It has a formal mandate from the European Commission, like ENTSO-E and ENTSO-G in the field of electricity and gas transmission networks, to prepare technical guidelines and other regulatory documents. It has more than 800 members, who collectively take care of about 255 million connections.

"*I think everyone today is aware of how important Distribution System Operators (DSOs) are. From five to ten years ago, the focus was mainly on transmission networks, so I am pleased that with the establishment of the EU DSO Entity, we have managed to present the visibility and importance of DSOs, both at the European and national level*," said its Secretary General Peter Vermaat, with whom we spoke on the sidelines of the Smart Grid PCI Summit conference, organized by ELES in Ljubljana this September.

He has an engineering background and pursues his studies in business process management. "*I like to combine both areas – technical content with operational feasibility and with financial sustainability*."

Also, he served for many years as a director of the large Dutch distribution network operator Enexis. While today, he takes care of almost 3 million connections, which is significantly more than there connections in the whole of Slovenia. "*I think this helps me understand the technical challenges and operation of DSOs, as well as the legalities of systems management at the intersection between decision-makers and businesses.*"

Mr Vermaat, when we talk about European distribution networks and their operators, what kind of diversity are we talking about?

This diversity has several different aspects. One aspect is the variety of sizes. Our membership includes very small distribution network operators, which take care of several thousand connections, as well as very large ones, with more than 30 million connections. Such differences in size, of course, also mean significant differences in modes of operation, but there are other aspects as well. For example, each country has its own history of development and management of distribution networks. The topology of networks and their technological equipment can vary greatly between countries, as well as between different companies from the same countries. For example, the distribution company I ran was formed by merging two areas that had different equipment and different standards. Unification takes a lot of time and effort, and sometimes it's even better to leave things as they are.

(Photo: Staš Zgonik/Naša stik)

Another important aspect is diversity in culture. The energy transition is a cultural transition. DSOs are starting to realise that they need to transform from the role of network maintainers to active network operators. Especially with the growth of renewable energy sources and the two-way flow of energy, it becomes extremely important to adapt the way distribution networks are controlled and managed accordingly. This means that our attitude and our culture must also change, becoming more proactive and open to coordination with external stakeholders. This is called active system management.

Just for the inter-call: what is Europe's largest DSO?

It’s the french one, Enedis. They have as many as 38 million connections and cover about 95 percent of France’s territory.

What are the key challenges facing European DSOs today? What do you think about when you can't sleep?

The challenges are many, but perhaps the first thing I would like to mention is the area of integration of renewable sources. I would say that we are on the right track to meet the conditions for achieving the objectives set by the European Commission. In doing so, we face challenges such as the need for greater flexibility, energy storage capacities, investments in the digitalisation of networks, and, of course, upgrading their capacity. You can't solve everything by becoming smarter. Electrification also means increasing the amount of electricity produced, and this must be followed by an increase in grid capacity.

In my opinion, DSOs are masters of efficiency, masters of exploiting networks to the limit. But they are dealing with more areas where congestion is occurring in networks. In a way, this is part of the success story of renewables – in my home country, The Netherlands, one in three households has their own solar power plant. That's great. At the same time, it brings with it the challenge of network congestion.

We need to start developing solutions that don't just involve increasing capacity. It is also important to consider other options, such as adaptive power connections. Effective management of grid connection queues and setting up the right priorities is important. A particular challenge related to this is the management of the so-called virtual requests that arise due to the application of the same project to several waiting lists. When one of these demands is granted, the others become irrelevant. So, in a way, we are dealing with "infected" queues.

Another challenge is ensuring that supply chains are adequately capable. Increasing investment in distribution networks also means increasing the production of installation equipment. It is therefore very important to give manufacturers predictability about the demand for their products. To this end, we prepare ten-year network development plans so that manufacturers can assess future needs for cables, transformers, etc. Of course, we can't be completely precise about this, but we can still give manufacturers a signal of where it is worth investing.

There is a lot of talk about the need to strengthen distribution networks in order to enable the green transition. However, due to the rapid progress in the development of technologies that allow for greater flexibility for consumers, such as battery storage, some are beginning to question the viability of large investments in strengthening grid capacity. Where do you think the right balance is between strengthening the network and relying on greater customer flexibility?

I would say we need both. On the client side, there may be more flexibility than we expected. The period after Russia's attack on Ukraine has shown us this very well, as many consumers have managed to significantly reduce their energy consumption.

But still, I would like to present a slightly different view. Investments in the grid bring a double benefit – the economic value of these investments is that they enable industry to compete and electrify, and the social value is that such investments enable the implementation of the energy transition.

Taking a step back – investmenting in strengthening the grid will increase tariffs for its use. Although network charges currently represent only 25 to 30 percent of the amount on energy bills, investments must definitely be as rational and efficient as possible.

However, an interesting study has recently been published in The Netherlands: hit showed that increased investments in the grid - while encouraging consumers to better insulate their homes and take other measures to increase energy efficiency - will not be reflected in the final amounts on bills. This is because the increase in network rates is offset by savings due to lower energy consumption. For the consumer, the final amount remains unchanged. We still have a lot of room to go in the area of increasing energy efficiency.

And yet, what risk do we take with so-called anticipatory investments? If we invest millions in strengthening a network that then remains unused, it will be a waste of money.

Anticipatory investments, however, don't happen in the perfect "wilderness." It is a well-thought-out plan based on realistic assumptions. Still, of course, there is a risk of overinvestment. However, I find the Australian study interesting, which shows that the risk of

overinvestment is significantly less important than the risk of underinvestment, which would make it impossible to integrate renewables in a timely manner.

At the same time, it should be borne in mind that anticipatory investments are cheaper and faster. They are cheaper because we can combine many different measures in one step, in one procedure, instead of having to carry out each one separately. On the one hand, we need to learn to manage the uncertainty that anticipatory investments bring, but at the same time we also need to be aware of the advantages in the form of lower relative costs and speed of implementation.

In my opinion, distribution system operators and regulators need to change their mindset and move from risk management to uncertainty management. It is a different attitude that is necessary because we cannot draw up a precise plan for the energy transition.

In any case, tariffs for the use of networks will increase due to the increase in investment. How worried are you about possible social dissatisfaction with the increase in bill costs? Could this empower political forces that are not committed to the green transition?

I cannot comment on whether I expect social discontent. However, I think it is extremely important that we distribute the costs of the network in a transparent and fair way, while giving people the opportunity to influence them through their behavior.

Considering the increasing penetration of renewables and the decentralised flexibility of the system, this means that more emphasis should be placed on paying for the connection capacity than on the amount of energy consumed. Connection power is currently the scarcest of commodity in distribution networks, which must be evaluated and managed in an appropriate way, and consumers should be encouraged to use it rationally. In such a case, there is not much concern about social discontent, because no one is forcing anyone to do anything.

Establishing understanding and awareness among clients will take time, but we can already see some interesting examples today. In France, during high network congestion, a notification is sent to customers via SMS asking them to reduce their consumption at certain times. And people respond exemplarily to such appeals; they are ready to help. This, in my view, shows that, with proper awareness, people can be encouraged to help maintain the stability of the grid.

One of the major problems faced by distribution network operators, as well as the electricity industry in general, is the lack of a properly trained workforce. What's your recipe for getting young?

I notice that the strategy of learning and working at the same time works very well. This strategy has already been implemented by a number of DSOs across Europe. Young people are employed, having to go to school a few days a week, and on a few days a week they already carry out work tasks. The combination of learning and hands-on work helps them see the way forward.

Overall, however, I notice that for many people, the mission of enabling the energy transition is important, which helps a lot in the overall reputation and consolidation of the electric

power brand as an interesting, digitized sector. I hope that this sentiment will have a positive effect on the willingness of young people to join us.

Peter Vermaat at the Smart Grid PCI Summit conference in Ljubljana (Photo: Luka Pašič/ELES)

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