



Hugo Niesing

Rational Middle

Do we need Smart Grids in harbour areas?

Yes

We need Smart Grids. We need systems to make rational decisions for us, helping us adapt our energy consumption to a fluctuating production. Only then it is feasible to make the transition to an energy system based on renewables.

Engineers analysing the energy consumption of industries and households see great opportunities for Smart Grids. The core concept is flexible demand. The more flexible the demand for energy can be made, the greater the chances to adapt the use of energy to fluctuations in production. Flexibility on the consumption side gives the Smart Grid something to play with, to shift loads, to shear peaks, and to use renewable sources to the full.

No better place to investigate the potential for Smart Grids than a harbour area. This is where the big energy users (like chemical and aluminum plants) are based. But these are also areas that provide a lot of space for renewable sources like wind power and solar systems. One of the partners in our e-harbours program, a research group in Hamburg, identified a huge potential for flexibility in the Hamburg harbour, up to 15% of total energy consumption in the area. This means the consumption can be steered in such a way, that the variability in renewable sources is matched.

Engineers of the Belgian research company Vito, another partner in the e-harbours program, identified comparable opportunities in the Antwerp harbour. In one case, total energy costs could be lowered by a staggering 21%. This was done by adding a wind turbine to the industrial site and tuning the energy consumption.

These examples show that the case for Smart Grids is so strong; it is only a matter of time before they will be widely adopted.

Hugo Niesing, Director of Resourcefully, advising company that is supporting organizations that aim for smart energy solutions

No

We need Smart People. Smart People to understand "who is paying what" and to be able to make a new smart deal for all. Without Smart People, Smart Grids will never get implemented. Officially, the EU-funded project e-harbours investigates the possibilities of sustainable energy and Smart Grids in harbour areas. But, perhaps, we should say we analyse barriers to enter a new energy era. We identified a number of them.

Cheap fossil energy for large industrial end-users is still a setback for introducing sustainable solutions. Being a negligible cost factor, the reduction only has a small effect on all operational costs. But margins are getting smaller and energy prices are rising. We need to act smart to convince the industry to adapt.

The most vexing question is how to agree on (the return on) sustainable investments. The investing stakeholder is often not the (only) one benefitting from the smart solution. This is severely affecting smarter overall solutions. The municipality of Zaanstad is investigating this issue on a small scale. How to distribute the costs and benefits in a complicated logistic setting? Large amounts of data are collected, supporting smart taxing, smart agreements and contracts and ... a sustainable Return on Investment for all Stakeholders.

Another hurdle is the supposed absence of flexibility in highly competitive logistic areas. Schedules are tight. A stevedoring company must be prepared for serving the customer 24/7/365. So they want their forklifts charged at all times, without bothering about energy costs. A smart use of sustainable energy is simply not their core business. We need Smart People to find out which part of the logistic processes DOES offer the flexibility, without affecting their core-business.

Yes, we need Smart, very Smart People to make Smart Grids a success.

Jan Schreuder, Municipality of Zaanstad, Project Manager of the e-harbours project, a consortium including the Antwerp, Amsterdam and Hamburg and Malmö harbour areas



Jan Schreuder

