

Sweden switches to intelligent meters

As early as next year, the whole of Sweden will be equipped with intelligent meters. A revolutionary change in the way the power market works, say experts. Can it be a model for the EU?

| by Reiner Gatermann

It's going to happen on 1 July 2009. The whole of Sweden will be equipped with intelligent meters, as required by the law which came into effect in October 2007 after several years of preparation. Initially some of the 164 electricity suppliers considered the changeover period to be relatively short, however in the meantime they have all clearly decided that they will be able to complete the necessary installation work. They are also positive about these improvements to the Swedish system which they now see as being equally

other countries are in the hands of state owned Svenska Kraftnät. However according to sceptics, and there is no shortage of them, the problem with the Swedish electricity system lies in the domination of the 'three giants'; the state owned Swedish Vattenfall (power production in 2007: 64.8 TWh), the German Eon (31.9) and Finnish state owned Fortum (26.0). They don't just dominate production, there are also cases in which they have shared ownership, such as in the nuclear power plants, allegedly permitting them to make price influencing

estimated total annual consumption and a large number of additional charges such as a network fee, value added tax (25%), electricity certification, and energy tax. A final bill based on actual meter readings is only received much later. Switching suppliers is also complicated sometimes.

Politicians and electricity suppliers now concede that it was customer pressure which led to the dramatic changes about to be made to the billing system. A number of experts view this as 'the most important change for generations'. A total of more than 5 million power meters have to be replaced. But it involves more than that. Most important is the creation of a national centralised database which will forward the collected data to the electricity suppliers. In the past, power producers communicated directly with the electricity retailers. From 1 July 2009 EMIX, the energy market information centre, will come in between them. The supply of electricity to customers will be controlled by a set of regulations (STAFS), which will not be available until the beginning of next year. Through this set of regulations Swedac, the office for accreditation and technical control, an authority responsible for the registration of power suppliers and

'It is the most important change in generations'

advantageous for both customers and providers, as well as serving as a model for the EU.

In certain ways the electricity market in Sweden is different from those in other European countries. The Scandinavian markets have been totally deregulated since 1997. There is open competition between producers and suppliers, while the high-voltage network and connections with

production agreements. In addition they are the most important retail suppliers. Vattenfall, Eon, and Fortum together supply around 3 million of the 5.2 million household customers. Besides price increases, in which Sweden is hardly any different from other countries, although prices are still somewhat lower than in the rest of Europe, what has really annoyed consumers most has been the power bill. It is generally based on a proportion of the

the reliability of power meters, will see to it that all legal requirements are met by power suppliers and regular power bills are provided.

Given that the Swedish electricity market, despite the domination of the three major producers, is highly fragmented, the main task facing the sector is to create an integrated data transfer system. There are various means available for transferring daily readings which will be made by the intelligent meters. These range from the PLC (power line connection) which has been used most commonly up until now, through to radio and GPRS. For the nearly 150,000 additional customers with a subscription exceeding 63 amperes, hourly readings must be provided.

Deadline |

In 2002, when the government presented its first draft plan, there was some reluctance in the sector to accept the wide ranging requirements. In the meantime this has clearly changed. 'They all now see the benefits of the new system,' comments Peter Takás of the Network Unit of the industry organisation Swedenergy. In the meantime, within the sector there is much talk about the 'extremely good regulations' even though the initial costs will run to SEK 10 to 15 billion (€1.1 to 1.6 billion). The advantages are obvious, according to the industry: until now there have been ongoing communication barriers and differing regulations, but with this change one will be in the position to provide customers with high quality 100% accurate data. The bills will be, so it is claimed, simple and easy to understand and the automation is cost-effective. In finding the solution from within the sector, a further, not to be underestimated goal has been achieved. 'We have avoided the regulatory intervention threatened by the government.'

The power providers are confident that they will be ready by the deadline set for the middle of 2009. Vattenfall has already installed all 850,000 electricity meters. Lauri Virkunen, in charge of power distribution in the northern countries

sees the new system as providing for better competition and, in the end, 'lower prices'. So what can customers expect? They will be able to choose whether to receive their power bills monthly or quarterly. The recorded usage and prices must be presented accurately and in a way which is easy to understand. They should be able to change to another supplier without difficulty, quickly and with the earliest possible invoice. The new supplier will be able to take over no later than 14 days after the contract has been made, with the final reading to take place no more than five days later. Finally, from 1 July 2009 customers will be able to tell from their power bills how many kWh of power they have used every month for the previous 13 months and compare the percentage

difference between their current month's use and that of the previous year.

With very few exceptions, this change will make the 'Adidas method' a thing of the past. It meant that meter readers had to run from meter to meter to record readings. In Sweden the next step is already being prepared for. From 2010 NordReG will be the regulatory authority in charge of ensuring that changes of electricity provider proceed smoothly for the whole northern market (Sweden as well as Denmark, Finland, Norway and Iceland). At the same time it is anticipated that a central databank similar to Sweden's will be established. But there's more: Lauri Virkunen sees the Swedish system as an attractive model for the whole EU. ■



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