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Switchable loads against excess power

Schleswig-Holstein's minister for economic affairs presents mechanisms for an electricity market fit for the future

Dr. Bernd Buchholz (FDP) is Schleswig-Holstein's new minister economic affairs, transport, labour, technology and tourism. The state has been governed by a coalition consisting of CDU (conservatives), FDP (liberals) and Grünen (greens) since July 2017. In an interview with the Schleswig-Holstein Renewable Energy Network Agency (EE.SH), Dr. Buchholz describes the new state government's energy policy priorities: market integration of renewable energy, switchable loads and direct marketing.

EE.SH: Dr. Buchholz, what are your key energy policy priorities in the coming years?

Buchholz: Primarily even greater market integration of renewable energy. The switchover to a tendering system has been the first step, but further steps must follow so that we can in the medium term replace the EEG 2017 with a market mechanism and competition.

In the short term we are faced with the challenge of having to improve the EEG 2017 requirements with regard to communal wind farms. This relates to the obligation to submit a BlmSchG report along with the bid, as is already foreseen for the first two rounds of tendering in 2018. This is intended to ensure that projects that are awarded a tender must actually be realised within around two years. This is important for a continuous implementation of the expansion path and the planning security for the wind industry. We must also ensure that projects that have not been realised are put back into the "tendering pot", so that we can actually achieve the number of megawatts foreseen in the tendering process.

Another key focus of our energy policy is sector coupling. It is hard to explain how producers are paid for power that is either not generated or has been switched off, and that individuals and businesses pick up the tab via the electricity price. The power should be used sensibly in another sector, such as for generating heat, for transport purposes or for converting it into hydrogen by means of hydrolysis. And industrial consortium from Hamburg and Schleswig-Holstein are specifically getting to grips with these possibilities in the project "North German Energy Transition/NEW 4.0". An arrangement of the "switchable loads" instrument that is open to technology could play a supporting role here in providing an incentive for innovative use of the "surplus electricity". I am also particularly keen to see that renewable energy is used more for guaranteeing the security of energy supply. With the aid of digitalisation we must be able to connect wind power, photovoltaic and biomass plants, and the most

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various types of storage systems so that they can reliably supply constant amounts of power in real time.

EE.SH: Can CO₂ pricing create more dynamism in the energy market – and what kind of price for carbon emission can you envisage?

Buchholz: It is necessary for creating economic incentives for climate protection and for reducing carbon emissions with fair competitive conditions for both renewable and conventional energy sources. Carbon certificates are being traded too cheaply at present, so that the control effect is failing to materialise. Nor do they apply to all areas; they don't apply to road traffic for example. It must however be the aim of a sensible policy to guarantee technology open competition to ensure the most economically effective solution for carbon-free energy consumption.

EE.SH: Everyone is talking about sector coupling – but grid charges, building cost subsidies and electricity tax have so far prevented the economic use of the power generated from renewables, for example for generating heat or producing hydrogen. Have you any ideas about how to solve the problem?

Buchholz: There are initial ideas for regulatory requirements for the implementation of sector coupling and the viable use of "surplus power". Consider the switchable load mechanism. With the elimination of limitations for combined heat and power plants and the recognition that the two gigawatts in the grid expansion areas will not be exhausted with CHPs, a good regulatory starting point would be a directive enshrined in law with an open technology design. Another approach is the offsetting of the use of green hydrogen in refineries for the production of conventional fuels within the scope of the implementation of the EU Renewable Energy Directive.

And thirdly: The possibility of offsetting in the use of synthetic fuels in cars and small trucks in the new carbon regulations for the time after 2020 could create a new demand for green hydrogen. This would require a corresponding influence at EU level. We will be intensively investigating these issues.

EE.SH: What business model that is fit for the future would you suggest to those in the wind industry representatives who are suffering under the expansion standstill in Schleswig-Holstein?

Buchholz: The wind industry must not limit itself to just increasing the efficiency of their wind turbines. It must couple the generation of wind power with other electricity consuming systems, such as energy storage systems, electric charging infrastructures or electrolysis plants, while also intensifying direct marketing. It is hardly possible to create a business model based on generating wind power alone any

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more. What is needed here is a spirit of innovation, as numerous medium sized companies have already demonstrated with direct marketing and concepts that involve electricity storage and virtual power plants.

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