



Christoph Böhringer: Energy and environmental economist.

# One Law but Many Questions

Expensive EEG: Christoph Böhringer examines the economic impact of political reforms. His simulation models are now also used by the German government

The goals of the Renewable Energy Act (EEG) sound ambitious. Forty percent of the electricity in Germany is to come from wind, water, the sun or biomass by 2025. Yet progress is being made. In 2000 just under seven percent of Germany's total electricity output came from renewable energies. By 2013 that figure had risen to 25 percent. So is the EEG a success story? No, says the Commission of Experts for Research and Innovation (EFI) appointed by the German government. In the report they submitted to the German chancellor at the start of the

year, the six authors wrote that a continuation of the EEG could „not be justified by appealing to climate protection or positive innovation effects“.

A statement that caused a great stir in the press. Oldenburg economist Christoph Böhringer was one of the six authors of the report. The F.A.Z. newspaper described him in 2013 as one of Germany's most influential economists in science – on the basis that he is quoted particularly frequently by other researchers. Böhringer has been a member of the Commission of Experts for

Innovation and Research since 2012. Why such a critical view of the EEG, Mr Böhringer?

One key point the scientist makes is that the EEG does not lead to more climate protection. „In the EU an emissions trading system caps carbon dioxide emissions for energy-intensive industries. The number of emissions rights is regulated.“ The EEG has accelerated the expansion of renewable energies in Germany's power supply, he explains, however Europe-wide it has not prevented further CO2 emissions, but only

transferred them to other sectors and European countries.

But doesn't the EEG stimulate innovation? Böhringer also takes a critical view of this argument often put forward in public debate. In many countries the number of patents in the area of renewable energy technologies has risen considerably in recent years. This is also the case in Germany, particularly in the field of wind and photovoltaic technologies. „However, we did not find evidence that this rise in innovation activity can be attributed to the EEG,“ Böhringer points out. „There is no statistically significant correlation between innovation activity and the EEG.“

Böhringer's central concern is on the enormous costs the EEG generates. „The discussion about potential advantages must also take the costs into consideration.“ One side of the issue is that the EEG boosted renewable energies to around 25 percent of the total electricity generated in Germany in 2013. The other is the costs of around 23 billion euros per year resulting from the EEG reallocation charge. „The reallocation charge for the EEG now accounts for over a fifth of the average price paid by consumers for electricity.“

Critical cause and effect analyses from an economic perspective such as the evaluation of the EEG are at the core of Böhringer's research activities. He assesses the economic impacts of regulatory policy measures using computerized simulation models. How do economic market interventions such as taxes or import quotas affect industries and households? Who are the winners and who are the losers of policy reforms? Do the reforms make sense from the point of view of the economy as a whole?

Böhringer certainly did not initially plan to take the path of economic research. He started out studying industrial engineering in Karlsruhe, and wanted to focus on engineering topics in his PhD thesis, for example on the question of how to design the power grid to carry more input from decentralised renewable energy sources. However the director of the Institute of Energy Economics and the Rational Use of Energy (IER) at

the University of Stuttgart encouraged him to look at redesigning the energy system from a more economic perspective. Böhringer received a grant for a six-month research stay at the renowned International Institute of Applied Systems Analysis (IIASA) in Laxenburg, near Vienna. And there he studied energy economics issues such as the deregulation of electricity markets and climate protection strategies.

## „Coming to Oldenburg was a logical step for me.“

This was something of a scientific wake-up call. In Laxenburg he established contacts with leading professors in the field of macroeconomic system modelling. From them, and in the course of further research stays in the US, he learned the methods he applies in his work today: how to replicate key economic circumstances in numerical simulation models and use them to analyse policy.

Böhringer earned his PhD in economics at the University of Stuttgart in 1995, and went on to lead a research group on energy economics. In 1999 he was appointed director of the research department Environmental and Resources Economics and Environmental Management at the Centre for European Economic Research (ZEW) in Mannheim. In charge of a team comprising up to 30 scientific staff and researchers, he was called upon to lead as well as conduct research. „Most of my time was taken up with training colleagues, procuring external funding, planning strategies, international networks, etc.“ At the same time he obtained his postdoctoral qualification in economics at the University of Regensburg in 2002. He was appointed as a full professor at Heidelberg University at the start of 2004. And then he was offered a professorship in Oldenburg: at the start of 2007 Böhringer was appointed Chair of Economic Policy.

„Coming to Oldenburg was a logical step for me. Oldenburg's economics department has a leading position in Germany in the field of environmental eco-

nomics research.“ In 2007 the German business newspaper Handelsblatt described Oldenburg as „Germany's secret capital of environmental economics research“. In 2010 Oldenburg's economists occupied the top position in Germany in terms of the number of publications. And Böhringer is one of the three researchers to have been listed in the Handelsblatt's top 100 economists ranking. Together with his colleagues, Böhringer is working to further raise Oldenburg's profile in sustainability. They attained the „Excellence Group“ rating according to several criteria in the Centre for Higher Education Development's 2014 ranking.

Böhringer's expertise is in high demand – especially at a time when there is so much uncertainty about how to proceed with Germany's „Energiewende“, or energy turnaround. The transition to renewable energies is not up for debate here, Böhringer explains. But there are open questions about how to implement the turnaround, particularly as regards the pace, the choice of regulatory instruments and the burden it entails for the citizens. „There are no unambiguous scientific answers to these questions. They also require normative judgements on costs and benefits“, Böhringer points out. However science can contribute to assessing the validity of the arguments – as the Commission of Experts' EEG report does. (me)

Commission of Experts for Research and Innovation



Reports of Commission of Experts

