IN THE SPOTLIGHT

The energy transition – socially just … and the polluter pays

The energy transition is an ambitious project for the whole of society. Its goal is to restructure the entire energy supply, no less. For the power generation sector, this means moving away from fossil fuels to clean, green and mostly locally sourced renewable energies. For electricity users, energy-saving behaviour, based on the use of energy-efficient appliances, is the way forward.

In the mobility context, gas-guzzling vehicles powered by fossil fuels must be replaced by zero-emissions transport. In the heat sector, there is a growing trend away from fossil fuel heating systems and poorly insulated buildings towards improved efficiency standards and renewable energies. Many of these changes must take place simultaneously as part of the restructuring of the energy system over the coming years. At the same time, safeguards are needed so that there is a reliable, safe and affordable supply of heating, power and mobility for the public in future.

Everyone – business, industry and every member of the public – has a role to play in addressing this challenge. Climate action is needed in many areas of life, including mobility, food, leisure and housing. Appropriate government incentives and frameworks must therefore be put in place, as people are affected to varying degrees by the implementation of these policy measures and schemes. Ensuring that social justice is built into the energy transition is essential so that everyone shares the benefits of a sustainable future.

Low-income households are hit harder

The impacts of policy measures aimed at ensuring that energy and resource prices are based on the “polluter pays” principle or at creating incentives or standards for climate-friendly investment or behaviours differ across social groups. For example, low-income households in Germany spend a much larger proportion of their budget on electricity and heating compared with more affluent households.

Lower-income groups spend 5% of their monthly disposable income on meeting their electricity costs, compared with just 1.5% for high-income households, even though the latter group’s electricity consumption is twice as high. With heating costs, the discrepancy is even more marked: households at the upper end of the income scale use three times more energy than those at the lower end but spend just 2% of their budget on heating compared with almost 5% for low-income households.

What causes these differences in energy consumption? The more affluent the social group, the more intensively it can make use of a wide range of consumption options. For example, high-income

households generally have much larger homes that are better-equipped with electronic devices. They also drive bigger cars, leaving a larger carbon footprint. High-income households are also noticeably less sensitive to price signals.

Building social justice into the energy transition

The price of energy, particularly fossil fuels, must increase in order to reduce energy consumption and incentivise the switch to renewables. At the same time, however, it is essential to implement programmes that mitigate the impacts on low-income households. An energy transition with social justice built in must be universal in scope, prevent energy poverty and support households that are facing hardship.

Every household can cut its energy consumption – for example, by buying more energy-efficient appliances or by changing its behaviour. For low-income households, the savings have an immediate and positive impact on their budget. However, these households often lack the financial resources necessary to buy more efficient appliances. What's more, many people live in rental properties and therefore have no influence over their home's energy performance.

There are many ways in which the government can encourage all households to participate in the energy transition and provide them with support. This includes grants to help them buy essential new appliances, and information campaigns on energy-saving behaviours. Changes to the law can give tenants more choice over their power and heating supplier, for instance, or can encourage public authorities to take the climate into account in service delivery – for example, by ensuring that housing benefit reflects the energy performance of buildings.

A target group-specific approach

If these changes are to benefit everyone, a wide range of targeted mechanisms is required to reach the diverse groups within society.

Higher-income households generally have more scope for climate action. Their energy consumption tends to be higher, which means that they have more energy-saving potential. They also have more financial resources available, enabling them to make changes. Property owners, for example, can radically reduce their fossil fuel consumption with energy upgrading. And if a consumer has the funds to buy a new car, switching to an e-vehicle is a simple matter.

For this target group, price mechanisms are rarely enough – the cost argument does not carry enough weight. So when reaching out to this target group, it is important to highlight other benefits: for example, that renovations often provide improved home security, a more comfortable living environment, better health, or increased property value.

Other target groups need tailor-made approaches as well. It is important to bear in mind that home ownership does not necessarily mean that the occupier falls into one of the higher income groups. In rural areas in particular, homes are often owner-occupied, but owners only manage to make ends meet on their meagre pensions because they have no rent to pay. They have no cash to spare for energy upgrading. For this group, rising energy prices – as an effect of carbon pricing, for example – are a major financial burden.

Carbon pricing – socially balanced

Products should reflect the environmental costs associated with their manufacture and use. Non-climate-friendly behaviour – whether it relates to consumer goods, electricity, heat or mobility – then becomes more expensive, while the low-carbon options that exist in all sectors become more affordable.

One way of ensuring that price signals are based on the "polluter pays" principle and effectively incentivise climate-friendly choices is to put a price on CO2 and other greenhouse gases. On behalf of Agora Verkehrswende and Agora Energiewende, the Oeko-Institut has looked at options for socially balanced carbon pricing.

The calculations are based on a carbon price of 50 euros per tonne of CO2e on petrol, diesel, heating oil and natural gas. The surcharge is set at an appropriate level to have a steering effect. In this model, however, the money is not retained by the exchequer but is redistributed in full to private households. The refund could be structured in such a way that the introduction of carbon pricing promotes social justice.

Benefiting low-income households

The reimbursed cash would take the form of an annual "climate premium" amounting to 100 euros per capita. In addition, electricity tax would be reduced from its current level of 2.05 cents to 0.1 cents per kilowatt hour. A compensation fund to provide payments for severely affected households, such as rural commuters, would also be established.

More than 50% of households, especially families with children and lower- and middle-income groups, would benefit from this carbon pricing model. There would be a moderately increased burden for higher-income households, mainly for persons living alone in large properties. In this model, climate action and social justice go hand in hand.

Study: Klimaschutz auf Kurs bringen: Wie eine CO2-Bepreisung sozial ausgewogen wirkt, by the Oeko-Institut and the Freie Universität Berlin on behalf of Agora Verkehrswende and Agora Energiewende [= Getting climate protection on track: How socially balanced CO2 pricing works]

Tackling energy poverty: keeping the lights on

In a project funded by the German Federal Ministry of Education and Research (BMBF), which explores ways to build social justice into the energy transition and promote public participation, the Oeko-Institut also looked at energy poverty. As a first step, it reviewed measures and policies adopted by other EU countries to address this issue. In Germany, the concept of "energy poverty" has not been precisely defined, but in other countries, it is already high on the policy agenda.

What are countries such as France, the UK, Sweden, Ireland and Denmark doing to tackle energy poverty and prevent electricity or heating cut-offs? And to what extent is it possible to transfer these instruments and policies to a German context? In seeking answers to these questions, the Oeko-Institut's researchers focused particularly on measures that address both energy poverty and climate goals.

The study differentiated between price management, support for energy efficiency, information and guidance schemes, and legislative provisions. The UK and Ireland, for example, contribute towards low-income households' heating costs through the Winter Fuel Payment (UK) and the Fuel Allowance (Ireland). The Habiter Mieux scheme in France provides municipal grants to assist with

housing expenses if tenants face higher rents (before heating costs) as a result of refurbishment schemes.

Considering the social dimension

One of the study's key findings is that direct financial support alone is not enough: it should always be combined with information and advisory services. Energy policy and social policy have different objectives, so welfare aspects should form part of the social policy portfolio. Nevertheless, energy policy should be designed in a way that avoids widening social inequality, while social policy, for its part, should not disregard the energy and climate dimensions.

There is no simple solution that integrates social and climate aspects and addresses all of the target groups. It will continue to be a challenge to consider the social dimension in the necessary transformation towards more climate change mitigation, ensuring that everyone shares in the benefits of the energy transition.

Working paper: Policies and measures to alleviate energy poverty in Germany – learning from good practices in other European countries by the Oeko-Institut, funded by the BMBF

Further information

eco@work January 2019: *The social side of the energy transition*

Study: Assessment of the environmental, social and economic impacts of the sector targets for 2030 of the Federal Government's Climate Action Plan 2050, for the BMU

Study: *Konzept zur absoluten Verminderung des Energiebedarfs: Potenziale, Rahmenbedingungen und Instrumente zur Erreichung der Energieverbrauchsziele des Energiekonzepts (2013-2015)*, for the German Environment Agency (UBA) [= Strategy for the absolute reduction of energy demand: potentialities, frameworks and instruments to achieve the energy consumption targets defined in the Energy Concept (2013-2015)]

Study: *Stromverbrauch senken – Energieeinsparung durch Suffizienzpolitiken im Handlungsfeld Stromverbrauch*, for the German Environment Agency (UBA) [= Cutting electricity consumption – energy-saving through sufficiency policies in the power sector]

Study: *Flächensparend Wohnen – Energieeinsparung durch Suffizienzpolitiken im Handlungsfeld Wohnfläche*, for the German Environment Agency (UBA) [Compact living – energy-saving through sufficiency policies in the housing sector]

Study: *Auswirkungen der Sektorkopplung im Wärmebereich auf die Energiekosten von privaten Verbraucherinnen und Verbrauchern*, for the Federation of German Consumer Organisations (= Effects of sector coupling in the heat sector on consumers' energy costs]

Conference paper: *Policies and measures to alleviate energy poverty in Germany – learning from good practices in other European countries*, for the International Energy Policy and Programme Evaluation Conference, 2018

Study: *How to end energy poverty? Scrutiny of Current EU and Member States Instruments*, requested by the European Parliament's Committee on Industry, Research and Energy

Conference paper: *The distribution of renewable energy policy cost amongst households in Germany – and the role of energy efficiency policies*, Proceedings, ECEEE Summer Study 2015

Conference paper: *Energy saving measures and their distributional effects – a study of households in Germany*, ECEEE Summer Study 2015

Contact

Dr. Katja Schumacher
Deputy Head of
Energy & Climate Division (Berlin)

Oeko-Institut e.V., Office Berlin
Phone: +49 30 405085-321
Mail: k.schumacher@oeko.de

Katja Hünecke
Deputy Head of
Energy & Climate Division (Darmstadt)

Oeko-Institut e.V., Office Darmstadt
Phone: +49 6151 8191-132
Mail: k.huenecke@oeko.de

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