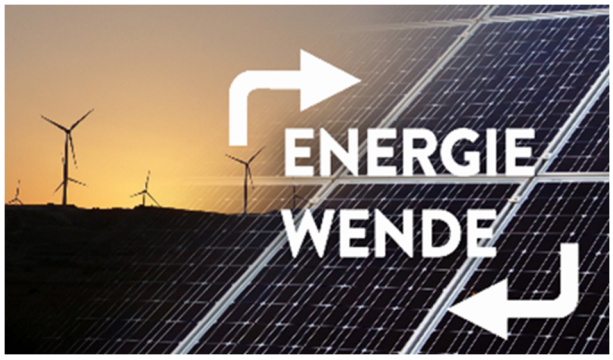
HOW TO PLAN THE LOCAL ENERGY TRANSITION

IN BRIEF

- The energy transition calls for far-reaching changes at local and regional level, which include social rules, infrastructures and technologies.
- Backcasting is a qualitative form of scenario analysis that can make significant contributions to the planning of local change processes.
- In one example, normative scenarios for the year 2036 were created for the city of Korneuburg, making it possible to derive tangible strategies and measures.
- Backcasting reveals different futures, broadens the local scope of action, and helps to set temporal priorities.

WHAT IS IT ABOUT?

The energy system is to become more climate-friendly. If this is to succeed, processes of change need to be initiated at various levels. Against this backdrop, the local and regional context is of particular importance. Examples from Germany and Denmark have shown that municipalities, cities, and regions have considerable room for manoeuvre with regard to the implementation of concrete measures for an environmentally friendly energy system: neighbourhoods that already generate more energy than they consume, municipalities that supply themselves almost exclusively with renewable energies, or regions that are already mostly climate-neutral are pioneering the future. However, a local energy policy needs clear goals. To achieve these, it is necessary to implement concrete, viable measures, ensure continuous evaluation, and have strong backing from the community as well as active support of local businesses and interest groups. Effective planning methods are needed to make the goals of national and European climate and energy policies a reality in our immediate environment.



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Scenarios and backcasting for the energy transition

A method that was developed specifically for such tasks is the so-called backcasting. Backcasting is a qualitative form of scenario analysis that is consciously oriented towards political goals. In a first step, several desirable visions of the future (normative scenarios) are developed together with stakeholders and experts. In a second step, strategies and measures based on these visions are planned – in retrospect, as it were – to achieve these visions of the future.

This shows that different measures can succeed and that they complement each other. On the other hand, it also becomes clear which steps must be started immediately and which issues can be addressed later.

Backcasting is particularly well suited for planning processes that deliberately break with current developments or trends, such as the phasing out of coal combustion. The Korneuburg 2036 backcasting process is a specific, practical example of such procedure.

BASIC DATA

Project title: Way2Smart Korneuburg
Project team: Capari, L., Mitterer, R., Ornetzeder, M., in a national consortium
Duration: 09/2015 – 09/2019
Funded by: Klima- und Energiefonds, FFG

KEY RESULTS

In 2014, the city of Korneuburg set itself the goals of being climate-neutral and achieve independence from fossil fuels by 2036. For the backcasting process, these two ambitious goals were outlined using three different scenarios based on local circumstances. In all three scenarios, it was assumed that the goals from the municipality's mission statement could actually be achieved in 2036.

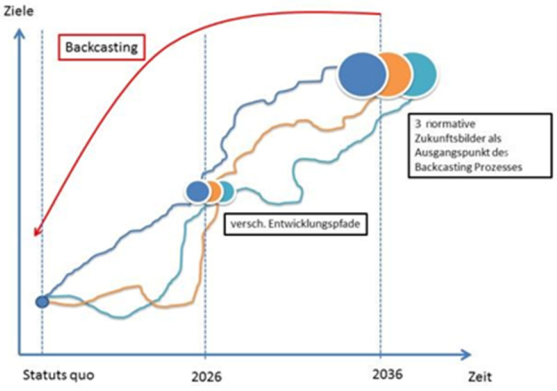

Diagram of the process

The first scenario focused on the local generation of renewable energy ("Korneuburg power plant"): locally available resources for the generation of renewable energy (wind, photovoltaic, geothermal energy) would be upgraded to maximum capacity. The second scenario focused primarily on efficient use of energy ("Energy-saving champion Korneuburg"), assuming a significantly lower demand for energy. Especially for the building sector, significantly lower consumption could be achieved because of extensive renovations. The third scenario emphasised local community initiatives ("Together into the future") which can also be very important for achieving the goals, for example by greatly reducing the volume of traffic.

These three scenarios were discussed with representatives of politics and administration, citizens, and experts, and specific strategies and measures were developed by means of backcasting. Because each scenario had a different focus, it was also possible to show a very wide range of possible actions. It also became clear that many of the measures discussed would have to be launched very quickly.

WHAT TO DO?

The energy transition involves a clear departure from what has been the norm so far, including at local level. New technologies, infrastructures, new forms of cooperation, but also new social practices in everyday life are needed. To achieve this, visions and goals must be developed from which specific, feasible actions must be derived. Backcasting can be a useful tool in this process.

- Normative scenarios facilitate a common understanding of the different local futures that are possible and desirable. Diverging views or political positions can be represented by scenarios with different directions.
- Having a variety of scenarios also contributes significantly to breaking with prevailing thought patterns whilst allowing considering new options that have not been considered so far.
- The aspiration to actually achieve the goals set in the course of the discussions highlights the urgent need to formulate specific measures. This facilitates the setting of clear priorities.
- Qualitative scenarios and backcasting are just one element to support long-term change processes. For the implementation and ongoing review of specific measures, broad political support, administrative and planning skills, knowledge as well as financial and social resources are also very important.

FURTHER READING

IBO – Österreichisches Institut für Bauen und Ökologie GmbH (2020): Way2Smart Korneuburg, Blue Globe Report, Smart Cities #4/2020
smartcities.at/wpcontent/uploads/sites/3/BGR4_2020_Way2SmartKorneuburg-6.pdf

CONTACT

Michael Ornetzeder
Email: *tamail@oeaw.ac.at*
Phone: +43 1 51581-6582

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