



# ACATIS FAIR VALUE SPECIAL

07/2021

## Lock-in effects for allegedly green climate investments

---

A practical example of possible lock-in effects is the production of electricity and heat from fossil fuels. Now that the end of coal and nuclear power plants has been decided, at least in Germany, there are calls for bridge technologies for energy supplies - a function long fulfilled by nuclear power before the reactor disaster in Fukushima. But can the favoured bridge technologies automatically deliver the required sustainability contribution? The lock-in is part of the concept of path dependence in the social sciences; in this case, it describes the dependence on a certain fossil technology.

In each process, a lot of options are available at the beginning, and they are reduced over time with each decision. At some point this development process reaches a critical turning point, after which it is no longer possible to effectively react to changes (lock-in) and a technology path is established. But if the stage for transitioning into a Green Economy is set too late or if it is not ambitious enough, society will remain dependent on fossil fuels.

With the EU Taxonomy, the EU Commission has released a set of rules and regulations that allows for the classification of business activities based on sustainability aspects. Electricity produced from gas and therefore the use of fossil fuels is not entirely excluded from the most recent version of the EU Taxonomy. Therefore every new gas power plant delays the system transformation by the service life of the plant, i.e. sometimes for up to 50 years, which is contrary to the climate targets envisioned for 2050. On the other hand, if the gas power plant is shut down

earlier, the so-called "stranded assets" would lead to higher costs for switching energy supplies and - ultimately - to economic damages. The same applies to other business activities that are defined as sustainable under the EU Taxonomy, but that are nevertheless emission-intensive, such as the production of steel and cement. New, taxonomy-conforming plants harbour the risk of lock-in effects, because bridge technologies with excessively low thresholds could lead to path dependencies with negative climate effects in the long term. Conventional market mechanisms (e.g. the interaction between supply and demand) also facilitate such negative path dependencies as companies and investors adjust to the currently valid market standards and possibly fail to anticipate future requirements.

Hence if the government's requirements are strict enough, or if enough companies voluntarily engage in the relevant sectors with regard to compliance with the two-degree target, it would have a positive effect on path progression and reduce the lock-in effects. A clear strategy for regulations, standardisation and transparency promotes serious engagement by all market stakeholders. In this way, the discussion of whether certain gas power plants or cement producers are classified as sustainable, or not sustainable enough, contributes to a better understanding of the path by all stakeholders, and hopefully to smaller lock-in effects.

Markus Grünewald

Head of Research at imug rating GmbH