

Comparing infrastructure planning and regulation

“path dependency” in focus

Comparative research

In a comparative study in the Pathways programme the research at Cefos is used to analyse similarities and differences in cases of market based and policy/government based infrastructure facility siting. The concept of path dependency serves as a thematic lens for the observations. At Cefos, University of Gothenburg, Prof. Åsa Boholm and her research group has long research experience of infrastructure facility siting and planning within the energy and the transportation sector.

Politics and market

The mode of political steering vs. market steering has been discussed in the literature on path dependency and it has been noted that the role of increasing returns is markedly different in a market context compared to a political context. Some crucial differences are:

Politics	Market
Many states of equilibrium and possible outcomes	High initial costs (e.g. in investments in new technology)
Accidental occurrences can play a big role	Learning new is resource demanding
Timing and sequencing of events can be essential	Coordination requires effort
Inertia due to institutional rigidity (institutions are designed to resist change)	Change is incremental and adaptive

Comparing infrastructure planning and facility siting

We will look at two cases of planning and building of technical infrastructure that are differently regulated and organized: rail way lines and wind farms respectively. Energy production is de-regulated and private companies (electrical producers and developers specializing in wind farm technology) are responsible for the planning and building of production facilities often with the assistance of consultancy firms with expertise in environmental impact assessment and licensing processes.

Rail way infrastructure on the other hand is state owned and the national government decides on investments in new lines, upgrading or closing down of existing line. The Rail Administration is responsible for the railway system, including provision for rail track, the signal system and the electricity for the trains while the trains are run by companies who hire rail capacity from the Rail Administration.

Key of differences, playing av major role

A preliminary comparison suggests that the differences in regulatory and organizational structure of the facility siting process in these two cases play a major role for the outcome.



Railway planning is structured by self-reinforcing co-operation and alliances between key public actors, who assist each other to achieve a common goal (a new railway line). Wind power planning on the other hand, is often to be characterized as a reactive process where a developer or an electricity producer presents an application to a licensing authority that has little incentive to co-operate, but rather to concentrate on legal scrutiny of the project as a potential threat to various public interests, and in relation to environmental regulation or conservation law. In railway planning driven by a state agency exploitation interests encroaching on environmental or conservation values, therefore tend to “win” over conservation interests since the public interest of a new rail way line weights stronger. Wind farm planning however, driven by a private developer or electricity producer, lacks this kind of “inbuilt” public interest (amalgamated by a co-operation of public key actors and licensing authorities) and therefore it is more likely that conservation values will instead “win” over exploitation interests.

PATH DEPENDENCY

Social science research within Pathways uses the concept of “path dependency” as a unifying analytical term to describe the structural and historical continuities that characterize decision processes and organizational arrangements within the energy sector. The concept of path dependency highlights:

- Developments and chains of events having an inbuilt tendency to continue along already established patterns.
- Earlier decisions in a historical sequence exerting decisive influence on what decisions are possible later on.
- Technological systems and artifacts with “lock in-effects” such as the QWERTY key board or rail track gauge.
- “Increasing returns” deriving from following an established path rather than shifting to a new and less familiar one. Shift of path connected with costs in terms of economic resources and loss of skill, and increased uncertainty about outcomes and procedures.
- The role of expectations in decision making and planning: beliefs about a certain technology and its potential, or in certain policy objectives or the effectiveness of particular steering mechanisms contributes to establishing and maintain specific technologies or policies rather than others.