



Innovation type:
Scenario toolbox

TRL: 2

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Target group:

Actor/ purpose	x
DSO, TSO	x
Technology provider	x
Member organisation	x
Market operator	x
Research/ Consultancy	x
Teaching	x

Driving forces and mini scenarios for the future distribution grid

Through a foresight process with the CINELDI partners, driving forces for intelligent distribution system innovation have been identified and mini scenarios for the future have been developed.

Challenge

The future electricity grid will be a complex system of systems, incorporating various intelligent devices for monitoring, control and automation. The interaction between various technological, regulatory and social factors add complexity which need to be addressed in a holistic and coordinated way to support the system innovation.

Solution

To better understand the complexity of the future Norwegian distribution grid, the driving forces for system innovation have been identified and structured. Based on the driving forces, a repository of 109 mini scenarios has been developed. This has been done in a foresight process involving the various stakeholders; technology providers, grid operators (DSOs/TSO), research institutes, university, authorities and market operators in Norway, representing a multidisciplinary group of experts.

Potential

By participating in the foresight process, the stakeholders build new knowledge and gain insight into possible future scenarios. The driving forces and mini scenarios can be used as input to strategic processes (grid development, competence building, R&D strategy etc.). Better knowledge and insight into driving forces and possible future scenarios will improve the decision-making processes and support the system innovation in the distribution grid.

Reference in CINELDI

Hermansen, T. S, Vefsnmo, H., Kjølle, G., Sand, K., [Driving forces for intelligent distribution system innovation – results from a foresight process](#), CIREC 2019.

Hermansen, Tonje S.; Kjølle, Gerd; Vefsnmo, Hanne; Sand, Kjell: [Driving forces for intelligent electricity distribution system innovation](#)

CINELDI-report no 01:2019.



CINELDI will develop a roadmap and transition strategy for Smart Grid development in Norway.

Identification of driving forces and development of mini scenarios are the first steps towards a road map, and this new knowledge is already being used in strategic processes by some of the Norwegian DSOs.