

Paris Session 2022



Gridmaster: Adaptive Planning for dealing with Deep Uncertainty of Energy Transition

Study Committee C1 – PS3

Q 3.2.1 What are international experiences on matching between increasingly top-down energy targets and private driven generation/storage investments? And how do grid operators organise their grid planning in this increased complexity?

Ton Wurth, the Netherlands

Group Discussion Meeting

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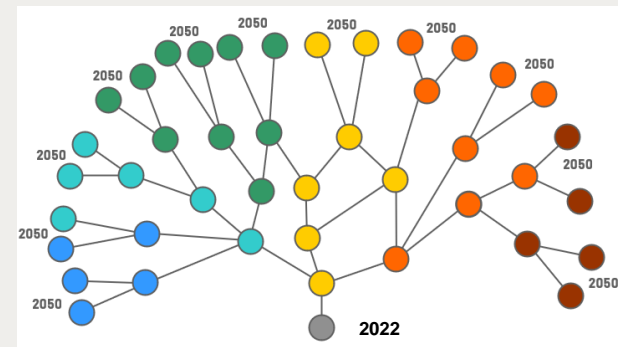
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Deep uncertainty of energy system evolution is insufficiently addressed in current grid planning method

- Unknown evolution of energy targets
- Long planning horizon for energy grids
- How to deal with deep uncertainty?
 - Which investments for facilitation many scenarios?
 - How to prevent stranded assets?
- Deep uncertainty insufficiently addressed in current grid planning

Gridmaster method: Adaptive Planning for dealing with the deep uncertainty of the energy system evolution

- Developed Gridmaster method addresses deep uncertainty
 - no regret investments
 - adaptive investments
 - coherence between different energy grids (Electricity, Methane, H₂, etc.)
- Gridmaster method:
 - stress testing investment path
 - scenario space
 - learning algorithms to find drivers transport capacity evolution
 - coordinated investment planning energy grids



Coordinated Adaptive Investment Plans as answer to deep uncertainty of energy system evolution



- Coordinated Adaptive Investment Plans:
 - Facilitation scenarios by aligned investment plans of different energy grids
 - Preventing stranded assets in different energy grids

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