ETN October Workshop 2024

Decentralised Energy Systems WG Meeting
10.10.2024

Agenda of the Meeting

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1. Results of 2024 & Learnings from Day 1
2. Activities for 2025 (What, How, Why)
3. Thematic Presentation
4. Q&A

Results of 2024 & Learnings from Day 1

Results of 2024

Summary

2024 Activity	Status and current results achieved
Report completed	“Decentralised energy systems: towards carbon-neutral energy solutions for gas turbines”, in May 2024

Contact to end users to evaluate their way forward (energy systems)	• Uncertainty in products and the market and the way forward
	• Most users seem to keep waiting => reacting instead of acting;
	• Some nevertheless taking the initiative
	• Electric boiler instead of a GT/CHP
	• Technology wise there is the question of integration;
	  • alternative fuels
	  • new technologies are expensive
	  • capital costs because of low operating hours
	• Replacing centralized CHP by several small boilers (Netherlands, big chemical plant)
	• Combination of electricity and gas whatever is cheaper; local storage.

Energy system optimisation	Making use of the tool developed in ROBINSON; LCA during the concept development phase of energy systems; course to be held soon

Learnings from Day 1

Key take-aways

Questions:

- Energy demand:
  - To which extend consider power demand forecasts demand side flexibility.
- Flexibility:
  - What is needed when considering the impact of demand side flexibility and the combination / integration with other technologies.
  - Operational window (0% - 100% load?) and associated emissions.
- Boundary conditions:
  - How are energy markets and rules and regulations going to develop; uniformity of regulations in countries and regions.
  - Expected impact on the requirements for GTs.
- Business models making investments viable
- H2-ready power plants (definition etc.)

Learnings from Day 1

Key take-aways

Where ETN global could contribute:

- Shedding a light in the background of expected energy demand estimations.
- Identify a “standard” of flexible GTs => efficiency, emission as function of the load (Reference cases and boundary conditions)
- Standardize digitalisation in connection with decentralized energy systems => digitalisation for what?
- Fair comparison of costs for providing secure energy supply
- Derive scenarios on the requirements for GTs (existing, new)

Activities for 2025

What, How, Why

Activities for 2025

What, How, Why

Problem statement	Proposed activities
Providing positive examples for integrated decentralized energy systems which include local storage	▪ To be defined (proposals: webinar series, report)
Training on the PSI tool (developed in ROBINSON)	▪ Dedicated webinar / training module for interested ETN Members ▪ Other activities could be started, with the aim of making the tool more user friendly
Collecting real cases / data for example studies on scenario's uncertainties etc. as an additional decision base for companies	▪ This activity could be connected with the first row of this slide
Additional topics to be based on the high-level user meetings	▪ To be defined

Thematic Presentation

Q&A

Thank you for your attention