Paris Session 2022

Key Take Aways SC C6

Active distribution systems and distributed energy resources

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Outline

- ❑ Relevant topics for the Netherlands
- ❑ Dutch papers and contributions
- ❑ Draft preferential subjects 2024

Relevant topics for the Netherlands

- General feeling: technically, we can solve everything, but are we allowed to.

- Georges Clemenceau (1841-1929):
  "War is too important to be left to the generals"
- Cristophe Brognaux (BCG):
  "The energy transition is too important be left to the politicians"

How do we, technical people, make sure we stay on top of the direction of the energy transition?

Relevant topics for the Netherlands

- The Japanese system operator (with the help of the relevant ministry) requested customers to reduce their energy demand in case of unseasonably cold weather. (How) do we plan for heat pump peak loads in Elfstedentocht winters?

- Following the C6 tutorial on EVs as distributed energy resources: in what standardized (!) way do we move from V1G (grid to vehicle 'simple' charging) to V4G (vehicle for grid, grid support services)?

- C6 (and B5) are interested in starting a (joint) working group on interfacing between customers and system operators (in line with the real-time interface RfG/DCC from Netbeheer Nederland, extended to LV customers as well).

Dutch papers and contributions

None of the 52 papers was Dutch – room for improvement for us to share our experiences

Dutch C6 Chair Evert de Haan added Dutch experiences to the Group Discussion Meeting by means of four contributions

- ❑ Autonomous voltage-based power control
- ❑ Voltage measurements in LV grids
- ❑ (Hybrid) heat pump and battery load predictability
- ❑ Dutch flexibility products

Lessons learnt from responses to Dutch contributions

- Australia is one of the countries to keep an eye on, with the highest per capita penetration of PV and a lot of battery energy storage systems (BESSs)
- EU regulations on ownership and operation of BESSs are quite strict
- Dutch privacy laws on the use of smart meter data are quite strict
- Few countries are experimenting (and struggling) with non-firm contracts
- A lot of DSOs are working on voltage control, some with general volt/var- and volt/watt-controls as part of connection requirements, also for households (e.g. Australia), others with customer or network specific solutions

Draft preferential subjects 2024

PS 1 – Flexibility Management in Distribution Networks

- Energy storage systems with the associated provision of their grid services to Distribution and upstream networks
- Evolving planning and operational objectives and criteria with increased electrification, with changes in technology enabling end-to-end system operations
- Electric Vehicle integration and impacts

PS 2 – Power electronic based solutions for Smart Distribution Systems

- Evaluating and quantifying the added value of smart invertor and convertor functions and their integration into Distribution Networks
- Case Studies of DC and DC / AC hybrid grid solutions for the future
- Provision of ancillary services for Distribution and upstream networks

PS 3 – Rural, islanded and industrial electrification standards, practices and technology options

- Applications highlighting the interface between technical and non-technical aspects for rural electrification
- Off-grid and island DER applications including appropriate resilience measures
- Microgrid and multi-microgrid installations


Thank you for your attention!
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