

Open Days

WP10: Eastern cluster demonstration

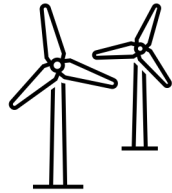
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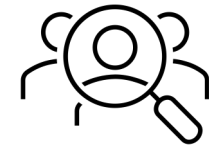
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Czech Demo: Recent regulatory/technological challenges for flexibility provision

Energy transition and growing number of non-dispatchable resources poses a **significant challenge for system/grid operators.**

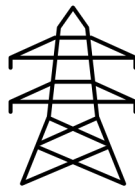


This solution is based on **customer-centric approach**, where **system/grid operators are able to procure the flexibility services from customers** and their assets connected to the grid.



DEMO projects have similar experience - the **framework for flexibility provision at the lower voltage levels is less developed** and **flexibility for DSOs is purchased rather indirectly** than on market-based approach

- legal uncertainty
- lack of know-how including IT architecture

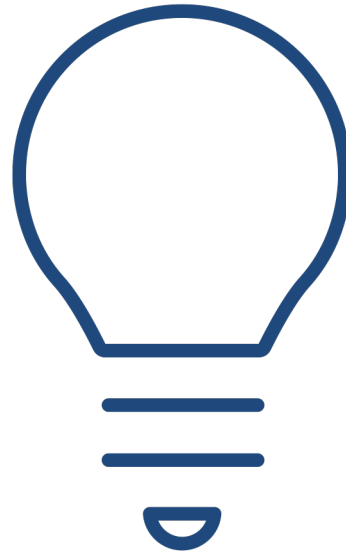


All DEMO projects are under development, yet there is **foreseen creation of environment enabling broader and more active cooperation of active consumers.**



Expected customer centric benefits

Enabling **active participation of customers** in the flexibility market through new **multilateral IT interface** for flexibility providers



Establishing **new business opportunities** for energy market participants
(suppliers/aggregators)

Increase in **number of flexibility providers**/availability of flexibility for energy market

Broadening of level playing field for prosumers/energy communities



Polish Demo

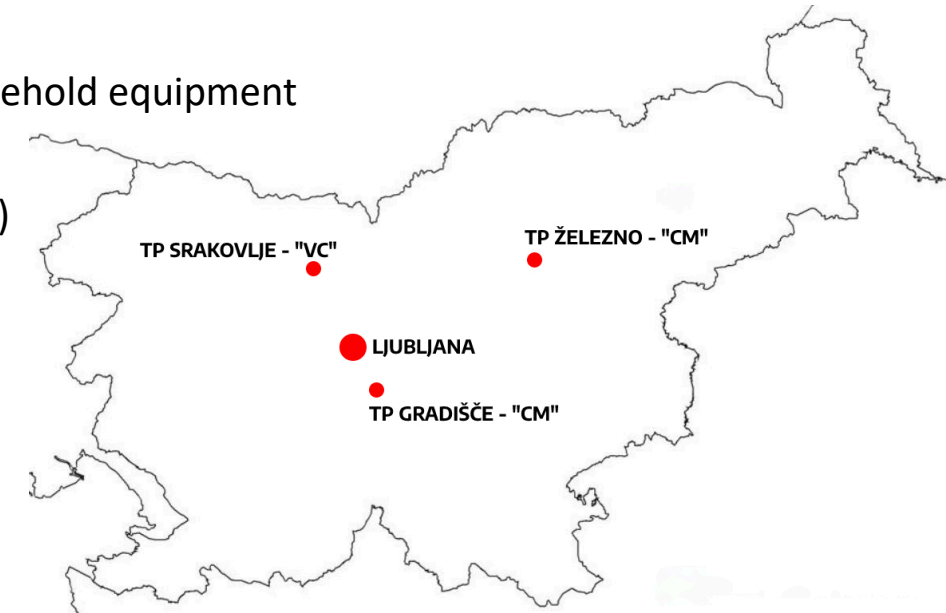


- Polish DEMO focuses on real field demonstration of using the flexibility services to increase network and energy system flexibility. The test will be performed in several areas of the HV, MV, and LV networks.
- For the test, we engaged different groups of customers (individual, industry, institutional, local authority) connected to the MV and LV networks such as:
 - ✓ prosumers from PV
 - ✓ household with heat pumps,
 - ✓ renewable generation,
 - ✓ gas power plants,
 - ✓ SMEs,
 - ✓ Local community
- ENERGA-OPERATOR together with ENSPRION - aggregator company - carried out information and promotion campaigns for the OneNet project aimed at attracting participants for the tests. A Total of 4 events were carried out to this day and at least one more will be done in the near future.



SLO demo – Customer engagement (T10.1)

- Customer acquisition process for 3 demo locations (2x Congestion management, 1x Voltage control)
 - Congestion management (CM) – using flexibility of household heat-pumps
 - Voltage control (VC) – using flexibility of household solar power plants
- List of potential customers (owners of HP/PVs):
 - GEN-I customer base
 - Publicly available lists of the Slovenian Eco Fund heat pump subsidy recipients
 - „On-site“ research of installed heat pumps
- Initial customer calls with a short presentation of the demo project
- Visiting the customers for a detailed presentation and documentation of the household equipment
- Customers signed the Cooperation agreement
- On-site installation of the devices (controllers, IoT gateways, battery storage units)



Hungarian demo: Regulatory and Technical barriers in terms of DSO Flexibility

1. DSO Code stated that Flexibility use by DSO should follow a given order: 1st Flexible connection→ 2nd Market based procurement→ 3rd Non-market based Redispatchable power plants. However, the Hungarian Energy Act calls attention to the principle of least cost. In this context, the principle of least cost is not sufficiently clear, e.g. if DSOs would prefer using more expensive market based flexibility than Non-market based Redispatch, they would violate legislation: For non-market flexibility pseudo bid generation with pseudo price (order in MOL), for viability fo Market based flexibility -> price cap (but there is still needed regulatory recognition)
2. Technical details missing from regulation: e.g. Control mechanism of Flexibility providers and Redispatchable Renewables: The DSO Code has not dealt with it. It is not yet defined who should make it technically possible -> until the technology background of the controllability is not prescribed by the legislation there is a operational uncertainty, there is still needed regulatory intervention.
3. The cost of flexibility will be recognised by NRA but its methodology is unknown yet.
4. TSO-DSO market-sequence: it is hard to insert DSO market into the existing structure (TSO Balancing capacity tender, DAM, FSP Schedule submission, ID): Discussion with TSO about the appropriate sequence, there is a draft solution which has to be recognised by Regulator
5. Load Flow/State Estimation calculation on different voltage level: R&D approach for evaluating of SLP, Network reduaction: there is a solution.
6. Sensitivity factor calculation: due to the inherent feature of the network location of flexibility provider is crucial: it has been solved, on all voltage level (due to intesive R&D activity





Thank You

East cluster team

