Smart Metering in Linz and Austria

GEODE Spring Seminar May 7th, 2015
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DSO in Linz and 82 communities:

Power Network
- 7,800 km power grid
- 26 transformer stations
- > 3,000 sub-stations

Energy sales
- 275,000 customers
- 131,000 smart meters
- 400 MW Peak load
- 2,100 GWh energy transportation
Smart Meter introduction act (2011, amended 2014):
- 95% of customers to be equipped with a Smart Meter until 2019
- Milestones: 2015: 10% - cancelled, 2017: 70%

Smart Meter specification act (2011):
- Bidirectional communication
- Capture and storage of consumption (15 min values for 60 days) in meter
- Remote controlled breaker
- Up to 4 auxiliary devices (e.g. Gas Meter) to be connected
- Customer interface (unidirectional)
- Remote firmware update
Smart Metering in Austrian Electricity act (2013):

- Monthly electronic information about consumption and costs, free hardcopy on demand (by supplier and DSO)
- Daily updated web portal with historical consumption (¼-h or daily values)
- Customer’s right to refuse the installation of a Smart Meter (opt out)
- Reading out of ¼-h values only on customer approval
  - when existing contract requires time of use capture of consumption customer has to be informed before installation of a Smart Meter
  - Time of use contracts suspend, when customer only wants daily capture of data
Smart Metering in Linz (1)

- Pilot phase
  - Test phase (10,000 meters)
- Rollout (121,000 meters)
- Rollout (144,000 meters)

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**Substations**
- Total: 3,000
- Actual state: 960 (31.4%)

**Meters**
- Total: 275,000
- Actual state: 131,000 (47.6%)

**Load Management modules (LMM)**
- Total: 20,000
- Actual state: 10,000 (50.0%)
Handling of data

**DSO, Supplier**
Capture of billing and technical data (e.g. Voltage)

**Supplier:**
Billing data from DSO

**Customer:**

**Privacy:**
Customer is owner of individual data

**Additional data only on demand (interface):**
- Visualization of consumption
- Energy-Consulting
- Home Automation
Lessons learned (1)

~1% of customers use the Web-Portal
Opt out:

- In case of opt out Linz Strom Netz installs an electronic meter that doesn’t capture ¼-h values of consumption – finally accepted by all customers
- Remote reading and remote controlled breaker still possible
- 57 customers requested opt out, when Smart Meter was installed
- ~100 customers requested opt out in advance, consideration only at installation

⇒ If customer is well informed in advance, Smart Metering will be accepted in general.
But rules for opt out have to be defined clearly.
Time of use Tariffs:

- 42,000 (~15%) customers have existing contracts with time variable tariffs (time variable energy price between 22:00 and 6:00, continuous grid tariff)
- In the early phase of Smart Meter rollout, this tariffs have been figured out by registers in meter ➔ have to be shifted to ¼-h measuring period
- Request of 2,400 customers for “new” time of use tariffs (¼-h measuring period)

➔ Rules for data exchange have to be defined clearly
Time of use tariffs seem to be feasible only for suppliers
Thank you for attention!

Questions?