

# Tariff Structure Developement

Justification and possible solution

# Background

- Present distribution tariff structure is inherited from the time before de-regulation
- before de-regulation tariff structure was a combination of retail and distribution and included fixed and energy-based fee
- In theory energy-based fee matched retail and fixed fee matched distribution

# Challenges with energy-based tariff structure

- Does not reflect the cost structure of the grid
- Encourages ineffective use of grid (high capacity – low energy flow)
- Leads to unnecessarily heavy and expensive grid structure
- Is not equitable to the customers – all customers do not have same possibilities to lower their energy consumption with help of own production or new technology

# Changes in the operational environment of the electricity distribution

- Operational environment in electricity distribution is changing rapidly, due to
  - Increasing energy efficiency and energy savings
  - Smart grids, distributed generation, demand response, energy storages
- Significant influences on the demand of the electrical energy and power
  - Impacts on electricity distribution networks and business

**=> Needs for renewing DSOs' tariff structures**

- Smart Meters and Smart Grids provide new technical possibilities for load control and the measurements of the electricity consumption

**=> Possibilities to develop new tariff structures**

# Demands for DSO tariff structure

- Cost reflective, understandable, transparent
- Customer have possibilities to impact on his/her electricity bill
- Does not include contradictory incentives
- Enables and provides incentives for distributed generation and energy efficiency
- Supports the energy and climate policy of EU
- Provide energy efficiency incentives
- Is in-line with the demands of directives and laws
- Enables market based demand response
- Supports the functioning of the electricity markets



- Ensures adequate and predictable revenues, also in future operational environment
- Cost reflective
- Provide customers with incentives to optimize their electricity usage based on the demands of the distribution network
- Technically and economically possible to implement (metering and billing)
- Enables market based demand response
- In-line with the sales tariff
- Does not yield to conflict of interests between DSO and retailer

# Power based tariff

- The most promising option for new tariff structure is a power based tariff, i.e. power band
- Customer subscribes the power band, similarly as in the case of the broadband internet connections
- Billing is based on the subscribed capacity or metered peak power (kW)
- Could be also based on the current (A)
- In the case of the capacity subscription, certain procedure for exceeding the capacity limit (e.g. penalty fee) is needed

# Conclusion

- Present distribution tariff structure is inherited from the time before de-regulation
  - Energy based tariff structure does not reflect the cost structure of the grid
  - It is not equitable to the customers
  - Smart Grids development will change the operational environment in electricity distribution
  - Smart Meters and Smart Grids provide new technical possibilities for load control and the measurements of the electricity consumption
  - Distribution price comprises only small part of total electricity price
  - Customers have great possibilities to lower their capacity and optimize their usage time
  - Power based tariff provides incentives to decrease the peak-power demand and achieve permanent energy savings
  - However, there is no unique solution that fits all in Europe when discussing tariff structures
- **DSOs should be allowed to develop their tariff structure without unnecessary restrictions**