European regulations for TSO trans-boundary investments

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European Legislative Background

- **Energy Package: Jan 2007**
  - Electricity & gas networks are at the heart of a well functioning European market
  - Target for European Priority Interconnection Plan
    - Coordinated regional planning
    - Streamlined authorization procedures (max. 5 years)
- **3rd Legislative Package: Sept 2007**
  - Biannual 10-year European grid investment plan
  - Responsibility of ENTSO

Objectives

- Coordinated regional/European electricity network planning
- Common approach for selection of projects of European interest
- A planning procedure which strengthens coordination between regional TSO structures
- Transparency of the process (including socio-economic and environmental impacts)

Existing Regional TSO Coordination

- UCTE
  - Central West; Central East; Central South; South West; South East
- Nordel
  - Denmark; Finland; Norway; Sweden
- BALTSO
  - Estonia; Latvia; Lithuania
- UKTSOA/ATSOI
  - UK; Northern Ireland; Republic of Ireland

Inter-Regional & European Coordination

- Inter-Regional Coordination
  - Coordination at the borders of associations
  - BALTSO/Nordel cooperation agreement is an example
- European Coordination
  - Regional & Inter-Regional coordination performed by ETSO (ENTSO)
  - To ensure consistent planning quality, procedures and identification of added value

Methods & Tools

- Common modelling tool for all of Europe is not necessary
- Common regional model for project assessment is necessary
- Common planning approach in all regions is necessary
- Common simulation models already exist in some regions (e.g. Nordel, UCTE)

Nordel Multi-Area Simulation Model

- Planning period 10 years ahead
- Integrates electricity market simulation with load-flow analyses
- Cost-benefit analysis to assess investment feasibility
  - Technical criteria – based on security standards
  - Impact on market functioning – congestion, market power
  - Socio-economic benefits – e.g. cost reduction, CO_2 reduction, reduced Tx losses, reduced risk of power shortages

Project Assessment in UCTE

- Projects studied on a bilateral or multi-lateral basis
- Typical base case load flow calculations (with typical or contrasting generation schedules)
- Assessment criteria similar to Nordel:
  - Technical assessment – security rules, stability issues
  - Quantification of expected increase in interconnection capacity
  - Comparison of feasibility of options – environmental/social acceptance, timeframe, cost etc.

Ongoing Improvements in UCTE

- Regularly updated data base for planning studies
- Scenarios based on UCTE System Adequacy study
- 5-step assessment of projects:
  - Analysis of prices/volumes in adjacent areas
  - Calculate increase in capacity and forecast prices
  - Determination of consumer benefits
  - Determination of costs
  - Determination of project feasibility

Project Assessment in BALTSO

- Projects assessed on common grid simulation model
- Input data based on forecast grid development 10-30 years ahead
- Assessment criteria similar to UCTE/Nordel:
  - Technical assessment
  - Impact on transfer capacities and system stability
  - Socio-economic & environmental assessment
  - Feasibility assessment

Conclusions & Recommendations

- **Regional, inter-regional and European TSO cooperation**
  - 8 regions - 5 UCTE regions, UKTSO/ATSOI, Nordel, BALTSO
- **Inter-regional analysis and European co-ordination will be organised within new ENTSO – with significant regional aspect**
- **No European modelling tool – common logic and assessments**
  - Different models for different regions e.g. addressing wind power issues
  - Consistent data, validated by common procedures
  - System Adequacy forecast looking at least 10 years ahead
- **Progress towards further co-ordination is hampered:**
  - Delays in consents and planning permission
  - Regulatory “gap” in funding cross-border projects

Conclusions & Recommendations (2)

- **Implementation of cross-border projects is particularly complex**
  - Aim to reduce authorisation and permissions process to 5 years
  - Political support is needed
  - Support of local population is needed
- **EU regulators to be given duty and competence to oversee, promote and approve cost allocation of cross-border projects**
- **Regulatory processes for cost approval should be harmonised**
- **TSOs need to be able to recover additional costs incurred in gaining permissions from local authorities**

Thank you for your attention!