European Sustainable Electricity; Comprehensive Analysis of Future European Demand and Generation of Electricity and its Security of Supply

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WP1: Country-wise Analysis EU 25

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WP1: Description (1)

- horizontal overview
- review based on energy-related and 'relevant' documents
  - international reviews (e.g. IEA)
  - European reports (e.g. European Energy and Transport; Trends to 2030)
  - national documents (e.g. reports of generators, regulators...)
- outline policy orientation
- critical analysis of national policy

WP1: Description (2)

- Sub 1.1: BeNeLux — partner from BE
- Sub 1.2: Germany & Austria — partner from DE
- Sub 1.3: Finland — partner from FI
- Sub 1.4: Greece — partner from EL
- Sub 1.5: Sweden — partner from SE
- Sub 1.6: Italy — partner from IT
- Sub 1.7: UK & Ireland — partner from UK
- Sub 1.8: France — partner from FR
- Sub 1.9: Spain & Portugal — partner from ES
- ...

WP1: Description (3)

- Sub 1.10: Denmark — partner from DK
- Sub 1.11: Baltic States — partner from FI
- Sub 1.12: Cyprus & Malta — partner from EL
- Sub 1.13: Hungary, Poland Slovakia, Slovenia Czech Republic — partner from EL, BE and DE

WP1: Template (1)

- factual information
  - geography
  - demography
  - economic
  - energy
  - electricity
  - environment
- trends
  - past, present, future

WP1: Template (2)

- results of energy studies
- policy
  - energy
  - electricity
  - environment
- peculiarities

WP1: Deliverables

- 25 detailed reports
  - basic structure as in template
  - different accents depending on country's interpretation
  - downloadable reports available on website:

www.eusustel.be

- username: eususte l -

- password: EU123SUS -

WP1: Demography - Economy

- increasing number of households
  - person/household from 3 to 2
- increasing Gross Domestic Product: 1 to 5 [%/an]
  - services: 60 to 80%
  - industry: 15 to 45%
  - agriculture: 0.5 to 5%
- tendency
  - service-based economy
  - decreasing share agriculture and (heavy) industry
- influence on energy management
  - E-intensity
  - E-use

WP1: Energy (1)

- fossil fuels
  - oil (!) $\rightarrow$ transport
  - gas $\rightarrow$ electricity production, households
- restricted resources $\rightarrow$ imports
- increasing electricity use
- district heating
  - increasing interest
  - regulated activity $\leftrightarrow$ liberalisation energy market

WP1: Energy (2)

- trends
  - GDP ↔ E-use
  - industry
    - good efforts on E-intensity, E-use
    - more flexible towards fuel choice
  - services, households, transport
    - increasing E-use

WP1: Electricity (1)

- popular technologies
  - nuclear: waste & safety issue
  - natural gas: imports
  - coal/lignite: environment, domestic resources
  - hydro: potential share mostly used
  - oil: very small use
  - Combined Heat Power
  - Renewable Energy Sources: R&D, grid...

WP1: Electricity (2)

- future
  - importance of gas-technologies
  - potential in renovation and upgrading of PP
  - coal: need of clean technologies $\rightarrow$ R&D-effort
  - nuclear: new capacity
  - RES: despite growth ratio, marginal share
- import $\leftrightarrow$ export
  - importance of good network, transport capacity...
  - countries with (intention for) new nuclear capacity envisage export strategy

WP1: Environment (1)

- SO_x - NO_x - NMVOC: effective measures
- CO_2: more difficult to reduce emissions
  - transport
    - increasing capacity → increasing use of oil
  - households, services...
    - increasing use of E
  - industry
    - changing activities, towards less heavy industry
      - positive effect on emissions, but not as a result of a good environmental policy
    - efforts, covenants...

WP1: Environment (2)

- RES
  - feed-in tariffs, guaranteed prices, taxes
  - obligatory purchase
  - wind, biomass
- national measures not sufficient
  - → flexible mechanisms
    - Clean Development Mechanism (with development countries)
    - Joint Implementation (between industrialised countries)
    - international emission trade
  - ...but anyhow... someone has to make the effort!
- importance of EU-measures → competitiveness
  - EU-ETS, Green Certificates...

WP1: Liberalisation (1)

- ongoing process → gradually opening of the energy markets
- market opening
  - industry, large users: profit
  - small, residential users don't make a lot use of it
- market
  - LT-contracts
  - power exchange
    - short term market
    - balancing activities
    - small market capacity share
- importance of liquidity

WP1: Liberalisation (2)

- role of regulator ↔ decision power
- role of state → strategic share in E-sector
- dominant players
  - on national market
  - barrier, even without abuse of market power
  - trend
    - consolidation, merging, vertical re-integration on national level
    - competition on international level
    - incumbent EU-15-players enter at market EU-newcomers

WP1: Policy (1)

- security of supply
  - quality: reliable & safe
  - import dependency
  - strategic position of Central Eastern European countries
- economic competitiveness
  - cost efficiency
  - national productivity
- security of investment
  - clear regulatory framework
  - communication

WP1: Policy (2)

- environmental protection
- social involvement/policy
  - price policy
    - price ~ costs
    - influence of taxes on prices
    - historical price policy in transition economies: cross-subsidies, social aspect → artificial low prices
    - price differences industrial and residential users
    - importance for RES-technologies
  - public awareness of E-use (transition economies)

WP1: Policy (3)

- energy efficiency
  - unbundling of GDP-growth and E-use
- controversial electricity production options
  - nuclear: phase-out ↔ new capacity
  - coal: environment ↔ R&D (clean, efficiency)
- importance of indicators for evaluation of policy
- policy
  - not only industry
  - large potential at households, services, tertiary, transport...