

EUSUSTEL: Brussels June 20th, 2006 – 10.00h - 16.15h

Half year and Consultative Committee Meeting

Minutes of meeting

Composed by: Leander Cosijns

References: (to be found at www.eusustel.be)¹

1. COSIJNS, Leander & D'HAESELEER, William; “Half year and Consultative Committee Meeting - Agenda”, [Agenda].pdf (32kB)
2. COSIJNS, Leander & D'HAESELEER, William; “Introduction”, [Introduction 20_06_06_v1].pdf (84kB)
3. PAATERO, Jukka; “Validation of WP3 data”, [Paatero_WP3_data_validation].pdf (330kB)
4. ELLERSDORFER, Ingo; “WP5.1 & WP5.3 overview”, [EUSUSTEL_HYM_Brussels_WP51-WP53_Stuttgart].pdf (478kB)
5. VAN REGEMORTER, Denise; “PRIMES – TIMESEE: comparison overview”, [EUSUSTELBRUSSELSCES].pdf (692kB)
6. CAPROS, Pantelis; “New PRIMES Baseline Scenario for DG TREN (2005)”, [EUSUSTEL 2006 New PRIMES Baseline Scenario].pdf (1776kB)
7. GROHNHEIT, Poul Erik; “Results scenario comparison WP5.2”, [EUSUSTEL_WP52_Brussels].pdf (123kB)
8. COSIJNS, Leander & D'HAESELEER, William; “Conclusions”, [Conclusion 20_06_06_v1].pdf (116kB)

Participants:

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- ECRIN: Jean-Michel Trochet (jean-michel.trochet@edf.fr, EDF; represents Christian Ngô)
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Introduction [1, 2]:

- Welcome by William D’haeseleer.
 - o Planning and short overview of the state of affairs of the project.

Validation of WP3 [3]:

- Presentation by Jukka Paatero
- Overview data:
 - o D’haeseleer:
 - check data and outliers with the “data providers”
 - no discussion here: extensive review should be done by CC and partners
 - WP-leader will make data overview available for all parties => all partners can react on it
 - Hopefully in the end a consistent data set
 - o Bauer:
 - VGB is willing to help with the crosschecking of the data
 - VGB has figures from placed orders
 - o Paun: Info from EUSUSTEL can be used in other EURELECTRIC projects (e.g. “The Role of Electricity”)
 - o Capros: In cost figures of PRIMES: **everything** is included (e.g. interest during construction, preparation of the field, environmental protection, etc.)
 - o Voss: in TIMES-EE: overnight construction cost is given
 - o Trochet: one has to make a distinction between two types of techs:
 - Techs which are currently being built: prices are available
 - New and first of a kind techs: e.g. coal + CCS: no prices are available, only projections
 - o Morthorst/Pepermans: importance of relative trends of development between different techs; maybe databases differ not that much
- Comparison technologies WP3-TIMES-PRIMES:
 - o CCGT: similar trends between TIMES, WP3 and PRIMES
 - o Coal and nuclear: still discrepancy between TIMES, WP3 and PRIMES
 - Voss: needs to be checked and clarified!
- D’haeseleer:
 - o Regardless of the current discrepancies/inconsistencies in WP3, we should aim at obtaining a fully consistent set of data in the end.

- Voss:
 - provide total + overnight construction costs: this will make things much easier
 - D'haeseleer: Are overnight construction costs available from PRIMES??
 - in favour of small group discussion of some key technologies
- Geeraert: does some industrial partners, companies rely on models like TIMES or PRIMES?
 - Bauer: NO
- Morthorst: look at combination of development of efficiency and investment cost: they go hand in hand
- **Conclusions + to do:**
 - **To do by WP-leader**
 - Check data and combine them
 - Send it to the partners + Consultative Committee
 - Explain why there are differences between the TIMES-PRIMES-WP3 figures (not only numbers)
 - Call for providing the data
 - **To do by Capros**
 - provide total + overnight construction costs from PRIMES
 - **To do by other members**
 - provide total + overnight construction costs

Total Levelised Cost Computation [4]:

- Presentation by Ingo Ellersdorfer
- Private cost:
 - Capros: from presented figures: private cost for CCGT > IGCC and advanced coal/lignite
 - Why does everybody invest in CCGT's?
 - Bauer: to split risks
 - Farinelli: no local acceptance of coal
 - Pepermans: opportunity cost CO₂ not included here!
 - D'haeseleer: do calculations with 5% and 10% discount rate
- System integration cost:
 - Pepermans:
 - Idea: report on issues related to integration cost: survey paper (only data/figures if available)
 - Morthorst:
 - System integration cost not only related to RES
 - bring intermittency regulation into account
 - Voss:
 - Will there be figures available in the end? Or range of figures
 - D'haeseleer: perhaps, not sure: don't wait for it for doing the cost calculations and the scenario runs
 - What to do with excess of electricity (what with international exchange?; additional storage..?)
 - Trochet:
 - Don't forget the transmission costs

- Janssens: integration cost is a non-linear function of the power
- External cost:
 - Based on EXTERNE-E approach
 - Emission data: based on info from WP3
 - Voss:
 - Site specific cost -> integration over EU => average cost for EU-25
 - Direct emissions: extrapolation possible based on efficiency development
 - Indirect emissions: extrapolation possible based on investment cost development
 - IER will do the calculations for those years for which information is available
 - D'haeseleer:
 - What is precisely the role of CIEMAT in this?
 - Cabal: summarising info + filling in the gaps
 - CIEMAT will launch data gathering on emission data.
 - Lechón: what to do with nuclear fuel cycle?
 - Voss: perhaps info from EXTERNE-E figures.
- **To do:**
 - Private cost: do calculations with 5% and 10% discount rate
 - CIEMAT will launch data gathering on emission data.

Comparison of models [5, 6, 7]:

- **Comparison TIMES-EE – PRIMES [5]**
 - Presentation by Denise Van Regemorter
 - D'haeseleer: calculation of **welfare impact** (i.e. difference in overall social surplus) is imperative for the project: is this possible in both models?
 - TIMES: Yes
 - PRIMES:
 - Capros: not to calculate like that, but based on certain assumptions, it can be calculated in terms of GDP (on a macro-economic level). **Agreement: Capros will make estimation on impact of different measures in terms of GDP + specify the constraints, for all scenarios.**
 - Trochet: we need some details in “social surplus” as it is the sum of different factors/numbers: it has to be made understandable.
 - Van Regemorter: social surplus is a final number, it combines everything, but of course, all detailed results will be available in the report.
- **Result scenario comparison WP5.2 [6]**
 - Presentation by Poul Erik Gronheit
 - Acropolis and WETO: focus on learning curves
 - D'haeseleer: model used in WEO, as detailed as PRIMES & TIMES?
 - Capros:
 - no: it is no optimisation model; it makes use of different models (all rather simple) per sector
 - but the strength is its very extensive calibration, based on precise country data + intensive discussion of the results

- **PRIMES: presentation preliminary results “baseline” scenario 2005/2006 [7]**
 - Presentation by Pantelis Capros
 - **Presentation can be found on secured pages of the site. Please do not spread this confidential info, as long as the results of the new DG TREN 2005 scenarios are not published!** (on slides: dotted line = old scenario 2003; full line = new scenario 2005)
 - Baseline scenario:
 - Based on current policy (actions)
 - No forecast about future actions
 - No specific climate policy: only very light policy (by introducing constant CO₂-tax of 5 €/tCO₂ until 2030.
 - Baseline nuclear:
 - Sweden, Germany, Belgium: no new nuclear:
 - Other countries (except Portugal, Greece, Luxembourg, Denmark, Austria, Ireland, (Estonia and Latvia join forces with Lithuania...) and Italy) free to decide on nuclear on an economical base.
 - Balancing cost based on reliability constraints and indices
 - 1 node per country (no different regions)
 - resistance and reactance are included
 - transport based on DC load flow
 - capacities of interconnectors are exogenous
 - RES: level of subsidies increases in the beginning, but decreases over time (when RES has taken off)
 - Less gas use than expected (due to ever increasing prices).
 - Import/export
 - Poland & Czech Republic become new large exporters of electricity
 - France: less crucial role in import/export scene
 - Germany: imports a lot
 - Due to rearrangements of import and exports, less pressure on the transmission lines.
 - Cross-border tariffs are included: changing tariffs!
 - D’haeseleer
 - What with souring fuel prices?
 - Capros: impact on demand and GDP
 - Is model run till 2030 or further on?
 - Capros: PRIMES makes use of anticipation curves

Definition of the scenarios [4]:

- Presentation by Ingo Ellersdorfer

- **SCENARIO 1: BASELINE (BL)**

- Completely based on PRIMES baseline scenario DG TREN 2005
- Constant carbon tax of 5 €/tCO₂, even if this is not enough to reach Kyoto target
- **To do:**
 - Assumptions on nuclear situation in the different countries will be provided by NTUA to IER
 - Assumptions on RES situation in the different countries will be provided by NTUA to IER
 - Fuel prices to be used for the scenarios: to avoid confusion: the final fuel prices used will be clarified by the project coordinator. If no reaction follows from NTUA, prices are correct ones.

- **SCENARIO 2: POST-KYOTO (PK)**

- Introduction reduction target: **energy-related CO₂**
 - -8% by 2010
 - -16% by 2030
 - compared to the 1990-level
- PRIMES will obtain equivalent carbon value -> to be provided to TIMES
- PRIMES provide electricity demand to TIMES
 - As PRIMES takes elasticity into account; elasticity has to be deactivated in TIMES (**to be clarified? NTUA – IER**)
 - No feed in of RES-shares from PRIMES in TIMES
 - Voss: overall ‘global’ shares for RES from baseline as a minimum share
- No extra support measures for RES

- **SCENARIO 3: POST-KYOTO & ALL TECHNOLOGIES (PKAT)**

- Nuclear free:
 - “Non-nuclear free countries”:
 - **Portugal, Greece, Luxembourg, Denmark, Austria, Ireland, (Estonia and Latvia join forces with Lithuania...)**
 - **Never nuclear in those countries, for on ‘economical’ reasons**
 - No premature decommissioning
 - Make use of technical lifetime from existing databases
 - NO extension possible of lifetime
 - Perhaps subcase with TIMES with extended lifetimes
 - No phase-out in Germany, Sweden, Belgium
 - In all other EU-25 countries: nuclear free, but with different costs.
 - In “nuclear free” countries: new capacity allowed (including Germany, Belgium, Sweden and Italy)
- Emission target: as in scenario 2; **new carbon value to be computed by PRIMES and to be provided to TIMES.**
- RES-policy: as in baseline
 - Perhaps one subcase in TIMES without RES-policy

- **SCENARIO 4: LIMITED IMPORT DEPENDENCY (LID)**

- Limitations on import dependency
 - By an increased import tax on **gas, oil and coal** on a **EU-25 scale**.
 - **10% less import in 2030 compared to PK-scenario**
 - **NTUA will calculate energy tax** to reach this target, while keeping the **carbon tax the same** as in the **PK-scenario**.
- Nuclear as in PK-scenario (i.e. not free)
- No extra support measures for RES and energy-efficiency
 - It is expected that when the import of fossil fuels has to be decreased, and when nuclear is not free, this will automatically result in more RES and more efficiency.
- Perhaps, IER will do a sensitivity analysis on import decrease: -10% -> -20%, but with free nuclear

Conclusions [8]:

- Presentation by William D'haeseleer
- KULEuven will prepare the minutes + propose further planning
 - Last possibility to react on the scenario description
- CA: still ongoing... (some partners still to sign)
- 2nd prefinancing: will be distributed among the partners
- **Missing reports:**
 - WP3: report on electricity storage
 - WP5.2:
 - overall summary report
 - subreport on DG TREN and Sapiient (IER will tackle this issue with NTUA)
- Scenarios ready by mid-September
- Further planning on screening of the 3 key technologies (WP3 – TIMES – PRIMES). To be followed up.