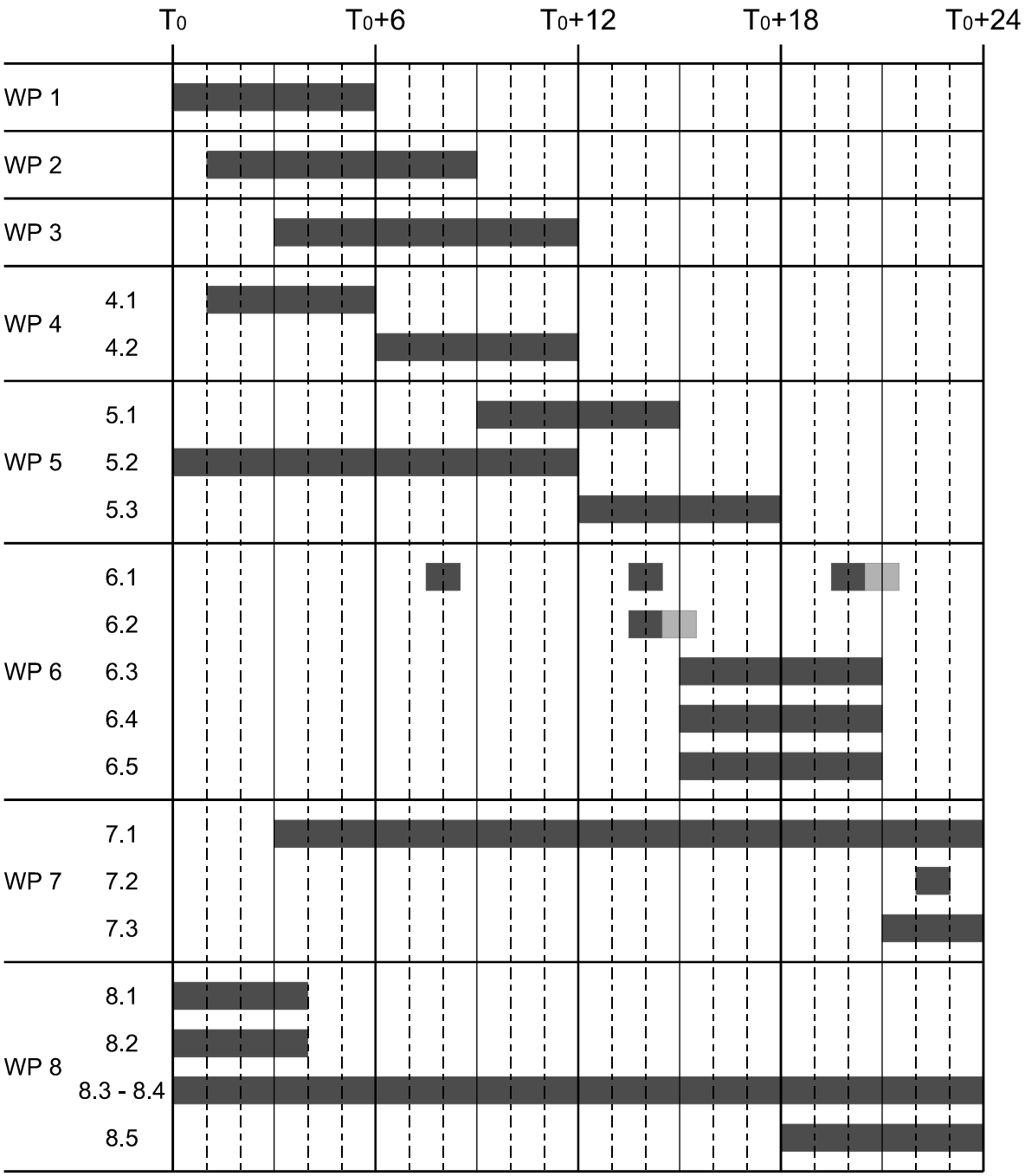
# EUSUSTEL

## *Kick off meeting Brussels January 21, 2005*

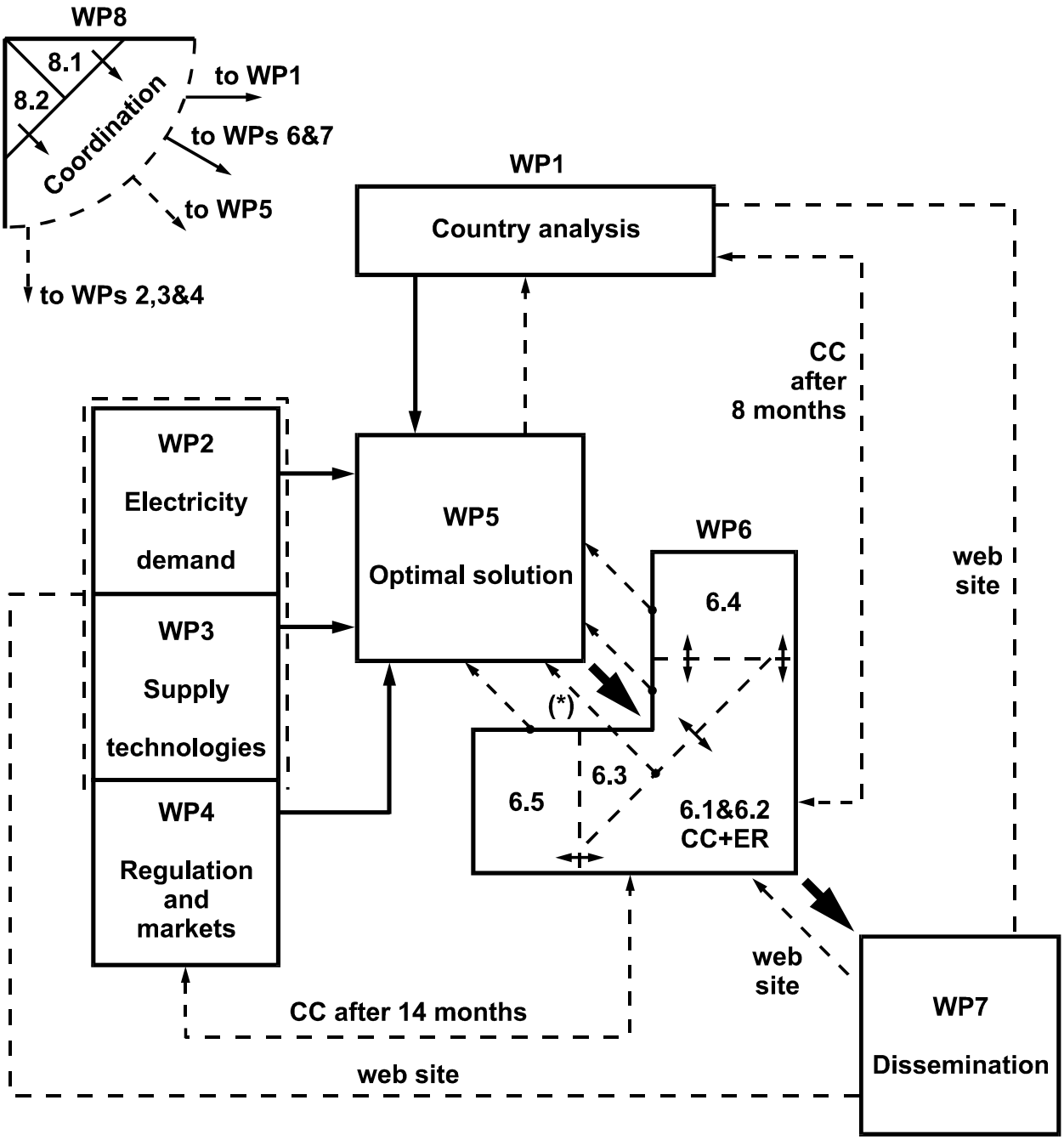
## ***AGENDA***

| | | |
|---|---|---|
| 8:30 – 9:00 | Welcome and presentation of the Consortium<br>Introduction of participants (all) | (W. D'haeseleer, PL) |
| 9:00 – 9:30 | Contractual obligations, procedures and practical matters | (D. Rossetti, EC Project Officer) |
| 9:30 – 11:00 | Overall overview of the project "description of work"<br>- line of thought by Project Leader<br>- delineation of the WPs | (W. D'haeseleer, PL) |
| 11:00 – 11:30 | Coffee break | |
| 11:30 – 12:30 | Distribution of work<br>Responsibilities for deliverables<br>Consortium Agreement | (W. D'haeseleer, PL) |
| 12:30 – 14.30 | Lunch | |
| 14:30 – 15:00 | Role of the Consultative Committee / Eurelectric | (W. D'haeseleer, PL) |
| 15:00 – 17:00 | Structured discussion on the WPs implementation<br>- view of WP Leaders for WPs 2, 3 and 5<br>- additional points on WPs 1, 4, 6 and 7 | <br>(WP Leaders)<br>(WDH as WP Leader) |
| 17:00 – 17:15 | Fixing of date next meeting | |
| 17:15 | End of meeting | |

# Planning and timetable for the work packages



# Graphical presentation and interaction of the work packages



# Distribution of work

**Analytical breakdown of person effort per WP**

—Based on a workload of an "average" researcher—
"Fictitious Work load" (differs from allocated pm)

**Work package 1: Country-wise analysis**

*The proposed distribution follows the rules:*

*project leader = BEL = 2 pm*
*1 country = 0.75 pm*
*2 reasonable size countries = 1.25 pm*
*2 small countries = 1.00 pm*
*3 small countries = 1.50 pm*
*5 reasonable size countries = 3.00 pm (1.5 + 1.5)*

| | | |
|---|---|---|
| Sub 1.1: BeNeLux | partner from BEL | *BEL = 1.25 pm* |
| Sub 1.2: Germany & Austria | partner from DEU | *DEU = 1.25 pm* |
| Sub 1.3: Finland | partner from FIN | *FIN = 0.75 pm* |
| Sub 1.4: Greece | partner from GRC | *GRC = 0.75 pm* |
| Sub 1.5: Sweden | partner from SWE | *SWE = 0.75 pm* |
| Sub 1.6: Italy | partner from ITA | *ITA = 0.75 pm* |
| Sub 1.7: UK & Ireland | partner from GBR | *GBR = 1.25 pm* |
| Sub 1.8: France | partner from FRA | *FRA = 0.75 pm* |
| Sub 1.9: Spain & Portugal | partner from ESP | *ESP = 1.25 pm* |
| Sub 1.10: Denmark | partner from DNK | *DNK = 0.75 pm* |
| Sub 1.11: Baltic States | partner from FIN | *FIN = 1.50 pm* |
| Sub 1.12: Cyprus & Malta | partner from GRC | *GRC = 1.00 pm* |
| Sub 1.13: Hungary, Poland, Slovakia, Slovenia and Czech Republic | partner from GRC, BEL & DEU | *GRC = 1.50 pm*, *BEL = 0.90pm, DEU = 0.60 pm* |

**Work package 2: Anticipation of future electricity demand**

*Project leader = ITA = 1 pm*

2.1 Economic evolution of the European Union (as part of a world-wide economy), primary energy provision and 'projected' fuel prices
*ITA = 1 pm; GRC = 1 pm*

2.2 Evolution of demand for energy services and the influence on electricity demand
*ITA = 2 pm; BEL = 1 pm; GBR = 1 pm*

2.3 Rational use of electricity, energy efficiency of end-use technologies and demand side management
*ITA = 1 pm; BEL = 1 pm; GBR = 1 pm*

**Work package 3: Electricity generation technologies and system integration**

*Project leader = FIN = 2 pm*

3.1 Fossil-based electricity generation technologies:
1. Coal fired technologies *DEU = 0.5 pm; DNK = 0.5 pm*
2. Oil & gas fired technologies *BEL = 0.5 pm*
3. Combined heat and power *BEL = 0.5 pm; DNK = 0.5 pm*
4. CO2 capture and storage *DEU = 0.5 pm*
*Environmental aspects of the above ESP = 0.75 pm*

3.2 Nuclear electricity generation
1. Nuclear fission *FRA = 2.00 pm*
2. Nuclear fusion (limited scope) *BEL = 0.25 pm*

3.3 Renewable flows & 'alternative' technologies & carriers
*General considerations (potential, fluctuating nature, regional issues,…)*
*SWE = 0.50 pm; DNK = 0.50 pm; FRA = 0.50 pm*
1. Wind power *DNK = 1 pm*
2. Photo-Voltaic conversion *FIN = 1 pm*
3. Biomass applications (including waste)
*FIN = 0.50 pm; GBR = 0.50 pm;*
*Environmental aspects ESP = 0.25 pm*
4. Hydro power *SWE = 0.50 pm*
5. Geothermal conversion SWE = 0.50 pm
6. Fuel cells *GBR = 0.75 pm; BEL = 0.50 pm*
7. Hydrogen economy *GBR = 0.75 pm; BEL = 0.50 pm*
8. Electricity storage *SWE = 1 pm*
9. Less-conventional and speculative forms of renewables (ocean currents, space solar, other) *SWE = 1 pm; FIN = 1 pm*

3.4 System integration
1. Integration of centralised and decentralised generation; influence on the grid
*BEL = 2 pm; GBR = 1 pm; SWE = 0.5 pm*
2. Greenhouse-gas emissions due to interaction centralised and decentralised generation (because of operation-time effects and investment consequences)
*BEL = 1.25 pm*

**Work package 4: Regulatory and Market Framework of Energy Markets**

*Project leader = BEL = 1 pm*

4.1 Analysis of the current legislation & regulation of the liberalised market, the directives on obligatory renewables and CHP, and on emission trading
*BEL = 1.25 pm; DNK = 0.5 pm*

4.2 Specification of 'boundary conditions' and 'guidelines' for proper functioning of future energy markets *BEL = 0.75 pm; DNK = 0.50 pm*

**Work package 5: Most optimal solution for electricity provision**

*Project leader = DEU = 2 pm*

5.1 Determination of the overall static social cost for electricity

i) Summarise private cost for generation technologies and project to the future, taking into account technology diffusion *FIN = 1 pm*
ii) Considerations on 'shadow costs' such as back-up costs, risk premium etc
*SWE = 0.5 pm; BEL = 0.5 pm; DEU = 0.25 pm*
iii) Identification of the differences in CO2 emissions due to electricity generation, depending on the different generation systems in the EU-25 countries
*BEL = 1 pm; GBR = 0.5 pm*
iv) Determination of global external costs
*DEU = 2 pm; ESP = 2 pm; FRA (nuc) = 0.25 pm*

5.2 Comparison and evaluation of simulation models & codes and existing scenarios for electricity generation
*DEU = 1 pm; GRC = 1 pm; BEL = 1 pm;*
*DNK = 0.50 pm*

5.3 Performing and interpretation of four (contrasting) scenarios with the (two) most appropriate models (with 'improved' input data)

i) Scenario 1: according to present policy in different EU-25 countries (maybe revisiting of existing scenarios);
ii) Scenario 2: e.g., total nuclear phase out in EU-25 with stringent post-Kyoto limits;
iii) Scenario 3: e.g., overall nuclear renaissance in EU-25 with stringent post Kyoto limits;
iv) Scenario 4: based on the interpretation and conclusion of Scenarios 1, 2 & 3.
*DEU = 2 pm; GRC = 2 pm; BEL = 2 pm*
*DNK = 0.50 pm; GBR = 0.50 pm (interpret and feedback)*
*All others = 0.25 pm (interpret)*

**Work package 6: Compatibility check & validation**

*Project leader = BEL = 2 pm*

6.1 Timely consultations with Consultative Committee
*BEL = 1 pm; ITA, FIN & DEU = 0.50 pm; others = 0.25 pm*

6.2 Mid-term assessment peer review of the results

6.3 Compatibility with liberalisation of the electricity and gas markets
*BEL = 1 pm; DNK = 1 pm*

6.4 Cross check concerning security of supply
*FRA = 0.50 pm*

6.5 Compatibility and validation with other international studies
*FRA = 1 pm; BEL = 1 pm; GRC = 1 pm*

**Work package 7: Dissemination of results**

*Project leader = BEL = 1 pm*

7.1 Exchange of information through a website
*BEL = 1.5 pm*

7.2 Organisation of International Seminar
*BEL = 1.25 pm; ITA, FIN & DEU = 0.5 pm; others 0.25 pm*

7.3 Coordination and editing of final public document
*BEL = 1 pm*

**Work package 8: Project guidance, coordination and management**

8.1 Definition of scope, boundary conditions & hypotheses
*BEL = 1 pm*

8.2 Development of conceptual framework for sustainable electricity supply
*DEU = 1 pm*

8.3 Practical organisation of CC meetings and international seminar

8.4 Overall project coordination & management
*BEL = 3 pm*

8.5 Editing of final technical report *BEL = 2 pm*

# Deliverables list

| Del. no. | Deliverable name | WP no. | Lead participant | Nature [1] | Delivery date (proj. month) [2] |
|---|---|---|---|---|---|
| D 1.1.1 | Report on Belgium | 1 | 1 | S | 6 |
| D 1.1.2 | Report on Luxembourg | 1 | 1 | S | 6 |
| D 1.1.3 | Report on Netherlands | 1 | 1 | S | 6 |
| D 1.2.1 | Report on Germany | 1 | 2 | S | 6 |
| D 1.2.2 | Report on Austria | 1 | 2 | S | 6 |
| D 1.3 | Report on Finland | 1 | 3 | S | 6 |
| D 1.4 | Report on Greece | 1 | 4 | S | 6 |
| D 1.5 | Report on Sweden | 1 | 5 | S | 6 |
| D 1.6 | Report on Italy | 1 | 6 | S | 6 |
| D 1.7.1 | Report on UK | 1 | 7 | S | 6 |
| D 1.7.2 | Report on Ireland | 1 | 7 | S | 6 |
| D 1.8 | Report on France | 1 | 8 | S | 6 |
| D 1.9.1 | Report on Spain | 1 | 9 | S | 6 |
| D 1.9.2 | Report on Portugal | 1 | 9 | S | 6 |
| D 1.10 | Report on Denmark | 1 | 10 | S | 6 |
| D 1.11.1 | Report on Lithuania | 1 | 3 | S | 6 |
| D 1.11.2 | Report on Latvia | 1 | 3 | S | 6 |
| D 1.11.3 | Report on Estonia | 1 | 3 | S | 6 |

[1] Please indicate the nature of the deliverable using one of the following codes:

**R** = Report

**S** = Sub report

[2] Month in which the deliverables will be available. Month 1 marking the start of the project, and all delivery dates being relative to this start date.

| Del. no. | Deliverable name | WP no. | Lead participant | Nature [1] | Delivery date (proj. month) [2] |
|---|---|---|---|---|---|
| D 1.12.1 | Report on Malta | 1 | 4 | S | 6 |
| D 1.12.2 | Report on Cyprus | 1 | 4 | S | 6 |
| D 1.13.1 | Report on Hungary | 1 | 4, 2 | S | 6 |
| D 1.13.2 | Report on Poland | 1 | 4, 1 | S | 6 |
| D 1.13.3 | Report on Slovakia | 1 | 4, 1 | S | 6 |
| D 1.13.4 | Report on Slovenia | 1 | 4, 1 | S | 6 |
| D 1.13.5 | Report on Czech Republic | 1 | 4, 2 | S | 6 |
| **D 1** | **Report on the countries of the EU-25** | **1** | **1** | **R** | **6** |
| D 2.1 | Economic conditions and primary fuel | 2 | 6 | S | 9 |
| D 2.2 | Energy services and electricity demand | 2 | 6 | S | 9 |
| D 2.3 | Energy efficiency and DSM measures | 2 | 6 | S | 9 |
| **D 2** | **Report on the future electricity demand** | **2** | **6** | **R** | **9** |
| D 3.1.1 | Coal fired technologies | 3 | 2, 10 | S | 12 |
| D 3.1.2 | Oil & gas fired technologies | 3 | 1 | S | 12 |
| D 3.1.3 | Combined heat & power | 3 | 1, 10 | S | 12 |
| D 3.1.4 | CO2 capture & sequestration | 3 | 2 | S | 12 |

| Del. no. | Deliverable name | WP no. | Lead participant | Nature [1] | Delivery date (proj. month) [2] |
|---|---|---|---|---|---|
| **D 3.1** | **Overview report on fossil-based electricity generation technologies** | **3** | **2** | **R** | **12** |
| D 3.2.1 | Nuclear fission | 3 | 8 | S | 12 |
| D 3.2.2 | Nuclear fusion | 3 | 1 | S | 12 |
| **D 3.2** | **Overview report on nuclear electricity generation** | **3** | **8** | **R** | **12** |
| D 3.3.1 | Wind power | 3 | 10 | S | 12 |
| D 3.3.2 | Photo-voltaic | 3 | 3 | S | 12 |
| D 3.3.3 | Biomass application | 3 | 3,7 | S | 12 |
| D 3.3.4 | Hydro power | 3 | 5 | S | 12 |
| D 3.3.5 | Geothermal conversion | 3 | 5 | S | 12 |
| D 3.3.6 | Fuel cells | 3 | 7 | S | 12 |
| D 3.3.7 | Hydrogen economy | 3 | 7 | S | 12 |
| D 3.3.8 | Electricity storage | 3 | 5 | S | 12 |
| D 3.3.9 | Unconventional & speculative renewables | 3 | 5, 3 | S | 12 |
| **D 3.3** | **Overview report on renewable flows & 'alternative' technologies & carriers** | **3** | **3** | **R** | **12** |

| Del. no. | Deliverable name | WP no. | Lead participant | Nature [1] | Delivery date (proj. month) [2] |
|---|---|---|---|---|---|
| D 3.4.1 | Integration of centralised and decentralised generation | 3 | 1 | S | 12 |
| D 3.4.2 | GHG emission due to interaction centralised and decentralised generation | 3 | 1 | S | 12 |
| **D 3.4** | **Overview report on system integration** | **3** | **3** | **R** | **12** |
| D 4.1 | Analysis of regulatory framework and liberalised markets | 4 | 1 | S | 6 |
| D 4.2 | Guidelines for 'proper' electricity market | 4 | 1 | S | 12 |
| **D 4** | **Report on regulatory framework in liberalised markets** | **4** | **1** | **R** | **12** |
| D 5.1.1 | Summary of private cost estimates | 5 | 3 | S | 15 |
| D 5.1.2 | Relevance of 'shadow costs' | 5 | 5, 1 | S | 15 |
| D 5.1.3 | System-related differences for GHG emissions | 5 | 1 | S | 15 |
| D 5.1.4 | External costs | 5 | 2, 9 | S | 15 |
| **D 5.1** | **Report on total static social cost** | **5** | **2** | **R** | **15** |

| Del. no. | Deliverable name | WP no. | Lead participant | Nature [1] | Delivery date (proj. month) [2] |
|---|---|---|---|---|---|
| **D 5.2** | **Report on evaluation simulation models and existing scenarios** | **5** | **2, 1, 4** | **R** | **15** |
| **D 5.3** | **Report on 4 scenarios and 'most optimal solution'** | **5** | **2, 1, 4** | **R** | **15** |
| **D 6.1** | **Conclusions from the Consultative Committee** | **6** | **1** | **R** | **21** |
| D 6.2.1 | Compatibility with liberalised markets | 6 | 1, 10 | S | 21 |
| D 6.2.2 | Security of supply | 6 | 8 | S | 21 |
| D 6.2.3 | Comparison with international studies | 6 | 1, 4, 8 | S | 21 |
| **D 6.2** | **Report on quality checks** | **6** | **1** | **R** | **21** |
| **D 7** | **Final publishable document** | **7** | **1** | **R** | **24** |
| **D 8.1** | **Report establishing the scope, boundary conditions and hypotheses** | **8** | **1** | **R** | **4** |
| **D 8.2** | **Report on framework for sustainability** | **8** | **2** | **R** | **4** |
| **D 8.3** | **Final technical report** | **8** | **1** | **R** | **24** |