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RESEARCH DIRECTORATE-GENERAL

Directorate J - Energy  
**New and renewable energy sources**

Brussels, 17 February 2006  
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Prof. William D'HAESELEER  
Katholieke Universiteit Leuven  
Oude Markt 13  
3000 Leuven  
BELGIUM

**Subject: Results of the Mid-Term Assessment and Peer Review of the project "EUSUSTEL" - Contract SSP6-CT-2004-006602**

Dear Prof. D'Haeseleer,

Please find enclosed the Consolidated Project Review Report of EUSUTEL which includes the main remarks made during the Mid-Term assessment meeting held in Brussels the 24 January 2006 and which makes a synthesis of the main recommendations of the three peer-reviewers.

Please inform all the partners of the project of the content of this letter.

Thank you in advance to take these comments and recommendations into consideration for the final report of EUSUSTEL.

Good continuation for your project and best regards,

D. ROSSETTI

# Consolidated Project Review Report

## *Mid-Term Assessment and Peer- review*

Contract N°: **SSP6-CT-2004-006602**

Type: **SSA**

Project Acronym: **EUSUSTEL**

Project Title: **European Sustainable Electricity - Comprehensive Analysis of Future European Demand and Generation of European Electricity and its Security of Supply**

Project Coordinator: **William D'HAESELEER**

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Total eligible costs: **749.340 €**

EU-Support: **749.340 €**

Start date: **01/01/2005**

End date: **31/12/2006**

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## **1. REVIEW MEETING DETAILS:**

Meeting location: **Belgium, Brussels (Commission, DG Research)**

Meeting Date(s): from **24/01/2006** to **24/01/2006**

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## **2. REVIEWERS:**

*Commission official:* Domenico ROSSETTI, DG Research and various other DG representatives

*Reviewer 1:* Loren C. COX, Massachusetts Institute of Technology

*Reviewer 2:* Birte Holst JOERGENSEN, Nordic Energy Research

*Reviewer 3:* Andreas PAPAGEORGI, Eurelectric

## **3. OVERALL STATUS OF THE PROJECT:**

- The contract should achieve its objectives on time, within budget  
The contract will require major changes to work programme / partnership / management  
The contract will never achieve objectives or has insoluble technological / financial / managerial / structural problems and should be terminated.

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## **4. REVIEW RESULTS:**

- The contract should be continued with no or minor changes.  
The contract should be suspended, if recommendations are not implemented within a deadline.  
The contract should be suspended immediately.  
The contract should be terminated

## PROJECT APPRAISAL

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### 5. SCIENTIFIC AND TECHNOLOGICAL PROGRESS:

The EUSUSTEL project is progressing well and the main results of the first year of work are provided. The project is designed around well defined objectives, boundary conditions and hypotheses, which are agreed by project participants. The academics involved have done an excellent review of the existing relevant international, European and national energy related literature, legislation, directives and regulations.

Concerning the different Work Packages (WP): There is no evidence from the presentation that the WP completed so far will “provide the EU Commission and the Member States with coherent guidelines and recommendations to optimise the future nature of electricity provision and the electricity generation mix in Europe so as to guarantee an affordable, clean and reliable, i.e. sustainable electricity supply system”.

- In WP1 (“Country-wise analysis for EU-25”) and WP4 (“Regulatory framework of energy markets”) a critical review – rather than only a descriptive one - of the national energy/electricity policies of the EU Members States, or the existing directives would have improved the work. For example, it would have been useful to see an assessment whether there are any inherent obstacles (administrative, organisational, legal, etc.) or inconsistencies which could hamper the sustainability of electricity systems. Concerning the “Anticipation of electricity demand” (WP2), the work performed does provide a reasonable setting for policy formulation.
- It is not clear how the work on “Electricity generation technologies” (WP5) will deal with the “projection of evolutionary improvements” of these technologies and the identification of sustainable technology options for an electricity system over the period to 2030-2050, as suggested in the “Description of Work”. It seems to concentrate heavily on the year 2030 whilst it is important for policy formulation to consider what will happen to manage the transition if the current hydrocarbons (oil/gas) are depleted.

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### 6. PROJECT MANAGEMENT:

The management is appropriate.

The project is well managed with a balanced distribution of tasks among partners.

There is a good system in place for consultation and communication.

The reporting deadlines are relatively well respected and the coordinator answers rapidly to the Commission.

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### 7. QUALITY OF REPORTS:

The work has been reported in a satisfactory way. The slides are clear, of good quality and to the point. They give a good overview of the methodology, analysis and activities undertaken. But at the moment the presentations give the impression that it is more of a review of existing literature, existing studies, and existing models and scenario work rather than original recommendations on a future EU sustainable electricity system.

However, further drafting efforts should be made to explain the basic assumptions, the role of the model and the conclusions.

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## **8. FINANCIAL STATUS:**

The scientific work performed until now seems in conformity with the budget requested. The total budget of 750.000 € for 24 months for ten teams is appropriate in comparison to the tasks described in the Annex I.

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## **9. DRAFT UPDATED IMPLEMENTATION PLAN:**

The final report will be the main dissemination product. The report will have a policy value for various EU energy-related policies. A final EU public seminar and a Commission publication could be envisaged.

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## **10. RECOMMENDATIONS:**

The project should continue as scheduled. Nevertheless, the following remarks should be taken as much as possible into consideration:

- Several definitions are not so clear, and require some re-working. The “boundary conditions” definitions are reasonable, but the “hypotheses” notion needs clarification - especially since the items in this section are likely to be controversial such as nuclear revival or no continuation of Kyoto beyond 2012.
- While the Power Point presentation defining what the project means by “sustainability” is clear and arguably reasonable, the draft text of the Mid-Term Assessment Report is not.
- The final report should reflect on an “ideal” fully consistent framework for a genuine integrated European electricity.
- An important contribution of WP3 would be either to make assessments of what sort of technologies would be crucial to develop further in order to enable the EU to achieve its economic/social and environmental policies; either to make the brave assessment (if that is indeed the case) that it is unlikely on present trends to develop cost effective alternative technologies that will enable EU to achieve reduction in emissions or manage the transition away from low cost hydrocarbons over the next fifty years.
- Economic and physical drivers of electricity demand need to be considered so that the impact of increasing standards of living on electricity demand is adequately captured. (e.g. ownership levels of more than one appliance per household, appliances used in offices.
- The potential contribution of alternative generation technologies to sustainable development over the period to 2050 should be considered. Assessments as to whether it is feasible for EU to achieve the aspirations for sustainable development for the EU over the next 30-50 years have to be clearly presented
- Private capital costs and operating costs of different conventional technologies could be discussed with the respective associations supporting the respective technologies to avoid possibility of conflict views undermining project.
- The process of how experts assess and validate data should be explicitly documented and described in order to “open up the black box of assumptions”.
- The assumptions on technological breakthroughs and technological development should be documented.

- Public perception regarding controversial technologies is key to one of the main hypothesis – nuclear phase out or not – and it is recommendable to address this topic more explicitly in the overall analysis.
- The project’s concept of “static social costs” should not be used but translated in a language already understood by analysts and policy makers.
- Greatly expanded cross-border trade is anticipated, but the control measures needed for this are not addressed. Current Member State TSOs can do some, but control for a larger interconnected region of Europe appears to need wider oversight and management. This issue has to be addressed.
- Expanded regional power movements will have implications for CO<sub>2</sub> trading (an attempt to import low/non-CO<sub>2</sub> electricity), and may even affect trends in generation favored in the future. This not addressed and should get at least some mention.

Date: 17/02/2006

D. ROSSETTI