

ANNEX 6

**QUESTIONNAIRE ON ENERGY SCENARIOS
IN THE CONTEXT OF THE EU ENERGY POLICY**

Deadline for Responses:
xx xxxx 2009

REPORTING ORGANISATION:

NAME: _____

OFFICE: _____

ADDRESS: _____

TELEPHONE: _____

E-MAIL: _____

WEB PAGE: _____

CONTACT PERSON

(WHO CAN ANSWER QUESTIONS AND/OR APPROVE EDITS ON THE TEXT AND DATA):

NAME: _____

OFFICE: _____

ADDRESS: _____

TELEPHONE: _____

E-MAIL: _____

Date questionnaire completed (day/month/year): ____/____/____

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DEADLINE AND ADDRESS FOR CORRESPONDENCE

This questionnaire should be completed and received by the European Commission, at the address below, by **XX XXXXXXXX 2009**. Any questions on the questionnaire should be addressed to:

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SCENARIO DESCRIBED

Name of scenario chosen: _____

TWO SCENARIOS WILL BE DESCRIBED:

- A “**BASELINE OR BUSINESS AS USUAL**” ONE
- **AND A SCENARIO ASSUMED TO CORRESPOND TO THE REPORTING ORGANISATION’S RECOMMENDED OPTION ON HOW TO BEST FULFILL THE EU’S ENERGY POLICY GOALS WITH REGARD TO CLIMATE PROTECTION, COMPETITIVENESS AND SUPPLY SECURITY.**

Name and publication data of full reference work:

Year of publication of full reference work: _____

GENERAL NOTES

In preparing the attached tables, the following instructions should be noted:

- i) All data should be based on estimates for the EU-27. If valid only for EU-15, EU-25 or the whole of Europe (i.e. including EFTA countries), this should be clearly indicated.
- ii) All data should refer only to results and assumptions from/within your own scenario modelling (“scenario chosen”).
- iii) The data inserted in the tables should be understood as to comprise the total annual expenses of each type of energy generation including provisions for future charges (dismantling, waste disposal).
- iv) Each value inserted in a table should be followed by the corresponding page number put in brackets (e.g.: “24.1 [31]”), corresponding to the page in the full reference report where the data value itself can be found or where its development process is described.

NAME OF SCENARIO CHOSEN: _____

ESTIMATES OF TOTAL NET PRIMARY ENERGY DEMAND

Table 1. Projection of population development and GDP in real terms (2008)

	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High
Population								
GDP								
GDP per capita								

Table 2. Projection of final energy demand (Mtoe)

	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High
Final								
Primary								

Table 3. Projection of electricity demand (TWh)

	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High
Industry								
Households and services								
Transport								
Nuclear								
Total								

Table 4. Projection of primary energy demand (Mtoe)

	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High
Final								
Primary								

Table 5. Projection of primary energy intensity

Primary energy intensity in [MJ/€]	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High

Table 6. Projection of shares of primary energy sources

Share of contributing energy sources in [%]	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High
Oil								
Gas								
Solid fuels								
Nuclear								
Wind								
Solar								
Biomass								
Geothermal								
Ocean								
Hydro								
Other								

NAME OF SCENARIO CHOSEN: _____

PROJECTION OF TOTAL ELECTRICITY GENERATION TO SATISFY NET TPED

Table 7. Projection of total electricity generation

Total electricity generation in [TWh per year]	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High

Table 8. Projection of energy sources to electricity generation

Share of contributing energy sources in [%]	2020		2030		2040		2050	
	Low	High	Low	High	Low	High	Low	High
Oil								
Gas								
Solid fuels								
Nuclear								
Wind								
Solar								
Biomass								
Geothermal								
Ocean								
Hydro								
Other								

PROJECTED DEVELOPMENT OF ELECTRICITY TECHNOLOGIES

Table 9. Installed generation capacity

Unit: GWe installed		current	2020	2030	2040	2050
Coal + Lignite	Low					
	High					
Oil	Low					
	High					
Gas	Low					
	High					
Nuclear	Low					
	High					
Wind	Low					
	High					
Solar	Low					
	High					
Biomass	Low					
	High					
Geothermal	Low					
	High					
Pumped Storage	Low					
	High					
Other Hydro	Low					
	High					
Other	Low					
	High					

Table 10. Investment costs according to technology and projected lifetimes (*lifetimes put in brackets, following the capital costs*)

Unit: [€ per kW electric installed]		current	2020	2030	2040	2050
Coal SCP						
	High					
Gas CCGT <i>Low, Low</i>						
	High					
Nuclear	Low					
	High					
Wind <i>Onshore</i> <i>Wind</i>	Low					
Wind <i>Offshore</i>	Low					
	High					
Solar <i>PV</i>	Low					
	High					
Biomass	Low					
	High					
Geothermal	Low					
	High					
Ocean	Low					
	High					
Hydro	Low					
	High					
Other	Low					
	High					

Table 11. Projection of fuel prices

		current	2020	2030	2040	2050
Oil USD/bl	Low					
	High					
Gas Euro/GJ	Low					
	High					
Uranium	Low					
	High					
Coal CIF USD/t	Low					
	High					
Lignite	Low					
	High					

Table 12. Average annual power generation expenses according to energy source

Unit: [2008 GEuro/year]		current	2010-2020	2020-2030	2030-2040	2040-2050
Coal+lignite	Low					
	High					
Gas	Low					
	High					
Nuclear	Low					
	High					
Wind	Low					
	High					
Solar	Low					
	High					
Biomass	Low					
	High					
Geothermal	Low					
	High					
Ocean	Low					
	High					
Hydro	Low					
	High					
Other	Low					
	High					
Total	Low					
	High					

Table 13. Transmission and Distribution Network

(*) 2008 M€ Averaged over a decade

		current	2020	2030	2040	2050
Thorough transformation of T&D	Yes					
	No					
% Distributed Generation	Low					
	High					
% Losses On the grid	Low					
	High					
Annual Investment (MEuro) in T&D(*)						

NAME OF SCENARIO CHOSEN: _____

PROJECTED PERFORMANCE OF SCENARIO

Table 14. Electricity Prices (incl. taxes): on each regional market or averaged EU

Unit: [€ per MWh]	current	2020	2030	2040	2050
Wholesale Low					
	Baseload High				
Wholesale Low					
	Peak High				
Households Low					
	High				

Table 15. Annual Fuel Consumptions

	current	2020	2030	2040	2050
Coal Low Mt/year					
	High				
Gas Low Gm3/year					
	High				
Uranium Low t/year					
	High				
Other Low					
	High				

Table 16. Total Greenhouse gas emissions

Unit: [Mt CO ₂ equ]		current	2020	2030	2040	2050
Transport	Low					
	High					
Industry	Low					
	High					
Power&Heat Low						
	High					
Households &Services	Low					
	High					
Total EU-27	Low					
	High					
World	Low					
	High					

NAME OF SCENARIO CHOSEN: _____

NECESSARY CONDITIONS

Please provide a short summary focusing on the SINE-QUA-NON policy decisions necessary to realise the above energy scenario projections, and on the main necessary technological, economical and social developments. Please do not repeat statistical data already given in this questionnaire and keep the text to 1-2 sentence(s) for each of the following bullets:

- › **General policy decisions on global, EU, national levels:**

- › **Technological developments:**

- › **Economical developments:**

- › **Social developments:**

NAME OF SCENARIO CHOSEN: _____

SUMMARY - CONTRIBUTION TO EU ENERGY POLICY GOALS

In your view, what are the key reasons why the energy scenario you have chosen and therefore recommended for implementation, fulfils in the most effective way the EU Energy Policy objectives regarding:

- › **Climate change:** (1-2 sentence(s))

- › **Competitiveness:** (1-2 sentence(s))

- › **Security of Supply:** (1-2 sentence(s))