

First stakeholder consultation on the CAFE baseline scenario

May 27-28, 2003

Brussels, Avenue de Beaulieu 5, Conference Room C

MINUTES

The first stakeholder consultation meeting on the CAFE baseline scenario took place on May 27-28, 2003 at the premises of Directorate-General -Environment (DG ENV) in Brussels. The meeting was attended by various services of the European Commission, national representatives from Austria, Belgium, Denmark, Finland, France, Germany, Spain, Netherlands, Sweden, UK, Cyprus, the Czech Republic, Lithuania, Slovakia, Slovenia and Norway, as well as from industrial stakeholders (ACEA, AECC, CEFIC, CEPI, EURELECTRIC, EUROPIA, CONCAWE), the EEB and the European Environment Agency. Consultants from IIASA, NTUA and the University of Leuven also participated. The meeting was chaired by Matti Vainio from DG ENV. A list of participants is annexed to the minutes.

Objectives of the meeting

The chair introduced the objectives of the meeting: to consult stakeholders about projections of energy and agricultural activities that would serve as input for the development of the CAFE baseline scenario. He invited stakeholders to comment on the European-wide projections provided and compare them with national and sectoral perspectives, so that at the end of the consultation process shared, consistent and credible views on the future energy and agricultural development would be available as a basis for the analysis within CAFE. While there was no need to fully agree on all assumptions, stakeholders were invited to correct obvious mistakes concerning past data, identify possible inconsistencies in projections and suggest more plausible perspectives on how the future could look like. Consensus on the energy and agriculture scenarios is crucial since this information is used for making projections in the RAINS integrated assessment model and the TREMOVE transport model to produce the CAFE baseline scenarios. The consultation process will be carried out in an open and transparent way, where all aspects will be open for constructive criticism, while maintaining cross-disciplinary respect for diverging opinions.

The baseline scenarios in the context for the CAFE work plan

Markus Amann (IIASA) introduced the workplan of CAFE baseline scenarios and the timetable of activities. In 2003, work will be devoted to the development of the baseline scenario that will outline the likely development of emissions and air quality in the absence of additional legislation or measures in Europe. In 2004, CAFE will explore the main policy options for further improvements of air quality, while fine-tuning of policy variants and subsequent policy advice are planned for 2005.

Recognizing the inherent uncertainties in the predictions of some of the drivers that influence future emissions (e.g., economic development, energy prices, policy preferences, etc.), CAFE will accept a range of baseline projections that reflects plausible range of future developments. The policy debate will then focus on environmental targets that lead to further improvements of air quality and will explore the implications of alternative baseline projections on achieving these

targets. Thus, there is no need to reach full consensus of all stakeholders on all assumptions of each baseline projection, as long as overall plausibility and consistency is maintained.

In practice, CAFE will construct three baseline scenarios on energy development:

- A Europe-wide consistent view of energy development with certain assumptions on climate policies (as produced by the PRIMES energy model).
- As a variant, a Europe-wide consistent view of energy development without climate policies. For this purpose, CAFE will use the Energy and Transport Trends for 2030 of DG Transport and Energy.
- A compilation of official national projections of energy development with climate policies that reflect the perspectives of the individual governments of Member States. By their nature, there will be no guarantee for international consistency in the main assumptions across countries (e.g., economic development, energy prices, use of flexible mechanisms for the Kyoto Protocol, assumptions on post-Kyoto regimes, etc.).

For agriculture, CAFE will use

- a set of Europe-wide consistent projections of agricultural activities without CAP reform, and
- a compilation of national projections of activities supplied by Member States.
- In addition, it is foreseen that a 'CAP reform' projection will be made available by DG Agriculture once the policy plans are agreed upon.

The CAFE workplan for constructing the baseline scenarios foresees

- the launch of the consultations on the Europe-wide projections on April 16, 2003, when the CAFE stakeholders were given access to the energy and agriculture scenarios,
- the first stakeholder consultation meeting on May 27-28, 2003,
- the deadline for delivering national projections to IIASA by June 30, 2003,
- the implementation of these projections in the RAINS integrated assessment model and initial calculations of resulting emissions by August 31, 2003,
- a series of bilateral consultations between IIASA and experts from Member States and industry to review the databases of the RAINS model from September to December 2003, and
- the finalization of the draft CAFE baseline scenarios by January 2004, to be reviewed in a second stakeholder consultation meeting in February and finally accepted by the CAFE Steering Group in March 2004.

Key assumptions for the Europe-wide energy and agricultural projections

Leonidas Mantzos (NTUA) introduced the key assumptions on drivers for the energy projections developed with the PRIMES model (see the presentation slides on the IIASA's CAFE web site <http://www.iiasa.ac.at/rains/cafe.html>).

Matti Vainio explained the assumption on how the decarbonisation of the energy system would take place due to climate policies. Based on the guidance received from DG ENV's Climate Change unit it was agreed, that without prejudging the actual implementation of the Kyoto agreement and of possible post-Kyoto regimes, the "with climate policies" scenario assumes for 2010 for all energy consumers a revenue-neutral "shadow price" of €12 per tonne of CO₂. It is thus implicitly assumed that any measures having a compliance cost higher than this will not be undertaken by the EU's energy system, but that other sectors (e.g. non-CO₂ greenhouse gases emitting sectors) would reduce their emissions, or that flexible instruments in the Kyoto Protocol

would be used. Also the possibility of using carbon sinks would add to the flexibility. Concerning “post-Kyoto”, it was assumed that the “shadow price” of carbon dioxide would increase linearly to €20 per tonne of CO₂ in 2020. Thus, in 2015, the “shadow price” is assumed to be €16 per tonne of CO₂. The key assumptions made for the modelling exercise are available by NTUA on the CIRCA web site.

The Long Run Energy Modelling framework contract of DG TREN will explore the implications of alternative climate policies on the energy sector. However, for CAFE it is not foreseen to study the wide range of possible climate policy variants in full detail, but limit the analysis to a manageable set of key scenarios that provide best insight into the implications of climate policies on air quality management. After all, CAFE is not about climate policies, but needs to merely take the likely impacts of such policies into account.

Zbigniew Klimont (IIASA) reviewed the key assumptions of the agricultural projections used to develop the baseline, pointing out that the agricultural projections assume lower GDP growth rates than the energy projections.

Sectoral projections

Leonidas Mantzos (NTUA) presented results of the PRIMES model for key industrial sectors and invited comments from industrial stakeholders. Stakeholders provided some initial and preliminary comments on the key features of the PRIMES scenarios, while asking more time to review results in detail.

Overall, UNICE, EURELECTRIC, EUROPIA/CONCAWE found the assumptions and key results at the EU level reasonable and largely in line with industrial expectations. They sought clarification on some specific issues: 1) the relatively high increase of natural gas in the power generation sector was recognized as significant but not impossible; EURELECTRIC expects a coal to still play an important role; 2) the contribution of renewable energy forms to power generation was regarded as high; 3) the large-scale penetration of natural gas sector was questioned, in particular for rural areas in the Nordic countries, where the infrastructure is at present not in place and consumer densities are low. 4) Questions about supply aspects were raised in relation to the continued increase in diesel demand. The PRIMES model suggests an increase of diesel demand from freight transport at a faster rate than GDP growth, but computes for most countries the further “dieselization” of passenger cars at lower rates than historically observed. Thus, overall diesel and gasoline demands in the PRIMES scenarios are different from the expectations of industrial stakeholders. The resulting product structure, together with the strong decline in the demand for heavy fuel oil from inland consumption, may require restructuring of the European refineries.

Agricultural projections

Agriculture is an important source of emissions of air pollutants that contribute to a number of air quality problems in Europe. After implementation of the SO₂ and NO_x emission reductions of the NEC directive in 2010, ammonia emissions, which originate predominantly from agricultural activities (livestock farming, fertilizer application, etc.), will make the largest contribution to acid deposition in Europe. Ammonia is also expected to become the dominating source of excess nitrogen deposition, leading to eutrophication of ecosystems and thereby endangering biodiversity. Ammonia is also prominently involved in the formation of secondary fine particulate matter (PM_{2.5}), which constitutes a major health threat to the European population and is thus of immediate interest to future air quality legislation. In addition, methane (CH₄) and N₂O (nitrous

oxide) emissions from agriculture are important greenhouse gases. For CAFE, it will be important to reach a good understanding of the future potential for controlling emissions from agriculture, so that a fair and cost-effective balance in emission control efforts across all economic sectors can be developed.

Zbigniew Klimont (IIASA) introduced the agricultural projections provided by DG-AGRI (up to 2010), EFMA (up to 2010) and FAO (up to 2020). It was pointed out that assumptions about an increased penetration of bio-fuels made for the energy scenarios should be harmonized with agricultural projections.

Transport projections

Leonidas Mantzos (NTUA) introduced the projections of transport activities, for which the PRIMES model foresees a strong decoupling between GDP development and transport demand. These projections were compared by Ian Williams (MSP) with initial and preliminary results from the main assumptions used and transport volume forecast in the SCENES transport demand model, which will provide input to the TREMOVE transport model. While some of these preliminary results indicated fairly large differences between PRIMES and SCENES, it was noted that the plan is to make the transport baseline of the TREMOVE model as far as possible consistent with results from the PRIMES model. TREMOVE will provide important information to CAFE by estimating the potential and costs of a wide range of emission control options for the transport sector in much greater detail than what is possible by using the RAINS model alone.

ACEA requested a number of clarifications about the foreseen approach, *inter alia* 1) on the assumptions on autonomous improvements in fuel efficiency, 2) the impact of the ACEA agreement in the calculations, and 3) the use of findings of the Auto-Oil programmes. ACEA presented initial comments from its member organizations, pointing out some inconsistencies between PRIMES calculations and national statistics as well as earlier results from the Auto-Oil 2 programme.

Benedicte Oudart (CITEPA) informed the meeting that in the context of EGTEI CITEPA will commission a study with Ricardo on the costs of emission control measures for mobile sources. Results are expected for late summer 2003.

The chair summarized the sectoral discussions, stating that from the preliminary comments received from industrial stakeholders the PRIMES baseline looks overall plausible, while details need to be further explored. Some very recent policy development may/may not be included in the PRIMES baseline. It is interesting to note that at the Member States level different projections exist, which however are based on similar key assumptions.

Comments from Member States

On May 28, 2003, the meeting discussed national perspectives on the Europe-wide energy and agricultural projections.

Stefan Jacobi (DG ENV) summarized the present state of national reports on emission data and programs received by the Commission under the reporting obligations to the NEC Directive. While to date all countries except Luxembourg have submitted emission data to the Commission, national programs are still missing from Belgium, Greece, France, Italy, Ireland Luxembourg and Spain. Since this information is critical for the development of the CAFE baseline scenario, the Commission took steps to start infringement procedures.

Finland, Slovenia and Sweden presented in-depth comparisons between the PRIMES projections and their official national scenarios, raising a number of questions to clarify specific aspects. Both Finland and Sweden are presently updating their official projections, but these would only become available in the course of 2004.

Initial and preliminary evaluations were presented by Austria, Belgium, Denmark, Germany, France, Netherlands, Spain and the UK as well as Cyprus, Lithuania, Slovakia and Norway. The consultation processes on the PRIMES energy projections are not completed in these countries, so that only first and rough comments could be delivered to the meeting.

In many countries, a comparison between the national energy statistics for the year 2000 and the PRIMES model results revealed discrepancies. It was pointed out that the PRIMES model consistently uses EUROSTAT energy statistics, while not all national statistics are fully compatible with the EUROSTAT statistics. From the CAFE perspective, it was felt appropriate to use internationally consistent sector definitions as adopted in EUROSTAT. It was agreed that DG-TREN will provide the names and contacts of the national experts involved in the development of the Energy and Transport – Trends in 2030 scenario so that stakeholders can contact them directly.

A number of countries identified similar inconsistencies between national agricultural statistics and the base year livestock numbers of the agricultural projections.

Hartmut Behrend (DG ENV Climate Change Unit) informed that as part of the implementation of the Directive on Monitoring Greenhouse Gases a working group will meet in Brussels on June 18, 2003 to compare the Member States' greenhouse gas emission projections with the projections of the PRIMES model. As this work is closely linked with the energy projections, the National Coordinators of the CAFE Baseline were asked to contact their counterparts to coordinate their inputs in the CAFE and climate change processes. DG ENV will provide the names and contact details of the participants to the meeting on 18 June.

The main long-term drivers (energy prices, economic development, etc.) assumed for the PRIMES projections were considered as reasonable and similar to those that are presently used in the countries. However, there are certain differences at the sectoral level, which need to be sorted out in the future. In addition, the development of the transport sector, especially the share between diesel and gasoline, needs further attention.

Most countries pointed out that their governments are presently developing energy projections, which include policies and measures to comply with the obligations with the Kyoto Protocol (including assumptions about the use of flexible instruments). However, many countries informed that such projections would only become available in the course of 2004. Thus, it will not be possible to deliver new nationally accepted projections to CAFE by the end of June 2003, as foreseen in the CAFE work plan. This issue needs further reflection.

Andre Jol (EEA) informed the meeting about the EEA's plans for developing the State of the Environment 2005 (SoER2005) report. This analysis will rely completely on the CAFE baseline projections. However, some additional sensitivity analyses may be carried out to identify key factors that have critical influence on the future state of the environment. Such scenarios will be developed jointly with the CAFE Programme. It will pay special attention to the agricultural sector. EEA will not hold any separate stakeholder consultation on the data that will be used process on its SoER2005 report, which should start in June 2004. However, EEA will consult its stakeholders on the contents of the report.

Conclusions

The chair summarized the key issues of the discussions and proposed the next steps for the development of the CAFE baseline scenarios. He acknowledged a general consensus on the main drivers (such as GDP development, energy prices, etc) at the aggregated level. Since a common sectoral definition needs to be adopted for the work in CAFE, he encouraged Member States to identify and, if possible, rectify inconsistencies between national statistics and EUROSTAT. Discrepancies in sectoral projections should be discussed bilaterally between national experts and the PRIMES modelling team.

The chair recognized the timing problem, particularly the fact that many countries are just now developing their energy projections and will not have them agreed upon before 2004. However, since the deliverable of CAFE, i.e., the thematic strategy on air, is mandated by the Member States (i.e. the European Council) in the 6th Environmental Action Programme to be delivered in mid 2005, the deadlines for data delivery cannot be changed either. Thus, the conclusion was that if a Member State is unable to make available its energy projections up to 2020, the CAFE baseline will use the energy projections submitted by the Member State to the UNFCCC in its Third National Communication until revised national projections become available.

In this view, the next steps are as follows:

June 30, 2003:

- Comments on the PRIMES energy projections to be sent to IIASA/NTUA
- National coordinators will provide the national scenario or projection contained in the Third Communication to UNFCCC to IIASA in the NFR format. Alternatively, countries may wish to provide activity scenarios directly in the format used by the RAINS model. Upon request, the RAINS team will make the appropriate formats available to national coordinators.

August 31, 2003:

- IIASA has implemented all national information in the RAINS databases and perform initial calculations of emission projections.

September-December 2003:

- Series of bilateral discussions between national coordinators/industrial stakeholders at IIASA to review the national data in the RAINS model.

January 2004:

- Draft CAFE baseline scenarios developed by IIASA, to be reviewed at the 2nd stakeholder consultation meeting.

The chair thanked all for a fruitful and constructive meeting, and closed it at 16.00.

First stakeholder meeting
Brussels, 27 and 28 May 2003

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