

EUROPIA/CONCAWE comments on the 3rd Air Policy Review SEG meeting

First, EUROPIA and CONCAWE note and welcome the clear affirmation by DG ENV of the intent to pursue a cost-effective pathway to achieving future environmental goals in the area of air quality.

Further to our verbal interventions at the third Stakeholder Expert Group meeting, we would make the following comments. In so doing we have, where possible, used the helpful list of “key questions” issued alongside the various reports.

EUROPIA/CONCAWE comments on the baseline report

Key Question 1: *Is the description of the key assumptions on the drivers of emissions comprehensive and appropriate?*

Given the timescale for providing comments, it has not been possible for us to consult with our company experts involved in long term energy planning regarding the PRIMES 2012 scenario that will be used as the basis for this work. However, as discussed in more detail below, we strongly recommend that a wider range of energy scenarios be incorporated into the overall analysis to account for the uncertainty in predicting a “future world”. The inclusion of a suitable ‘higher demand/higher carbon’ alternative energy scenario to the ‘central scenario’ would, in large measure, remove the need to be concerned over the key drivers used for a single energy scenario. We of course recognise that there needs to be consistency across the Commission in their view of “future worlds”. However, this surely does not mean a single view of the world. One of the key policy deliverables coming out of the AQPR process will likely be a revised NECD which will set binding ceilings. These will be binding in whatever future world we find ourselves at the compliance time horizon.

IIASA’s TSAP report #2 (Factors determining recent changes of emissions of air pollutants in Europe) serves to highlight the importance of designing policy to be robust to a range of future worlds. Moreover, the recent Gothenburg Protocol process showed significant differences in Baseline/MTFR emissions between the National and PRIMES energy scenarios. This was clear even though not all countries submitted National Scenarios to IIASA. This no doubt contributed to negotiated ceilings that, for many EU Member States, were above the PRIMES baseline.

CONCAWE is currently developing a paper illustrating why a suitable range of energy scenarios is vital to the setting of robust ceilings which do not compromise the overall goals of a revised TSAP. This is planned for release in September.

Key Question 2: *Is the methodology for estimating future emissions and emission reduction potentials adequate? Are there any specific issues related to the inventories (current and projected activities, and emission factors) used in the analysis and if so, how should they be addressed?*

A major concern expressed at SEG#3 was the likely 'real world' performance of Euro 6/VI given the experience of Euro III/IV/V. EUROPIA welcomes the uncertainty scenario work that was presented by IIASA at the meeting. However, it will be vital to use such uncertainty work to test the robustness of any proposed revisions to the TSAP/NECD/AAQD via suitably designed policy sensitivity scenarios (achievability/cost implications).

Key Question 3: *Does the Maximum Technically Feasible Reduction scenario adequately characterise the technological options for pollution abatement in terms of (a) reduction achieved, (b) cost, (c) timing of introduction and (d) effective penetration?*

Given the policy time horizon of 2020 out to 2030, this is not an easy question to respond to. Regarding road transport, we note the inclusion of a notional 'Euro 7/VII'. However, regarding PM emissions, a number of stakeholders rightly pointed to the dominance of non-exhaust emissions in a post Euro VI world (brake wear, tyre wear, and road wear). This poses the question as to what technology has to offer here in the 2020-2030 timeframe.

Key Question 5: *Are the major uncertainties in the assessment adequately identified and integrated into the sensitivity analysis?*

EUROPIA/CONCAWE would identify a number of additional "policy relevant" uncertainties that we believe should be addressed by suitable 'uncertainty scenarios'. Some of these are listed below and will be further elaborated in a paper currently under preparation by CONCAWE which is planned for release in September.

- (i) Differentiating the toxicity of components of PM_{2.5}. The current position of WHO Europe to not differentiate amongst the fractions of PM, while understandable from an epidemiological point of view, does not allow cost-effective policy to account for the body of toxicological evidence pointing away from secondary sources (sulphates/nitrates) to primary combustion components. The undifferentiated PM impact assumption results in the cost-effective outcome from GAINS targeting secondary PM rather than primary. CONCAWE has already illustrated¹ how this could be overcome by suitably designed sensitivity scenarios.
- (ii) A limitation of current Integrated Assessment models (including GAINS) is the fact that they do not have sectorally specific source-receptor relationships. For example, emissions from stacks remote from urban environments are assigned the same contribution to "grid average" concentrations (per tonne emitted) as mobile sources. In the context of designing synergistic policy to set national ceilings and to address compliance with AQLVs, this limitation needs to be appropriately recognised/accounted for.

¹ CONCAWE report no. 8/10 "Report of a workshop on environment and health: evaluating European air quality research and translating priorities into actions 19-20 January 2009" – also available on www.concaawe.org

- (iii) Although not discussed at SEG#3, the whole area of uncertainty in benefits determination should be better accounted for than in the CAFE process. The use of different statistical metrics (e.g. mean, median, etc.) within one “willingness to pay” (WTP) data set as an expression of “uncertainty” is in EUROPIA/CONCAWE’s view, highly inappropriate. During CAFE a number of alternative WTP studies were available but these were not used to define the uncertainty range. We believe a number of studies should inform the uncertainty range in this current policy review.

Key Question 6: *Given the constraints on time, which additional sensitivity analyses would be most instructive for establishing robust policy conclusions?*

While understanding that not every single sensitivity can be analysed within the timeframe of the Review, EUROPIA/CONCAWE firmly believe that a number of key sensitivities (including their policy implications) must be addressed as part of the Review process.

EUROPIA/CONCAWE believe the road transport sensitivity analysis presented at the last meeting illustrates the value of well-constructed sensitivity analysis (in the form of scenarios) as a vital contribution to robust policy. Some further key sensitivities are listed below and again will be elaborated in a Concaawe paper currently under preparation and planned for release in September.

- (i) Explore the vulnerability to lower than expected reductions from the agricultural sector.
- (ii) Test the consequences of the assumption that all PM components are equally toxic: there is a need to address the implications on the mix of cost-effective measures for reduced impact of secondary PM, with adjustments to the impact of primary PM to maintain the same overall PM impact.
- (iii) Explore “Five years on” staying at baseline versus “do more now” scenarios.
- (iv) Explore the impact of the potential IMO decision to implement the global sulphur cap of 0.50% for international shipping in 2025 rather than 2020.

EUROPIA/CONCAWE comments on the distance-to-targets report

Key Question 1: *Are the key factors that have influenced the evolution of emissions in the last decade appropriately identified?*

Key Question 2: *Are there additional factors that are important but are not mentioned in the report?*

Since the development of the Thematic Strategy in 2005, some important updates have been made to the Integrated Assessment Model. It would be helpful if these changes were listed in the report, including their impact on modelling results. One change that is particularly noteworthy with respect to the objectives defined by the TSAP concerns the assumptions on population. In TSAP 2005 a constant population (above 30 years old) was used to determine the health target, whereas GAINS now uses a variable population. This has a profound impact upon the calculation of the target in term of impact reduction. The original 47 % reduction target at constant population is equivalent to about 41 % with the variable population as now used by IIASA.

Key Question 3: *Are the most recent assumptions of the baseline justified in view of the experience with earlier projections?*

Key Question 4: *What are the most influential factors for emissions? Are the assumptions taken in the baseline appropriate in the light of the experience gained from the analysis?*

The overall EU view of the distance-to-targets suggested a degree of compensation between economic factors and measures taken. It would be valuable to investigate whether this holds up at Member State level.

In PRIMES 2012 the evolution in the proportion of the end of pipe emissions controls shows that the ambitions will require more extensive emissions reduction for industry than expected in 2005. This has significant cost implications for industry.

For PM emissions, the “more biomass” combustion scenario in PRIMES 2012 tends towards higher PM emissions compared to what was assumed in the CAFE 2005 baseline. In our view, this significant shift should be tested against the views of the power sector.

Key Question 5: *Which sensitivity analyses seem most instructive, given that the time domain of this particular analysis limits the scope for sensitivity runs?*

A policy approach must reflect the uncertainty in forecasting a “future world” in order to be robust. Such predictions are always uncertain, and perhaps more than usually so at the present time. EUROPIA/CONCAWE firmly believe that a range of energy scenarios is vital for ensuring achievability of future ceilings and to avoid ending up with a “regret policy”. As an example, the observation that more extensive emission reductions are now expected from industry than were expected in 2005 when the TSAP objectives were defined illustrates the need for a prudent approach.

The essential role of the techniques of reduction must be more precisely analyzed particularly for the robustness of EURO VI's ability to deliver the expected reductions. In line with previous comments EUROPIA and CONCAWE would suggest conducting further sensitivity analysis. As examples: what will be the impact if EURO VI would under-deliver emission reductions of NO_x?

EUROPIA/CONCAWE comments on the sectoral reports

Key Question 3. *Is the methodology for calculating the emissions and projected emission trends from the sector adequate? Are there any specific issues related to the inventories (current and projected activities, and emission factors) used in the analysis and if so, how should they be addressed?*

It would be helpful to have some further elaboration on the way in which sectoral policy initiatives will be combined with the cost-effect approach in GAINS to ensure an overall commitment to the goal of cost-effective delivery of any revised health/environmental goals.

Key question 6: *Are the major uncertainties in the assessment for the sector adequately identified and integrated into the sensitivity analysis*

EUROPIA/CONCAWE believe that some further sensitivity analysis is essential. See the suggestions made under key question 6 on the baseline report

EUROPIA/CONCAWE comments on the AQUILA report

***Key Question 1:** Is the description of the current challenges addressed by the recommendations comprehensive and appropriate?*

***Key Question 2:** Have the major air quality measurement challenges and the main Air Quality policy implications been correctly identified?*

EUROPIA/CONCAWE would like to draw attention to the issue of applying appropriate and consistent correction factors in measuring stations for PM_{2.5}/PM₁₀ (e.g. the situation that developed when TEOMs were deployed). See article on this topic published in CONCAWE Review, Volume 16, number 2 of Autumn 2007.

Some further points:

Climate, AQ and SLCFs: The Gothenburg process has highlighted the importance of short-lived climate forcers, and, for the first time in a European context made data available for their quantification. This work, although not accommodated into any formal policy outcomes, already indicates the need to account for them if synergistic rather than antagonistic policies are to be realised. EUROPIA/CONCAWE believes this work should be further developed as part of the current AQPR/TSAP process.

Research: Question 5 deals with the interaction between health and climate benefits. EUROPIA/CONCAWE noted that in the presentation made in the 3rd SEG meeting, that a series of PM control measures have been identified to maximize the benefits for health and climate. The list includes reduction of shipping emissions. We would however, note that the reduction of SO₂ emissions will actually exacerbate global warming, as clearly indicated further down in the same presentation. This is an important point to consider for future policy review.