

How to ensure REAL emission reductions from Europe's transport fuels

- FUEL QUALITY DIRECTIVE - ARTICLE 7a: Implementing provisions

BACKGROUND:

Article 7a of the Fuel Quality Directive, the EU's Low Carbon Fuel Standard, sets a mandatory 6% reduction target for transport fuel suppliers to reduce their lifecycle GHG emissions per unit of energy by 2020. The implementing methodology for Article 7a will go to the European Parliament in September for scrutiny, once final Commission proposals are adopted in the comitology procedure most probably in August. The European Commission is now preparing its proposals for the Member States.

The Co-operative, WWF, Greenpeace, Friends of the Earth and Transport & Environment, all have serious concerns regarding the omission of measures to take account of higher GHG emissions of fuels derived from tar sands and oil shale and different levels of GHG emissions in conventional oil production methods in the Commission's existing draft proposals. We believe this could prevent Article 7a from meeting two of its three stated goals - to "encourage the use of lower GHG intensity fuels" and "reduce GHG emissions from fossil fuel pathways".

SUMMARY:

NGOs and civil society groups urge that the Commission's implementing provisions for Article 7a of the Fuel Quality Directive should include three specific measures to ensure that GHG reduction in supply of transport fuels are achieved by 2020.

- i) **Reintroduce specific default value for tar sands**, as in the 2009 consultation document, and **set a specific value for oil shale**. Both tar sands and oil shale are unconventional fossil fuels. Fuels derived from these feedstocks are more GHG intensive than those derived from conventional crude oil, and so like the other unconventional fossil fuels - coal to liquids and gas to liquids – they too need specific values to reflect their higher emissions.
- ii) **The principle of a 'hybrid' approach**, which would set conservative default values for different fossil fuels and allow the option for suppliers to report actual values, if they can prove that these are better than the default value. This would give real incentive for companies to improve GHG emissions of their fuels over time, something the Commission's favoured 'simple' approach would fail to achieve. Methodology has to be developed for the reporting of actual values. It can be tested until 2012.
- iii) **Commitment to introduce disaggregated default values for extraction and refining methods** for conventional oil in the next review 2012. Introduce robust reporting requirements immediately to provide the data to calculate these future default values, to take account of the wide differences in GHG emissions across different extraction and refining methods, for example enhanced oil recovery and offshore drilling. This will give companies an incentive to maximise their GHG emission savings across the supply chain.

We urge MEPs to raise these requirements with the Commission before the final implementing proposals are adopted. Otherwise, our organizations will respond to growing public concern and publicly campaign for Parliament to reject these proposals in the autumn.

RECOMMENDATIONS:

We have identified three measures that need to be implemented to ensure the success of Article 7a. All would maintain reasonable levels of administrative burden:

1. Immediate introduction of specific default values for all unconventional fossil fuel feedstocks

Transport fuels produced from unconventional fossil fuel feedstock, such as tar sands, oil shale and coal, have particularly high levels of lifecycle GHG emissions. The Commission's proposals currently set higher default values for some unconventional fuels – coal to liquids (172 gCO₂eq/MJ) and 'gas to liquids' (97 gCO₂eq/MJ) – but not for either tar sands or oil shale. Both of these unconventional fuels should be treated similarly, with specific default values set to account for their higher GHG emissions. With an increased lifecycle GHG intensity range of 18% to 49%, it would be inappropriate to treat tar sands the same as conventional petrol/diesel. The use of specific default values for all fuel feedstocks, including all unconventional fossil fuels, would be consistent with the methodology already put in place for biofuels. A specific default value for tar sands of 107 gCO₂eq/MJ was included in the 2009 public consultation document but has been dropped from recent EC documents.¹

Recommendation:

- reintroduce specific default value in the region of 107 gCO₂eq/MJ for tar sands;
- introduce a specific default value in region of 152 gCO₂eq/MJ for oil shale.

Independent peer reviewed scientific studies indicate these levels would be appropriate, with the recommended tar sands default value below average but still 25% higher than the current petrol default value.²

Background on tar sands:

Tar sands are the most commercially exploited unconventional fossil fuel, with large-scale developments in Canada and Venezuela and future plans for exploitation in Madagascar, the Republic of the Congo and Russia amongst others.³ Other unconventional fossil fuels such as oil shale are primarily at the research and development stage.⁴

Independent studies have found that the GHG emissions from extraction to refinery of tar-sands derived synthetic crude oil is on average three times higher than those of the US average for conventional crude.⁵ From a full lifecycle perspective (from extraction to combustion), fuels derived from tar sands have an increased GHG intensity range of between 18% and 49% compared to the current EC draft methodology default value for petrol of 85.8 gCO₂eq/MJ

The Governments of Alberta and Canada, Royal Dutch Shell and BP claim that tar sands derived fuels are only 5% more GHG intensive than conventional oil. However, the sources they cite⁷, besides actually stating 5-15%, are subject to challenge on the grounds that they are not independent or peer reviewed, used only theoretical project data rather than publicly available operator data and used dirtier conventional oils for comparison than other studies such as those from the US Dept of Energy. Independent peer reviewed studies and US Government studies show that the relative emissions of tar sands are much higher than claimed.

Most scientific studies do not currently include GHG emissions resulting from land use change and are therefore likely to be underestimated. Canada's tar sands deposits sit beneath pristine boreal forest, the deforestation and removal and drying of peat could add a further 11% to lifecycle GHG emissions.⁸

Based on the most recent research from the US Dept of Energy/NETL, Canadian tar sands derived synthetic crude is the most GHG intensive crude oil being used in the US today.⁹ The only other sources notable for significantly above average GHG emissions are Venezuelan Bitumen (i.e. tar sands) and Nigerian crude (as a result of illegal gas flaring¹⁰).

Carbon Capture and Storage (CCS) has been heralded as a means of significantly reducing the GHG emissions of tar sands. However, even the industry's most optimistic forecasts and figures for CCS mean it would offer too little, too late and be too expensive to be judged a viable solution.¹¹ Over coming years, the GHG emissions from tar sands extraction are expected to increase as the main method of extraction becomes in-situ rather than mining. The average in-situ operation generates 2.5 times more GHGs per barrel than mining operations.¹²

It is also noteworthy that the significant expansion plans for tar sands exploitation around the world is not compatible with the International Energy Agency '450ppm stabilisation scenario'. It is only compatible with its 'reference scenario', which would lead to 1000ppm of atmospheric CO₂ and 6 degrees of warming.¹³

If there is no specific default value set for tar sands fuels they will be treated the same as petrol or diesel with their much lower general default values. These significantly higher GHG emissions would therefore not be captured and there would be nothing to restrict imports into the EU of these highly GHG intensive fuels. If, as expected, fuels derived from tar sands were to increase EU market share¹⁴, it would also lead to uncertainty over the actual GHG savings resulting from the Fuel Quality Directive and Article 7a.

2. Establish the principle of a 'hybrid' approach

The current 'simple' approach favoured by the Commission, with one 'typical' default value set for petrol and diesel and no option for suppliers to report actual emissions, has serious shortcomings which mean there would be no incentive for oil companies to improve the GHG performance of their fuels beyond the stated default value, defying the very purpose of Article 7a.

However, a 'hybrid' approach with 'conservative' default values would provide an improved incentive, as it would set specific default values and give companies the option to report actual emissions - if they can prove their product emissions are better than the default value.

The main issues with the 'simple' approach are:

- it would not reward companies that are genuinely trying to clean up their production chain, since all fuel suppliers would be treated equally in this simplified approach;
- actual GHG intensities would not be reported to the Commission, so companies only need to work within the default value, and have no opportunity to report actual values to prove that they are performing better than the default;
- there would be no penalties or disincentives for oil companies which invest in increasingly carbon intensive fuel sources; and

- if default values were set at a 'typical' rather than 'conservative' levels, there would be a serious risk of underestimating the GHG emissions of high-carbon fuels, as default values could diverge from reality by a wide margin.

Recommendation:

The Commission should establish the principle of a 'hybrid' approach, which would be easier to justify in WTO as it gives companies an opportunity to prove better performance. This methodology is also consistent with the one already in place for biofuels.

A robust methodology needs to be developed to ensure that oil companies can report their actual emissions on a like for like basis. This may need to be finalised in the 2012 review and so meanwhile the principle of a 'hybrid' approach needs to be adopted, with a test phase of companies reporting independently verified actual emissions data.

The Commission needs accurate reporting to know actual emission values in order to verify and, over time, review the 'conservative' default values used. Default values need to be 'conservative', i.e. higher by some amount than 'typical' emissions, to encourage improvements in the GHG performance of fuels. 'Conservative' default values are already in place for the biofuels methodology and they differ from one feedstock to another.

3. Further differentiation of default values by extraction and refining methods

While the emissions from the combustion of transport fuels are essentially constant, GHG emissions vary widely across different extraction and refining methods. Consequently, potential for GHG emission reductions are largest on the wheel-to-tank basis (extraction and refining), for example by reducing gas flaring. To stimulate companies to exploit this potential, default values should also include specific disaggregated values for extraction and refining processes, such as enhanced oil recovery, off-shore drilling, normal drilling, nitrogen injection and flaring.

Tar sands, which already need one specific default value to account for their different feedstock from conventional crude oil, would also need another default value for their differing extraction methods of mining and in-situ.

If no specific, disaggregated default values were set for the extraction and refining of transport fuels, carbon-intensive methods would remain unaccounted for, and the GHG emissions of carbon intensive conventional oil would be underestimated. Again, there would be no incentive for companies to maximise their GHG emission savings across the supply chain.

Recommendation:

The Commission should commit to introduce different default values for different extraction and refining methods for conventional crude oil, and other feedstocks, in the next review 2012.

It should immediately introduce robust reporting requirements to provide the data to calculate these future default values.

This will give companies a real incentive to maximise their GHG emission savings across the supply chain.

ACTIONS:

With the adoption of Article 7a of the Fuel Quality Directive, the European Union has sent a clear signal that transport fuels must be decarbonised. We urge you to opt for an effective implementation system that helps to achieve this objective.

The Commission is preparing its final proposals to implement Article 7a for end June, so that national experts on the EU Fuels Committee can consider these before a formal decision is taken in August.

The implementing provisions adopted will then be passed to the European Parliament for scrutiny. If no specific measures are included to take account of the three principles highlighted – specific values for unconventional fuels, such as tar sands; commitment to a ‘hybrid’ approach; and disaggregated default values for extraction and refining methods, NGOs and civil society groups will respond to growing public concern and publicly campaign for Parliament to reject these proposals in the autumn.

We therefore urge MEPs to raise these three issues in any contacts with the Commission and Member States over the coming weeks; and specifically to ask that specific default values ARE reinstated for all carbon-intensive unconventional fossil fuel feedstock such as tar sands.

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Endnotes:

¹ Included in Appendix 1 of the EC ‘Consultation paper on the measures necessary for the implementation of Article 7a(5)’ 2009 (ec.europa.eu/environment/air/transport/pdf/art7a.pdf), and removed from Appendix 1 of the EC ‘Conceptual non-paper on the measures necessary for the implementation of Article 7a(5) of Directive 2009/30/EC amending Directive 98/70/EC on fuel quality’, 2010

² Natural Resources Defence Council, ‘GHG Emission Factors for High Carbon Intensity Crude Oils’, April 2010

³ Friends of the Earth Europe, ‘Tar sands – fuelling the climate crisis, undermining EU energy security and damaging development objectives’, May 2010

⁴ *ibid* and The Co-operative Financial Services / WWF-UK, ‘Unconventional Oil: Scraping the bottom of the barrel’, July 2008

⁵ GHGenius found surface mining to be 3 times as carbon intensive as conventional oil and in-situ to be 3.5 times as intensive. GREET found surface mining and in-situ to respectively be twice and 3 times as carbon intensive as conventional oil. These figures are supported by a 2005 Pembina Institute study, which found well to refinery emissions from tar sands to be on average 3 times more carbon intensive than the average for conventional oil. A 2008 RAND Corporation report found them to be between 2.4 to 4.1 times more carbon intensive depending upon the method of extraction. The Co-operative Financial Services / WWF-UK, ‘CCS in the Alberta tar sands – a dangerous myth’, October 2009

⁶ Natural Resources Defence Council, ‘GHG Emission Factors for High Carbon Intensity Crude Oils’, April 2010

⁷ Jacobs Consultancy, ‘Life Cycle Assessment Comparison for North America and Imported Crudes’, July 2009. CEAMA, ‘Growth in Oil Sands: Finding the New Balance’, May 2009.

⁸ Global Forest Watch, ‘Bitumen and Biocarbon: land use conversions and loss of biological carbon due to bitumen operations in the boreal forests of Alberta, Canada’, 2009.

⁹ US Dept of Energy / National Energy Technology Laboratory, ‘An evaluation of the extraction, transport and refining of imported crude oils and the impact on lifecycle greenhouse gas emissions’, March 2009.

¹⁰ <http://www.independent.co.uk/news/world/africa/visible-from-space-deadly-on-earth-the-gas-flares-of-nigeria-1955108.html>

¹¹ The Co-operative Financial Services / WWF-UK, ‘CCS in the Alberta tar sands – a dangerous myth’, October 2009

¹² Pembina Institute, ‘Drilling Deeper – the in-situ oil sands report card’, March 2010

¹³ International Energy Agency, ‘World Energy Outlook 2009’

¹⁴ Greenpeace UK, ‘Tar sands in your tank - exposing Europe’s role in Canada’s Dirty Oil’, May 2010