

Context: Measuring the carbon footprint of petrol and diesel

In 2009, under the terms of article 7a of the Fuel Quality Directive (FQD), the EU committed to reduce the carbon footprint of transport fuels by 6% by 2020. The carbon footprint consists of emissions that occur during the extraction, processing, production and transport of the petrol and diesel sold in the EU market.

It speaks for itself that the carbon footprint can only be effectively *reduced* if it is accurately *measured*. It took the European Commission till October 2011 to propose the detailed rules for the measurement of the carbon footprint of a range of fossil¹ transport fuels, amongst which petrol and diesel which currently constitute some 95% of fuel demand in surface transport.

The proposal says that fuel suppliers (refineries, oil companies etc.) have to provide data on what oil sources they use, and how carbon intensive these are. In order to do this it proposes so-called 'default values' for the carbon footprint of different types of fossil fuels. 'Unconventional' fuels, notably those produced from natural bitumen (tar sands), oil shale, and the coal-to-liquid and gas-to-liquid processes get default values higher than the value for conventional oil. For example, fuel produced from tar sands is considered to be 23% more carbon intensive than fuel coming from conventional crude oil². Importantly, it allows fuel suppliers to demonstrate lower carbon footprint values if they use cleaner-than-average processes (conversely, dirtier-than-average processes are not penalised). All this leads to strong incentives favouring use and hence production of lower-carbon fuels over higher-carbon ones.

Administrative costs – the chain of custody

The oil industry have argued vigorously against these provisions maintaining, among other things, that establishing a chain of custody for its products would lead to unjustified reporting costs and administrative burdens. The industry suggests these costs could be in the order of \$1 per barrel, which would subsequently lead to "some EU refineries (losing) economic viability"³. The industry bases its assumptions on a study by WoodMackenzie that it has not made publicly available.

¹ Biofuels are not included in this proposal; a detailed GHG-accounting methodology for biofuels has already been adopted as part of both the FQD and the EU's renewable energy directive (RED) which sets a target for renewable energy use in transport (mainly biofuels).

² These default values are based on the studies by JEC that does life cycle assessment for EU fuels, including biofuels. The values for tar sands and oil shale are based on the independent study by Professor Adam Brandt from Stanford University and represent the industry average for these feedstocks: <http://goo.gl/yaX4v>.

³ <http://www.scribd.com/doc/88097707>

This has contributed to a political stalemate over the implementing rules. After a failure to agree a way forward at a meeting of member state technical experts in Brussels on 23 February, the Commission is now re-examining the implementing rules. Ministers of Environment will then take the final decision on the approval of the FQD implementing regulation and on what reporting mechanisms will be put in place.

Study into administrative costs

Due to the lack of independent analysis on the question of ‘administrative burden’ costs, T&E commissioned CE Delft, Carbon Matters and Energy Research Centre of the Netherlands (ECN) to examine costs of FQD reporting for the whole refining and supply chain, if the implementing measures proposed by the Commission were adopted as they currently are.

The purpose of the study was to evaluate the information already reported by the oil industry, to identify the extra information needed under the Commission’s proposal and to analyse the cost and effort required to supply that data. The report also examined the impact of the FQD implementing measures on the EU refining sector.

KEY FINDINGS OF THE REPORT:

Most information already available

The study concluded that the necessary information is already available for most EU crude imports. The oil industry reports on all crude imports for the purposes of existing regulations (i.e. customs and energy security). The missing information concerns ‘finished’ and ‘intermediate’ products (such as petrochemicals or diesel which still need further refining before being sold on the market), which represent 20-25% of EU oil consumption. However, even for these imports, the major oil companies already monitor GHG intensity for their own sustainability reports and quality controls. The missing element is the information on the origin (i.e. feedstock) of the refined fuel, which would have to be passed along the supply chain and reported separately.

The proposal widens compliance options

In general, setting a target for greenhouse gas reductions from all transport fuels, as the FQD does, is more cost effective than forcing the use of a particular technology such as biofuels, which is the effect of the Renewable Energy Directive. The FQD steers directly to the goal of GHG reduction, incentivising the lowest-carbon options, whereas the RED steers towards a means: i.e. blending biofuels. Under the FQD, fuel suppliers have more options to reduce GHG emissions, thereby lowering the costs of complying with the legislation.

The report mentions that the Commission’s implementation proposal can lower compliance costs because it opens up additional avenues to comply with the FQD beyond biofuels blending, an example being the counting of reductions from gas flaring. The categorisation of fossil fuels according to their carbon intensity can indeed increase industry compliance costs but can also deliver environmental benefits by introducing a price differential between high and low carbon fuels, thus making the former much less appealing than the latter for the market. This is very much the same as what has happened with the price differentials that currently exist between high and low sulphur fuels.

Correctly accounting for the carbon footprint of different fuels is essential in order to level the playing field between fossil fuels and renewable fuels. At the moment, there is no reporting of fossil fuel emissions in place, but there is for biofuels in both the FQD and RED. As fossil fuels represent 95% of current EU fuel consumption, the Commission's proposal would treat biofuels and fossil fuels in the same way and encourage GHG emissions' reductions across the entire EU transport fuel market.

Reporting costs about a cent per barrel

The study leads to the conclusion that for EU fuel suppliers the cost of establishing reporting, as described in the FQD proposal, is very moderate. It equates to 0.8-1.6 euro cents per barrel of oil. The cost to the end consumer translates to about one quarter to half a cent for a typical 50 litre tank of fuel i.e. the impact would be next to nothing for drivers. These figures refer to the cost of the administrative and verification procedures. Compliance costs – i.e. costs directly related to cleaning up fuels - are not included, as this is something linked with the achievement of the overall FQD targets and not with the implementing measures.

Commission proposal will not harm EU refineries

The report states that if non-EU refineries are treated the same as refineries inside the EU, as is the case with the current Commission proposal, then EU refineries will not suffer from competitive disadvantages. The proposed rules for fossil fuel reporting mirror those already in place for biofuels, where all suppliers are treated in the same way, regardless of where they are based.

The impacts on the origin of EU oil supplies

The report says that in the short term the impact of the proposal on the origin of EU fossil fuel supplies will be very small as the EU imports very little unconventional fuel. However, the share of unconventional fuel is likely to increase in the future and legislation should be put in force in advance of that development, not after.

Current proposal may impact longer-term investment decisions by the industry because there would be a market premium for petrol and diesel with a low carbon footprint, just like there is a market premium for low-sulphur fuel. Establishing sound reporting and accounting systems for high carbon fuels before the market develops further should be the key component of the EU's strategy to reduce future GHG emissions from the transport sector. The Commission proposal establishes a level playing field between all fuels, renewables and fossil fuels alike. Presently, only renewables are monitored under the FQD.

BOX: Other proposals under discussion

Two alternative proposals for implementing the FQD, from the Netherlands and Italy, have also been discussed by Member State technical experts in recent months. As both proposals are being considered as potential alternative to the Commission's proposal, they warrant a brief examination because if taken up they could have significant negative implications. Both proposals (albeit with some technical differences) aim to shift the reporting burden to the European Commission (Italian proposal) or to Member States (Dutch proposal) rather than the oil refining and supply chain. As such they deviate from the basic FQD mandate, according to which fuel suppliers are individually responsible for reporting on the fuels they supply and for meeting their GHG reduction targets. They would also not provide the market premium for low-carbon petrol and diesel and hence not encourage investment in low-carbon production processes and vice versa. These proposals, if adopted, would create fundamental differences in the treatment of fossil fuels and biofuels. They also go against the basic principles of European environmental law, as enshrined in the Lisbon treaty, namely the 'polluter pays' and 'precautionary' approach.

T&E conclusions and policy recommendations

The benefits of the current FQD proposal far outweigh the cost and administrative burden of reporting. The current proposal would align the treatment of fossil fuel with the treatment in place for biofuels and would make compliance with the target cheaper for oil companies, as they could use lower carbon fossil fuels and reduce the emissions from flaring and venting.

T&E therefore recommends that the Commission's implementation proposal be agreed in its current form followed by robust implementation at Member State level.

For further information:

<http://www.transportenvironment.org/what-we-do/dirty-oil>