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COMMISSION STAFF WORKING DOCUMENT

EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

on the calculation methods and reporting requirements pursuant to Article 7a of Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels

Accompanying the document

COMMISSION DIRECTIVE ../.../EU

laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels

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1. INTRODUCTION

In 2009, the Fuel Quality Directive[1] ("FQD"') introduced an obligation on fuel suppliers to reduce by 6% the lifecycle greenhouse gas ("GHG") intensity of all road (and non-road mobile machinery) fuels by 2020. To comply with this requirement fuel suppliers need to report and account for the GHG emissions associated with the fuels they supply. The methodology for calculating the lifecycle GHG intensity of fuels of non-biological origin was left to be developed through comitology[2]. A methodology for calculating the lifecycle GHG intensity of biofuels is already prescribed in the FQD.

In this context, a draft[3] implementing measure was discussed in the Fuel Quality Committee with the Member States during 2011 and 2012 and resulted in a "no opinion" vote. In accordance with the provisions of the Comitology Decision, the Commission is now obliged to submit a proposal to the Council. This impact assessment supports such a proposal.

2. PROBLEM DEFINITION

Under article 7a of the FQD fuel suppliers are to report annually the total volumes of fuel types/energy supplied indicating their origin and place of purchase, and their life cycle GHG emissions per unit of energy to Member States' authorities. The reporting mechanism aims to ensure accuracy, in respect to the GHG emissions reductions to be achieved, as well as data on the actual average GHG intensity of the pertinent fuels consumed in the EU in order to update the fossil fuel comparator, which measures the GHG savings provided by biofuels.

A number of variations are possible for developing such a methodology according to which level of disaggregation is used (e.g. product, feedstock or consignment), and whether actual calculations of GHG emissions and/or default values are permitted. The possible methodologies impose different demands on industry depending on their complexity, and will ultimately lead to different price signals which will influence the final fuel mix and corresponding associated mitigation actions.

The aim of this impact assessment is to assess the appropriateness of the options for developing such a methodology and their associated environmental, economic and social impacts. To support its assessment, the Commission launched an external study in 2012[4], whose interim findings were discussed with stakeholders in December 2012 and April 2013[5].

3. SUBSIDIARITY

The obligation on suppliers to reduce by 6% by 2020 the lifecycle GHG intensity of road fuels used in road vehicles (and in non-road mobile machinery) was introduced with the adoption of the FQD.

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1 Directive 98/70/EC.

2 Directive 2009/30/EC, Article 7a(5).

3 Annex 3 and 4 of the current proposal: http://ec.europa.eu/transparency/regcomitology/index.cfm?do=search.documentdetail&XOvfOQKYHt67nl0gDR9EQ0pDU4MfDGIJHglKuEmrBsRhxbx1TISJ2Mfg5DtxY23N

4 https://circabc.europa.eu/w/browse/6893ba02-aaed-40a7-bf0d-f5affc85a619

5 https://circabc.europa.eu/w/browse/ced1b370-4443-49ef-839f-fa4a8b55a550 and https://circabc.europa.eu/w/browse/9ee501ad-fdfe-4975-80d4-477557384644

4. POLICY OBJECTIVES

The chosen methodology needs to address the general objective of the FQD:

To ensure that the GHG intensity of road transport fuels is accurately measured and reduced by at least 6% compared to 2010.

Given the following specific objective**:**

To establish a suitable methodology for fuel suppliers to accurately estimate and report the volumes, origin, place of purchase and the life-cycle greenhouse gas emissions of the fuels that they supply.

and operational objectives:

To establish a methodology for fuel suppliers to report as accurately as possible the life-cycle greenhouse gas emissions, covering all relevant stages including extraction, land-use changes, transport and distribution, processing and combustion, irrespective of where those emissions occur, of the fuel and energy other than biofuels that they supply.

To ensure that the methodology results in as accurate as possible fossil fuel comparator.

To ensure that the reporting methodology is as consistent as possible with that already established in the legislation for biofuels.

To ensure that such methodology enables Member States to verify compliance by fuel suppliers with their obligation in a way which does not lead to an unacceptable level of administrative burden for suppliers and competent authorities.

5. POLICY OPTIONS

The policy options considered in the impact assessment are described below:

Options/sub-options	**Description**
A) No methodology	No methodology would be proposed and so Member States would not be able to implement the FQD. The Commission thus fails to act; accordingly this option is discarded without any further analysis.
B) GHG default values by fuel type	This approach would represent the simplest reporting requirement. It requires an average default GHG intensity value to be developed for the main four fuel types consumed in the EU (i.e. petrol, diesel/gasoil, liquefied petroleum gas and compressed natural gas). It does not differentiate between suppliers according to the feedstocks that are included in their fuel mix as these are integrated in the EU (option **B1**) or Member State (option **B2**) average. As Option **B2** leads to internal market barriers (different requirements would apply to fuel suppliers depending on which Member State the fuel is supplied to), which is against the objective of the FQD, this option has been discarded and only option **B1** has been further assessed. Option **B1** is favoured by the oil industry (including oil majors, independents and traders), certain exporting oil countries and certain Member States.
C) GHG default values by feedstock type	Under this option, the GHG intensity of all feedstocks used in the EU would be reported separately through the use of average default values (i.e. petrol and diesel/gasoil from oil, natural bitumen, oil shale, coal to liquid, gaseous fuel and electric energy, etc.). Therefore, differences between suppliers according to the feedstocks that are included in their fuel mix would be reported. This methodology would require suppliers to collect information beyond their existing levels as well as additional requirements to track it throughout the supply chain.

	Option **C** was the measure submitted to the Member States in October 2011. This option is favoured by environmental NGOs and certain Member States.
D) GHG default values by feedstock type or actual GHG values	Under this option, suppliers' compliance would be based on the GHG impact of all feedstocks used in the EU (e.g., petrol and diesel/gasoil from oil, natural bitumen, oil shale, coal to liquid, gaseous fuel and electric energy, etc.). Suppliers would report default values based on average (option **D1**) or conservative, higher than average, GHG intensity values (**D2**). These options would require reporting of the origin of fossil fuel feedstocks. Alternatively, suppliers may choose to provide actual values. This option implies the same data collection and traceability requirements as option C, the compliance effort of option B1, and additional efforts for those suppliers choosing to report actual values. Options **D1** and **D2** are favoured by environmental NGOs, and stakeholders from the bioenergy and agricultural sectors as this is the methodology applied to biofuels.
E) Actual GHG values	This option requires upstream GHG emissions estimates for individual fuel consignments to be calculated and reported (e.g. field level, trade name, Marketable Crude Oil Name, etc.) by suppliers. This option should provide the most accurate reporting of the GHG intensity of fuels consumed in the EU but is also the most complex, as suppliers would need to provide their own values and data limitations currently exist. Option **E** is not favoured by any specific stakeholder group, although it is seen by some Member States and certain oil exporting third countries as the fairest approach as it is based on full differentiation of all fuels.

6. ASSESSMENT OF THE POLICY OPTIONS

This summary presents the options in terms of their effectiveness in achieving the key objectives as well as their implications for wider environmental, social and economic impacts.

6.1. Effectiveness

The most effective option for reporting the GHG intensity of fuels at EU and supplier level is option E, as it requires all fuel suppliers to report actual values. However, actual disaggregated data may not currently be available for all fuel types and suppliers; it is also the most complex from a verification perspective and carries the largest risk of fraud.

The second most accurate option for reporting GHG intensity at EU and supplier level is option C, as fuel disaggregation at a feedstock level already captures most of the variation between fuels according to their GHG intensity. This methodology requires additional data collection and tracking efforts from fuel suppliers and verification by Member States would be of a medium complexity.

The third most accurate options are D1 and D2. These options provide modest accuracy for reporting the GHG intensity at supplier level, for similar reasons as B1. However, given that only suppliers with a lower GHG intensity than the EU average would be encouraged to report actual values under this option, the reported average EU emissions could be underestimated by up to 1 p.p. of the overall 6% target in the case of option D1. This effect could be mitigated under D2 as the conservative default value would also encourage suppliers of fuels with higher emissions than the average to report actual values. This methodology does require significant additional data collection and tracking efforts from fuel suppliers and verification by the Member States would be complex. Arrangements would be more complex for those suppliers choosing to provide actual values.

The simplest and least cost option is B1 (average default values per fuel). However, it is also less accurate due to the fact that the reporting requirements based on averages do not capture either GHG intensity variations between (i.e. conventional versus unconventional fuels) and within (higher intensity conventional fuels versus lower intensity conventional fuels) feedstock categories. While this option poses some risks with regards to the accuracy of the reported average EU emissions as well as the development of the fossil fuel comparator values as no market information is collected, this option would enable Member States to verify compliance in the simplest possible way and minimise possibilities for fraud through implementing a methodology with the least administrative complexity .

With regards to policy coherence with biofuels, option D2 would be most consistent, while option D1 and C would be partly consistent with the biofuel methodology. Furthermore, option E would be more burdensome on fuel suppliers. Clearly option B1 would be less burdensome.

6.2. Environmental impacts

The production of fuels can have a negative impact on the environment because of upstream and downstream activities, which can lead to negative air quality and biodiversity impacts as well as the consumption of large amounts of resources, particularly for unconventional sources. Although all options lead to some positive environmental impacts compared to the baseline scenario, these are highest under option C as the reduction in the consumption of more resource intense and more polluting unconventional sources is greater.

6.3. Economic and social impacts

6.3.1. Administrative costs

Quantification of the administrative burden has been estimated to be the lowest for option B1 at €3 million annually as this option has the simplest reporting and verification mechanism. These costs increase, in line with higher degree of complexity on average, to €15, €23, €23 to €31, and €31 million annually for options C, D1, D2 and E respectively. These costs are low for all the options and of the order of magnitude between €0.001- 0.01 cents per litre.

6.3.2. Compliance costs

Once the levels of biofuels and renewable electricity needed to achieve the Renewable Energy Directive are considered, the bulk of the additional carbon abatement required to comply with the FQD comes from reductions in upstream emissions and additional biofuel blending under all options leading to similar costs. The replacement of higher intensity with lower intensity fuels seems to play a small role in terms of the overall abatement needed under those options where this is allowed given that abatement costs for other technologies are much more favourable. The option with the lowest compliance costs is D1 at €1 million annually, followed by options B1, C, D2 and E, at €6, €8, up to €9, and €9 million respectively[6]. These costs are low for all options and up to 0.003 euro cents per litre. Option D1 presents lowest compliance costs due to the underestimation of the emissions at EU level, which leads to a lower abatement effort overall being required.

6.3.3. Other costs and competitiveness impacts

Option D1 appears to lead to the lowest increase in market costs at €59 million, due to the under-reporting of EU average emissions. All other options lead to similar market costs of

[6] Estimated costs are reported here on an annual basis. Conversely to administrative costs, total compliance costs are only expected to occur in the year 2020 when the FQD obligation applies.

€79 million. Overall impacts on pump price increases of 0.02-0.04 eurocents per litre have been estimated for all options[7].

With regards to the impacts of the additional burden on the petroleum industry sector, and in particular EU refineries, it seems reasonable to assume that producers will pass through most of the costs to consumers. As costs are low and no significant reductions in total fuel consumption are expected, no significant changes in market structure, value added, capacity to innovate, employment or competitiveness of EU refiners compared to international competitors is expected.

7. CONCLUSION

In conclusion, the choice of methodology is critical in determining the accuracy of the reported carbon intensity of the fuels being supplied. Some methodologies lead to a certain underestimation and/or overestimation of the GHG intensity of fuels at the supplier level. Options D1 and D2 tend to also underestimate the GHG intensity of fuels at the EU level. Inaccurate reporting can partly reduce the overall ambition of the FQD and affect the way the burden is shared amongst fuel suppliers.

The options that lead to a further level of disaggregation than simply fuel type (i.e. feedstock and fuel consignment level) are more effective in encouraging consumption of lower GHG intensity and less polluting fuels. These yield positive results with regards to environmental impacts. Indirectly, this tends to lead to small reductions in imported products as crudes sourced by EU refineries tend to exhibit lower carbon intensities.

There is little variation in terms of economic costs with regards to the different options although some differences in administrative and compliance costs have been found – option B1 is the lowest cost option. These costs are not considered to be significant in terms of economic or competitiveness impacts for fuel suppliers. Reductions in upstream emissions and increased biofuel blending deliver the bulk of the additional reductions needed to achieve the FQD target under all options. The possibility for suppliers to replace higher with lower carbon intensity fossil fuels plays a limited role in achieving the mandated greenhouse gas emission reductions under those options where this abatement option is allowed.

Where suppliers can choose between the reporting of their actual GHG intensity values or a default value being provided there is a risk that suppliers of high intensity crudes could profit from this flexibility unless such default values are set conservatively.

B1 leads to the simplest implementation and verification mechanism given that it does not require any additional data collection. However B1 (based on average default values per fuel) yields certain inaccuracies in terms of reporting GHG intensity at supplier level and poses some risks in reporting the EU average. This is because with reporting based on average default values per fuel no real market information is collected by suppliers under this option. While being the simplest approach option B1 environmental performance is relatively worse. In contrast, options C, D1 and D2 are similar in terms of providing an accurate methodology and present positive environmental impacts, although more burdensome in particular D2 . In conclusion, there would appear to be a series of issues that finely balance the choice between options C, D1, D2 and B1. The option B1 approach is expected to lead to the lowest administrative costs. While option E is attractive as potentially more accurate, it would be

[7] The pump price increases represent the change in cost between the baseline and the different options-the effort of achieving the FQD once the RED target has been met. Absolute pump price increases for the entire 6% reduction would be around 0.3 cents per litre.

difficult to implement this option in the short term. That is why option B1 is preferred: Average default GHG values by fuel type (petrol/diesel) based on an EU fuel mix ("basic reporting approach").