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MINIMUM REPORTING OBLIGATIONS IN THE FUEL QUALITY DIRECTIVE

The European Union (EU) Fuel Quality Directive (FQD) requires Member States to reduce the greenhouse gas (GHG) intensity of fuels in road vehicles and non-road machinery by 6% by 2020. To measure progress toward the target, the European Commission is designing measures to account for lifecycle GHG emissions from fossil fuels and reporting rules on fuel suppliers. These reporting measures will outline a methodology and default values for the lifecycle GHG emissions of transport fuels derived from different feedstock sources, including those from unconventional crudes.

SUMMARY OF ANALYSIS

- This briefing addresses concerns over the impending rules that implement the Fuel Quality Directive. In particular, some stakeholders are concerned that requirements to account for the GHG balance of tar sands would be disproportionate due to current levels of imports.
- Petroleum products containing tar sands are regularly entering the European Union, primarily through diesel imports from the US Gulf Coast. Imports from that area have increased significantly since 2008 and are expected to continue to rise in the future. Certain planned projects, such as the Keystone XL pipeline if built, would dramatically increase the amount of tar sands products coming into the Union, including diesel, jet fuel, bunker fuel, lubricants, and petroleum coke.
- The Fuel Quality Directive places minimum reporting obligations on fuel suppliers to provide the total volume of each type of fuel supplied, its place of purchase, its origins, and its lifecycle GHG emissions per unit of energy. Tar sands are one of the sources for transport fuels and are hence not exempted from these reporting obligations.
- Reporting obligations in the Province of Alberta already require facilities to report GHG emissions from tar sands extraction, upgrading, in situ operations, and refineries. This is reported separately from conventional oil and gas extraction.
- Importers of energy goods into the European Union already have to provide detailed information at the time of importation, including the country of origin, qualities of the crude, and end-uses.
- The Low Carbon Fuel Standard in California establishes similar reporting measures for regulated parties, including obligations to provide information regarding the feedstock source and definition of pre-established values on carbon intensity that differentiate between high-carbon intensity crude oil, such as tar sands.
- The Commission proposal would align registration requirements of fossil fuels with those for biofuels, which require fuel suppliers to track the type and origin of the biofuel feedstock to determine its carbon intensity.
- Finally, other EU regulations, such as the EU Timber Regulation, place obligations on operators and importers to provide minimum information on the type and origin of their products that extend far beyond those advanced in the Commission proposal to implement the FQD.

TABLE OF CONTENTS

BACKGROUND

Particular concerns have arisen over requiring suppliers to track the origin of the feedstock source used for transport fuels, with some claiming a disproportionate administrative burden. This concern has arisen in particular in relation to fuels produced from tar sands. To determine whether the relevant obligations are disproportionate, this briefing explores two aspects. First, it assesses—based on new evidence—the likelihood and amount of future tar sands imports to the EU. Second, it examines the additional level of obligations placed on fuel providers with respect to existing requirements for transport fuel suppliers and obligations in other industries.

REPORTING OBLIGATIONS FOR FUEL SUPPLIERS UNDER THE FUEL QUALITY DIRECTIVE

In adopting the FQD, the Union legislature made a political decision to require fuel suppliers to provide minimum information on their fuels. These reporting obligations—codified in the text of the FQD—require suppliers to report, on an annual basis, information to be used to calculate the GHG intensity of transport fuels. This information includes: the total volume of each type of fuel supplied, its place of purchase, its origins, and its lifecycle GHG emissions per unit of energy. The Commission is empowered to establish guidelines for the provision of this information, which should be crafted to minimize administrative burden. But the reporting obligations themselves—and the minimum information outlined in the law—are critical for the FQD to achieve its objectives to reduce GHG emissions and not subject to modification, as they represent already-adopted EU law.

The FQD outlines the reporting obligations in Article 7a(1). There, "Member States shall designate the supplier or suppliers responsible for monitoring and reporting life cycle greenhouse gas emissions per unit of energy from fuel and energy supplied."[1] Supplier is defined as "the entity responsible for passing fuel or energy through an excise duty point or, if no excise is due, any other relevant entity designated by a Member State."[2] Lifecycle GHG emissions means "all net emissions of CO_2, CH_4 and N_2O that can be assigned to the fuel (including any blended components) or energy supplied", which includes "all relevant stages from extraction,… transport and distribution, processing and combustion, irrespective of where those emissions occur."[3] Starting in 2011, suppliers must begin providing minimum information on their fuels:

> With effect from 1 January 2011, suppliers shall report annually, to the authority designated by the Member State, on the greenhouse gas intensity of fuel and energy supplied within each Member State by providing, as a minimum, the following information:
>
> (a) the total volume of each type of fuel or energy supplied, indicating where purchased and its origin; and
>
> (b) life cycle greenhouse gas emissions per unit of energy.[4]

In order to promote accuracy, the FQD further requires Member States to "ensure that reports are subject to verification," which will likely require a verification process of some sort.[5] In addition, in order to aid implementation, the FQD empowers the Commission to "establish guidelines for the implementation of [the minimum reporting obligations]."[6] To date, the Commission has yet to develop any guidelines.

Article 7a(1) already requires reporting on origin. In the FQD context, origin refers to feedstock source. On one view, the feedstock source is germane to determine the lifecycle GHG emissions associated with extraction and processing of the transport fuel. Both extraction and processing are stages explicitly identified in the definition of "lifecycle GHG emissions."[7] On another view, it conforms to the information needed to secure a "guarantee of origin" for renewable energy, which requires energy producers to specify "the energy source from which the electricity was produced and the start and end dates of production" and "the identity, location, type and capacity of the installation where the energy was produced."[8] In sum, the FQD as adopted by Council and Parliament requires fuel providers to report the feedstock source as part of the information on the "origin" of the fuel or energy supplied.

The FQD also contains a different but related provision for calculating GHG intensity. In Article 7a(5), the Commission is empowered to adopt "[m]easures necessary for the implementation of this Article, designed to amend *non-essential elements* of this Directive *by supplementing it*."[9] The Commission is not allowed to revise the minimum information required in Article 7a(1) through the implementing measures allowed under Article 7a(5), only to supplement it. This can be achieved through default values.

OVERVIEW OF COMMISSION PROPOSAL

Following stakeholder consultation, the Commission crafted a proposal establishing default values representing the carbon intensity of different types of fuels.[10] These default values would be relied upon by suppliers for reporting purposes, which is much less onerous on suppliers than requiring actual values for all transport fuels.[11] But where upstream emission reductions take place—upstream emissions are defined as "all GHG emissions occurring prior to transport and distribution of feedstocks to a refinery"—suppliers may opt to report their actual values to benefit from these reductions.[12] Default values are outlined for different feedstocks—conventional crude, natural bitumen (tar sands), oil shale, coal, and natural gas—and take into account the process to transform them into a transport fuel.[13] This differentiation is essential in order to adequately account for the GHG intensity of fossil fuels for the purpose of reporting pursuant to the GHG reduction obligations in the FQD. This method mirrors the approach adopted for biofuels which also differentiates carbon intensity based on the feedstock source and production pathway. The Commission will periodically review these values in line with the latest technical and scientific information.[14] As currently drafted, the Commission proposal meets the minimum reporting obligations in the FQD while minimizing the burden.

TRANSPORT FUELS DERIVED FROM TAR SANDS IN THE EUROPEAN UNION

A primary criticism of the Commission proposal is that in differentiating among feedstock sources, suppliers will be required to put into place procedures to verify the origins of their raw materials. To tar-sands proponents, this represents a disproportionate administrative burden in light of the market penetration of transport fuels derived from tar sands. This criticism misses the mark.

A recent report reveals that petroleum products containing tar sands are already regularly entering the EU's petroleum supply chain, primarily through diesel imports from the US Gulf Coast.[15] Since 2008, there has been an increase in the trade in diesel fuel between the US Gulf Coast and the EU, which is likely to continue especially due to the diesel deficit in the EU market and a similar surplus in the US.[16] These structural dynamics are forecast to continue in long term.[17]

Certain planned projects may also represent game-changers.[18] For example, the planned construction of the Keystone XL pipeline, if it goes ahead, would deliver up to 500,000 barrels per day of tar-sands crude from Alberta to Texas by 2013, which could be expanded to 900,000 barrels per day at a later date.[19] At the present, there is around 100,000 barrels per day of tar-sands crude entering the region, meaning the Keystone XL pipeline would lead to a fivefold increase.[20] Another report reveals that the refineries along the US Gulf Coast are focusing on expanding exports, notably to Europe and Latin America, due to ongoing shortages in diesel and refining capacity in those regions.[21] Indeed, the Keystone XL pipeline's business model is premised on securing long-term contracts with select shippers to export to foreign markets rather than rely on the spot market.[22] Valero is the largest exporter of petroleum products in the United States: in the first quarter of 2011, it exported 165,000 barrels a day of diesel to Europe and Latin America.[23] If the Keystone XL pipeline is built, the exports to Europe from Valero and other companies would rely much more heavily on Albertan tar sands crude. It is clear that, if the tar sands content of these transport fuels are not reported, EU climate objectives are at risk.

ADMINISTRATIVE BURDEN OF REPORTING FEEDSTOCK SOURCE

There has been much misinformation regarding the actual administration burden of reporting feedstock source for transport fuels. As an initial matter, it bears reiterating that this information is germane to determine the carbon intensity of the transport fuel and, for this reason, is already required under the FQD.[24] But the Commission proposal actually represents a well-structured and commonsensical approach that relies on information readily available to suppliers—the feedstock source—and provides flexible mechanisms for calculating carbon intensity using actual or default values.

Following an exhaustive review of regulatory systems in the European Union and beyond, it is unclear why the FQD and Commission proposal requiring fuel suppliers to track feedstock source are being characterized as too burdensome. In the attached appendices, we provide reviews of these regulatory systems, which are summarized below:

- Appendix I reviews the reporting obligations in existence in Canada, using the Province of Alberta which is currently the main producer of tar sands as an example. There, tar sands extraction, upgrading, and in situ operations are all reported separately from conventional oil and gas. In addition, refineries maintain statistics on the crudes entering their facilities – information that could easily be used to allocate emissions from refineries to their products in proportion to the input streams.

- Appendix II reviews the obligations on importers into the European Union to provide information on their imported goods for customs purposes. Based on the Combined Nomenclature, the Community Customs Code, Excise Duty Directive, and Energy Taxation Directive set out obligations to track and declare information similar to that required in the FQD and Commission proposal. Indeed, importers need to provide, and refiners already collect, information on the source of the crude (country of origin) as well as its properties, such as density and sulfur content.[25]

- Appendix III reviews the California Low Carbon Fuel Standard (LCFS), which sets out reporting obligations that could easily be deemed as more "burdensome" than those in the FQD and Commission proposal. In California, regulated entities must likewise

provide information on the type and origin of the fuel provided in order to calculate lifecycle GHG emissions to demonstrate compliance with mandated carbon intensity reductions. It also requires information to differentiate between conventional and unconventional feedstocks, such as tar sands, with corresponding pathways for calculating the differences in lifecycle GHG emissions – just like in the FQD and Commission proposal. But the LCFS reporting goes further, requiring reporting on both quarterly and annual bases and screening for thermally enhanced oil recovery, flaring practices in the country of origin, mining activities, and upgrading.

- Appendix IV reviews the Renewable Energy Directive and its obligations on biofuel suppliers to meet sustainability criteria in order to count toward mandatory targets. The same criteria also apply for biofuels that will count to the Fuel Quality Directive. To demonstrate compliance with the sustainability criteria, biofuels suppliers and producers need to report on the origin, feedstock source, and lifecycle GHG emissions of their biofuel. Biofuels represent a much smaller share of the market than fossil fuels yet EU legislators adopted reporting obligations necessary to ensure attainment of climate objectives and sustainability criteria. Convincing arguments on why this kind of tracking would not be possible for the emerging unconventional sources of fossil fuels are lacking.

- Appendix V reviews the EU Timber Regulation, which requires operators placing timber or timber products to provide significant amounts of information. This information includes the trade name, type of product, quantity, and name and address of the supplier. It also includes the country of origin and, where applicable, the sub-national region where the timber was harvested and the concession of harvest. Operators must also exercise due diligence to ensure the timber or timber products were not harvested illegally, which requires securing and reviewing documents demonstrating compliance with timber and forest laws in the country of origin – even for composite products that come from many sources. The reporting obligations in the FQD and Commission proposal pale in comparison, especially given the vertical integration that characterizes the oil industry.

In short, the FQD and Commission proposal represent a relatively streamlined and un-burdensome approach toward achieving the European Union's climate objectives. Rather than support a reconsideration of the current Commission proposal, a review of similar regulatory frameworks reveals its relative modesty in terms of the obligations that it places on fuel suppliers.

CONCLUSION

As imports of tar sands products into the European Union are expected to increase, failing to account for their higher GHG emissions (as is the case for other unconventional sources) threatens to undermine the FQD carbon reduction target. But much of the required information is readily available and, to the extent any tracking is required to ensure accurate accounting, the Commission proposal requires minimal additional reporting as compared to existing obligations on fossil fuel providers, and compared to EU obligations on other industries.

For further information please contact:

Nuša Urbančič, Transport & Environment
+32 (0)2 893 0846 | nusa.urbancic@transportenvironment.org

Tim Grabiel, Défense Terre
+33 (0)6 32 76 77 04 | tgrabiel@defenseterre.org

Franziska Achterberg, Greenpeace European Unit
+32 (0)2 2741918 | fachterb@greenpeace.org

APPENDIX I
GHG REPORTING ON TAR SANDS-RELATED ACTIVITIES IN THE PROVINCE OF ALBERTA

The Province of Alberta is home to some of the largest tar sands reserves in the world. It also produces conventional oils and natural gas. As a result of the Specified Gas Reporting Regulation, facilities are required to report their GHG emissions to appropriate authorities at various points along the supply chain. A review of available information reveals that the GHG emissions associated with tar sands are reported separately from conventional sources of crude – something that is true over the majority of product's lifecycle. At extraction, GHG emissions are reported for each individual site and are categorized according to the feedstock source: oil sands (hereinafter referred to as tar sands for consistency purposes) or conventional oil and gas. At upgrading, GHG emissions associated with upgrading tar sands into synthetic crude are reported at the facility level. At refineries, input statistics are available for crudes derived from tar sands and conventional crudes, which are reported separately. In short, separate reporting of GHG emissions for different feedstock sources is in place in Alberta, where most tar sands imports are expected to come from in future. Tis information can be used to allocate emissions to oil products produced from Albertan tar sands.

Reporting on Tar Sands Production and Upgrading. The Specified Gas Reporting Regulation, which falls under the federal Climate Change and Emissions Management Act, requires facilities emitting over 50,000 tonnes of CO_2e per year to report their GHG emissions.[26] With respect to tar sands, all mines, upgrading facilities, and large-scale in situ operations surpass this threshold. Since tar sands resources are geographically isolated from conventional resources and use different extraction techniques, there are no facilities that extract both tar sands and conventional crudes simultaneously. As such, in practice, individual facility-level reporting separates GHG emissions data for tar sands from conventional crude.[27] Using this information, the Canadian government generates reports with GHG emissions by facility and industry in which tar sands mining, upgrading, and in situ operations are distinguished from conventional oil and gas extraction.[28] Not only does this diminish concerns related to differentiating based on feedstock source, but it also means in instances in which actual values of GHG emissions for transport fuels derived from tar sands are less than the default values at these stages, fuel suppliers can elect to capture those gains under the Commission proposal.

Reporting at the Refinery Level. Statistics Canada reports, for each province, the volume of crudes entering refineries.[29] These reports separate synthetic crudes—which are derived from tar sands—from conventional crudes, breaking down the data into the following categories: conventional crude oil (light); conventional crude oil (heavy); synthetic crude oil (light); crude bitumen; and condensates and pentanes. In differentiating between conventional crudes and synthetic crudes, it is possible to separate out tar sands and allocate refinery emissions to its outputs in proportion to the input streams. Such allocation represents a relatively straight-forward exercise that would involve little, if any, noticeable administrative burden. The EU Renewable Energy Directive establishes a similar system for biofuels and bioliquids, which was not deemed at the time of consideration as creating a disproportionate administrative burden.[30]

APPENDIX II
REPORTING AT TIME OF IMPORTATION INTO THE EUROPEAN UNION

The European Union requires importers (read: suppliers) to provide information on their imported goods for customs purposes. Based on the Combined Nomenclature, the Community Customs Code, Excise Duty Directive, and Energy Taxation Directive set out obligations to track and declare information similar to that required in the FQD and Commission proposal. Suppliers should already report the country of origin, properties of the crude, and its intended purpose at the time of importation.[31] The only additional data point needed—to the extent it is not already provided as discussed below—would be the feedstock source, which can be communicated with other customs-related information along the supply chain to the supplier importing into the European Union.

The basis of all reporting is the Combined Nomenclature (CN), which provides tariff classifications for imported goods.[32] Each year, the European Commission publishes an updated version of its Annex I setting out tariff classifications—called CN codes—for all imported and exported products.[33] The annual updates account for changes agreed to at the international level, specifically the Harmonized System for nomenclature in the WCO.[34] The CN codes for petroleum oils differentiate according to: (i) physical properties, such as density, sulphur content, and distillation temperature; and (ii) feedstock source, such as crude or bituminous materials other than crude.[35] In addition, CN codes require importers to disclose the *intended purpose* of the imported goods in the European Union.[36] This includes those imports for use as transport fuels and those destined to undergo specified processes at refineries.[37] A supplier cannot determine the applicable CN code without this information.

The Customs Code lays down the general rules and procedures applicable to goods brought into or out of the Community customs territory.[38] It is currently being modernized and will apply no later than mid-2013 when its implementing measures enter into force.[39] Under either version, however, upon entry into the European Union goods must be accompanied by a customs declaration and supporting documentation that is subject to verification by customs authorities.[40] The required information includes proof of origin.[41] In the instance the goods were produced in more than one country, under the Modernised Customs Code, they "shall be deemed to originate in the country or territory where they underwent their last substantial transformation."[42] The term "substantial transformation" has yet to be defined so it is an open question whether it includes the process of upgrading tar sands into synthetic crude, for example.[43] In either instance, import duties are based on the tariff classifications in the CN but may also be based on "any other nomenclature which is wholly or partly based on the Combined Nomenclature or which provides subdivisions to it" in addition to measures provided for in other EU legislation.[44] To the extent necessary, this provides a legal basis for distinguishing between petroleum oils derived from conventional crudes or synthetic crudes.

The Excise Duty Directive (EDD) and Energy Taxation Directive (ETD) concern payment of fees. EDD lays down arrangements for levying excise duties on the consumption of energy products.[45] Under EDD, excise goods are "subject to excise duty at the time of: (a) their production, including, where applicable, their extraction, within the territory of the Community; (b) their importation into the territory of the Community."[46] In general, the excise duty becomes chargeable "at the time, and in the Member State, of release for consumption."[47] For imported goods, this is at the moment of importation "unless the excise goods are placed, immediately upon importation, under a duty suspension arrangement."[48] In

those instances, the excise goods become chargeable when the so-called "authorized warehousekeeper" storing the excise goods releases them for consumption.[49] Movement of excise goods is monitored through a computerized system.[50] EDD operates through the formalities laid down in the CCC, meaning that the information provided at the time of the customs declaration must be sufficient to ensure appropriate application of the excise duty. The energy products are defined according to their CN codes.[51] ETD lays down the Union framework for the taxation of energy products and electricity.[52] ETD covers energy products destined for use as transport fuels, and explicitly includes petroleum oils obtained from crudes and bituminous materials according to their CN codes.[53] The Commission has recently submitted a proposal to amend ETD, but it does not disrupt the fundamentals for levying taxes on petroleum oils.[54]

Taken together, existing EU legislation require economic operators and importers to provide significant information on energy goods destined for consumption in the European Union.

APPENDIX III
REPORTING FEEDSTOCK SOURCE IN THE CALIFORNIA LOW CARBON FUEL STANDARD

The California Low Carbon Fuel Standard (LCFS) requires transportation fuels to achieve a 10% reduction in carbon intensity by 2020.[55] The LCFS defines carbon intensity as the amount of lifecycle GHG emissions, per unit of energy of fuel derived, expressed in grams of carbon dioxide equivalent per megajoule (gCO_2eMJ).[56] Lifecycle GHG emissions comprise "the aggregate quantity of greenhouse gas emissions… including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer."[57] The LCFS shares many similarities to the FQD.

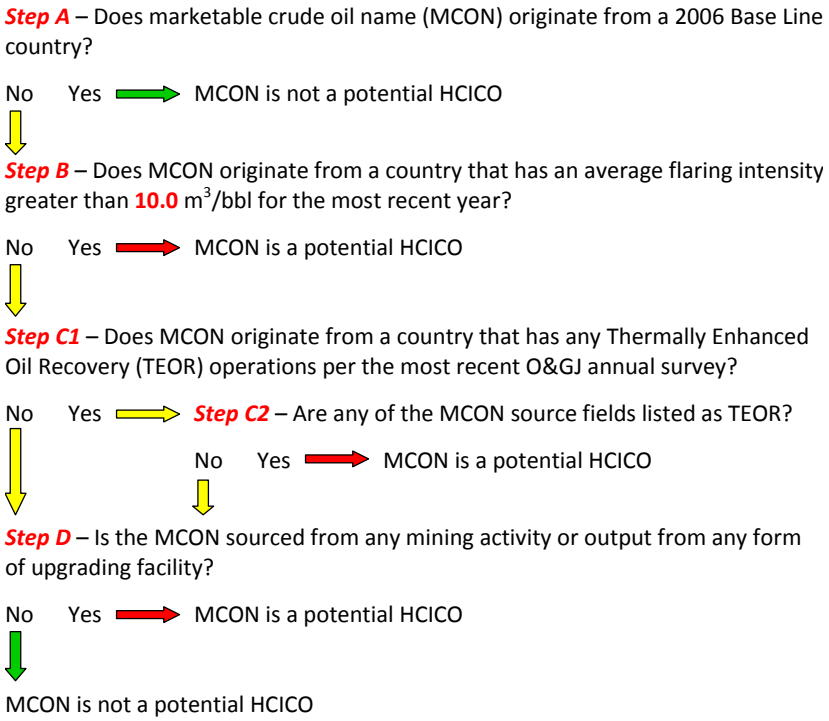
The LCFS differentiates high carbon-intensity crude oil (HCICO) from other crude oils, treating them differently from fuels derived from non-HCICO.[58] In addition to screening for mining activity and upgrading, a fuel is classified as an HCICO if its crude oils require thermally enhanced oil recovery (TEOR), such as is the case for unconventional crudes like tar sands, or it is produced in a country with certain flaring practices. The type and origin of the feedstock is, therefore, critical for determining its GHG intensity. For those fuels derived from a non-HCICO, regulated entities must use "Method 1" for their reporting, which comprises a series of carbon intensity values for fuel pathways listed in the "Carbon Intensity Lookup Table."[59] For those fuels derived from an HCICO, regulated entities must rely on a fuel pathway for the HCICO listed in the Carbon Intensity Lookup Table but, in the instance no corresponding HCICO pathway is available, the regulated entity must propose a new HCICO pathway and obtain CARB approval prior to use.[60]

The LCFS sets minimum reporting obligations. Starting in 2011, in order to demonstrate compliance with annual average carbon intensity reductions, regulated parties must comply with reporting obligations that include quarterly progress and annual compliance reports submitted through an interactive web-based platform.[61] For gasoline and diesel fuel, regulated parties must submit the carbon intensity value and volume of each "blendstock" in the following form: *X* gallons of blendstock with *A* gCO_2e/MJ, *Y* gallons of blendstock with *B* gCO_2e/MJ, and *Z* gallons of blendstock with *C* gCO_2e/MJ.[62] These figures represent lifecycle GHG emissions for the blendstocks and will be used to determine compliance with the 10% reduction in carbon intensity mandate.

The California Air Resources Board (CARB) is currently finalizing its screening process for distinguishing HCICO from other crude oils. The current proposal is to identify the origin of the crude oil based on its marketing crude oil name (MCON). The MCON allows CARB to identify to a reasonable level of specificity the type and origin of the feedstock—information that allows CARB to screen whether TEOR is involved and the flaring practices in the country of origin—to determine whether the fuel is a potential HCICO. For those crudes considered a potential HCICO, regulated entities would then provide additional information and data to develop the carbon intensity for that HCICO pathway. This new HCICO pathway would then be listed in the Carbon Intensity Lookup Table for future use. CARB has presented a flow chart outlining this initial screening process:[63]

Initial Screening Steps

- 4 sequential steps
- 257 MCONs screened
- Test takes a few minutes...
- *If MCON has been coded & all source fields are listed for TEOR country MCON*
- Zero "unknown" results
- 1 false "pass"



The LCFS's reporting obligations are similar to those in the FQD and Commission proposal. Regulated entities must provide information on the type and origin of the fuel provided in order to calculate lifecycle GHG emissions to demonstrate compliance with mandated carbon intensity reductions. The LCFS reporting takes place on both a quarterly and annual basis, and requires information to differentiate between conventional and unconventional feedstocks, such as tar sands, with corresponding pathways for calculating the differences in lifecycle GHG emissions – just like in the FQD and Commission proposal. In addition, at the federal level, regulated entities have similar reporting schemes under the US Energy Information Administration, which includes providing the marketing crude oil name.[64] In short, the LCFS, which attempts to achieve a similar objective to the FQD, requires greater precision in reporting whereas the FQD and Commission proposal have a minimal administrative burden associated with them. Indeed, the reporting obligations in the FQD and Commission proposal are less onerous than those found in the LCFS, which requires quarterly reports and screens for TEOR, flaring practices, and mining.

APPENDIX IV
REPORTING FEEDSTOCK SOURCE IN THE EU RENEWABLE ENERGY DIRECTIVE

The Union legislature adopted the EU Renewable Energy Directive (RED) to reduce GHG emissions and promote renewable energy.[65] RED requires Member States to use renewable energy sources to meet 10% of their transport needs by 2020, which will be met in large part through increased use of biofuels.[66] It further forms an important element in the FQD, which requires a 6% decarbonisation of transport fuels by 2020, because this decarbonisation may also be met through increased biofuel penetration. It is therefore essential to ensure complementarity between the two regulatory frameworks. At the moment, the regulatory framework for biofuels is more defined than for fossil fuels, which represent 95% of the current fuel consumption in the EU.

RED outlines nine different "factors" covering the lifecycle GHG emissions of biofuels from cultivation through use. The factors cover the various stages—extraction, cultivation, processing, direct land-use changes, transport and distribution, and fuel use—and allow for any GHG reductions from soil carbon accumulation, carbon capture, and excess electricity from cogeneration to be deducted:[67]

$$E = e_{ec} + e_l + e_p + e_{td} + e_u - e_{sca} - e_{ccs} - e_{ccr} - e_{ee},$$

where

E = total emissions from the use of the biofuel;

e_{ec} = emissions from the extraction or cultivation of raw materials;

e_l = annualised emissions from carbon stock changes caused by land-use change;

e_p = emissions from processing;

e_{td} = emissions from transport and distribution;

e_u = emissions from the fuel in use;

e_{sca} = emission saving from soil carbon accumulation via improved agricultural management;

e_{ccs} = emission saving from carbon capture and geological storage;

e_{ccr} = emission saving from carbon capture and replacement; and

e_{ee} = emission saving from excess electricity from cogeneration.[68]

Economic operators are given two options when calculating the carbon intensity of the biofuel. The first is to rely upon pre-calculated figures for pathways listed in the annex, referred to as "default values." This includes a table with default values for 24 different biofuel production pathways – analogous to the Carbon Intensity Lookup Table in LCFS. The second is to rely on pre-calculated values for only certain factors—referred to as "disaggregated default values"—while calculating the actual values for the remaining factors. This allows an economic operator making investments in reducing emissions from processing, for example, to rely on disaggregated default values for all factors except that for e_p, which would then be calculated according to the methodology in RED.[69] RED provides extensive guidance on calculating GHG emissions for each factor should an economic operator choose this route. The GHG

emissions from biofuel use are expressed in terms of grams of CO_2 equivalent per megajoule of fuel (gCO_{2eq}/MJ) and reported by volume and country of origin.[70]

Biofuels must also meet sustainability criteria. The sustainability criteria are outlined in Article 17 of RED and Article 7b of the FQD. The reason for the sustainability criteria is that global demand for biofuels will compete with food production, lead to conversion of forests and other natural areas, and threaten biodiversity – compelling additional protections. For purposes of this analysis, the sustainability criteria are not at issue other than to highlight that the origin of the biofuel is necessary to determine compliance with the sustainability criteria, in particular whether any land use change has occurred, and must therefore be provided.

In order to count towards the target, biofuels suppliers and producers need to report on the origin, feedstock, and lifecycle GHG emissions of their biofuel. Biofuels represent a small share of the market, while the fossil fuels are a majority of the market. The situation will not change in the near future. Legislators have already recognized that similar measures need to be put in place for fossil fuels – hence the minimum reporting obligations in the FQD and Commission proposal. Furthermore, the Commission should aim to establish reporting measures that would enable GHG reductions on the side of fossil fuels, where the potential could be much greater than for biofuels.

APPENDIX V
REPORTING FEEDSTOCK SOURCE IN THE EU TIMBER REGULATION

On 20 October 2010, the Union legislature adopted the EU Timber Regulation.[71] The legislation was the result of a multi-year effort starting with the adoption of the EU Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) in 2003.[72] The EU Timber Regulation regulates the placement of timber and timber products on the European market to ensure that no illegal timber is traded within the EU. It prohibits operators from placing illegally harvested timber or timber products on the EU market. Placing on the market means supplying timber or timber products to the European market for the first time. It also requires operators to exercise due diligence before placing timber or timber products on the EU market, which compels the operator to develop its own due diligence system or use one created by a so-called monitoring organisation.

The EU Timber Regulation requires operators to provide minimum information necessary to determine compliance. This information includes the trade name, type of product, common name of the tree species, quantity, and name and address of the supplier. It also includes the country of origin and, where applicable, the sub-national region where the timber was harvested and the concession of harvest. This minimum information is necessary to determine compliance with the applicable legislation in the country of harvest, which is fundamental to determine whether the timber is legal or illegal. This information must be provided not only for timber but also timber products that may be composed of timber sourced from multiple areas, which will require operators to establish robust traceability systems and simplify chain of custody.

The obligations on operators placing timber and timber products on the market, including those of mixed origin such as particle board that comprise dozens of different timber sources, are significantly more robust than that required in the FQD and Commission proposal for fossil fuels. In addition to providing this minimum information, operators must also establish a due-diligence system involving data collection, risk assessment, and risk mitigation to ensure the legality of the timber or timber products that they are placing on the market.[73] Given the nature of the timber industry, characterized by many small- and medium-sized enterprises, the EU Timber Regulation places these obligations on a much broader set of actors than what can be expected in the fossil fuel industry, which is dominated by large and vertically integrated companies. The EU Timber Regulation represents another important precedent for the reporting obligation for fossil fuels: it is common to require the origin for the raw materials to achieve legitimate environmental objectives and the Union legislature has not hesitated to require it. The reporting obligations in the Fuel Quality Directive, when compared to the EU Timber Regulation, pale in comparison.

[1] Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC [hereinafter "FQD"], Article 7a(1).
[2] FQD, Article 2(8).
[3] FQD, Article 2(6).
[4] FQD, Article 7a(1).
[5] FQD, Article 7a(1).
[6] FQD, Article 7a(1).
[7] FQD, Article 2(6).
[8] RED, Article 15(6); *see also* Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market; RED, Article 2(j).
[9] FQD, Article 7a(5)(emphasis added).
[10] *See* Commission Directive ../…/EU of […] laying down 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 [hereinafter "Proposed Commission Directive"], Article 2 and Annex I.
[11] Proposed Commission Directive, Article 2 and Annex I.
[12] Proposed Commission Directive, Article 1(1) and Annex I(2)(notably, this definition of upstream emissions excludes potential emission reductions achieved at refineries from reduced flaring and other practices).
[13] Proposed Commission Directive, Annex I(1)-(2).
[14] Proposed Commission Directive, Article 6.
[15] Greenpeace, *Tar Sands in Your Tank* (May 2010), *available at* http://www.greenpeace.org.uk/files/pdfs/tar-sands-in-your-tank.pdf.
[16] Greenpeace, *Tar Sands in Your Tank* (May 2010), *available at* http://www.greenpeace.org.uk/files/pdfs/tar-sands-in-your-tank.pdf (the report found that at least seven refineries located in the US Gulf Coast region – primarily Texas and Louisiana – imported Canadian tar sands crude oil in the 12 month period from 1 November 2008 to 31 October 2009; 13 refineries in this same region that exported diesel and other distillates to Europe in the 12 month period from 1 December 2009 to 30 November 2009, with the one month time lag allows for the crude to travel through the pipeline and refinery system).
[17] Drivers Behind Growing U.S. Product Exports & Shrinking Light-Heavy Price Differentials. http://www.eia.gov/pub/oil_gas/petroleum/presentations/2011/aacsummit/aacsummit.pdf.
[18] Greenpeace, *Tar Sands in Your Tank* (May 2010), *available at* http://www.greenpeace.org.uk/files/pdfs/tar-sands-in-your-tank.pdf
[19] Inside Climate News, *What's Behind the Confusion Over Oil Sands Pipeline Capacity?* (8 March 2011), *available at* http://insideclimatenews.org/news/20110307/oil-sands-pipeline-capacity-tar-keystone-xl-transcanada?page=show (last visited 22 September 2011).
[20] Greenpeace, *Tar Sands in Your Tank* (May 2010), *available at* http://www.greenpeace.org.uk/files/pdfs/tar-sands-in-your-tank.pdf.
[21] Oil Change International Report, *Exporting Energy Security: Keystone XL Exposed*, p. 5, *available at* http://priceofoil.org/wp-content/uploads/2011/08/OCIKeystoneXLExport-Fin.pdf
[22] Oil Change International, Exporting Energy Security: Keystone XL Exposed, September 2011, p. 5, available at http://priceofoil.org/wp-content/uploads/2011/08/OCIKeystoneXLExport-Fin.pdf.
[23] Drivers Behind Growing U.S. Product Exports & Shrinking Light-Heavy Price Differentials. http://www.eia.gov/pub/oil_gas/petroleum/presentations/2011/aacsummit/aacsummit.pdf
[24] See FQD, Article 7a(1).
[25] *See* Council Directive 2008/118/EC of 16 December 2008 concerning the general arrangements for excise duty and repealing Directive 92/12/EEC, Article 1; Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff; European Commission, *The Combined Nomenclature*, available at http://ec.europa.eu/taxation_customs/customs/customs_duties/tariff_aspects/combined_nomenclature/index_en.htm (last visited 27 June 2011); Regulation (EC) No 450/2008 of the European Parliament and of the Council of 23 April 2008 laying down the Community Customs Code; Decision No 1152/2003/EC of the European Parliament and of the Council of 16 June 2003 on computerising the movement and surveillance of excisable products; *see also* Hart Energy, Special Report, EU: Hart Energy's Roundtable on Article 7a of the Fuel Quality Directive (21 July 2011), p. 4 (DG Climate Action response to comment).
[26] Province of Alberta. *Specified Gas Reporting Regulation, Climate Change Emissions Management Act*. Alberta Queen's Printer, 2004. http://www.qp.alberta.ca/documents/Regs/2004_251.pdf; *see also* Environment Canada, Facility Greenhouse Gas Reporting - Greenhouse Gas Emissions Reporting Program, http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=040E378D-1, Date Modified: 2010-12-20.

[27] Government of Alberta. *Specified Gas Reporting Standard*, 2011. http://environment.alberta.ca/02168.html.
[28] Government of Alberta. *Alberta Environment : Report on 2008 Greenhouse Gas Emissions*, 2010. http://environment.alberta.ca/02907.html; *see also* Government of Alberta. *Specified Gas Reporting Standard*, 2011. http://environment.alberta.ca/02168.html.
[29] Statistics Canada, The Supply and Disposition of Refined Petroleum Products in Canada, Table 6-1 Supply and disposition of petroleum products, Alberta — Refinery supply of crude oil, feedstock charged and total refined petroleum products. Updated 2011-08-18. http://www.statcan.gc.ca/pub/45-004-x/2011005/t073-eng.htm
[30] RED, Article 18; *see also* European Commission, *Commission Staff Working Document: Annex to the Impact Assessment*, SEC(2008) 85, Vol. II.
[31] *See* Council Directive 2008/118/EC of 16 December 2008 concerning the general arrangements for excise duty and repealing Directive 92/12/EEC, Article 1; Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff; European Commission, *The Combined Nomenclature*, available at http://ec.europa.eu/taxation_customs/customs/customs_duties/tariff_aspects/combined_nomenclature/index_en.htm (last visited 27 June 2011); Regulation (EC) No 450/2008 of the European Parliament and of the Council of 23 April 2008 laying down the Community Customs Code; Decision No 1152/2003/EC of the European Parliament and of the Council of 16 June 2003 on computerising the movement and surveillance of excisable products; *see also* Hart Energy, Special Report, EU: Hart Energy's Roundtable on Article 7a of the Fuel Quality Directive (21 July 2011), p. 4 (DG Climate Action response to comment).
[32] *See* Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff.
[33] Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff, Article 12.
[34] European Commission, *The Combined Nomenclature*, available at http://ec.europa.eu/taxation_customs/customs/customs_duties/tariff_aspects/combined_nomenclature/index_en.htm (last visited 27 June 2011).
[35] Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff, Annex I, Chapter 27.
[36] Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff, Annex I, Chapter 27.
[37] Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff, Annex I, Chapter 27, note 5.
[38] Regulation (EC) No 450/2008 of the European Parliament and of the Council of 23 April 2008 laying down the Community Customs Code (Modernised Customs Code) [hereinafter "MCC" for Modernised Customs Code]; *see also* Commission Regulation (EEC) No 2454/93 of 2 July 1993 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code.
[39] MCC, Article 188.
[40] MCC, Articles 87-124; *see generally* Commission Regulation (EEC) No 2454/93 of 2 July 1993 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code.
[41] MCC, Articles 35-38 ; *see generally* Commission Regulation (EEC) No 2454/93 of 2 July 1993 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code.
[42] MCC, Articles 36(2).
[43] *But see* Commission Regulation (EEC) No 2454/93 of 2 July 1993 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code, Annex 14 (sufficiently worked or processed, as defined in Annex 14, confers origin status to a product).
[44] MCC, Article 33(b) and (h).
[45] Council Directive 2008/118/EC of 16 December 2008 concerning the general arrangements for excise duty and repealing Directive 92/12/EEC [hereinafter "EDD" for Excise Duty Directive], Article 1.
[46] EDD, Article 2.
[47] EDD, Chapter II, Section I, Article 7(1).
[48] EDD, Chapter II, Section I, Article 7(1)-(2).
[49] EDD, Article 8.
[50] Decision No 1152/2003/EC of the European Parliament and of the Council of 16 June 2003 on computerising the movement and surveillance of excisable products.
[51] European Commission, DG Taxation and Customs Union, Excise Duty Tables: Part II – Energy Products and Electricity (Ref 1033, July 2011) *available at* http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/energy_products/rates/excise_duties-part_ii_energy_products_en.pdf

[52] Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity [hereinafter "ETD" for Energy Taxation Directive].
[53] *Compare* ETD, Article 2(b) *with* Commission Regulation (EU) No 861/2010 of 5 October 2010 amending Annex I to Council Regulation (EEC) No 2658/87 on the tariff and statistical nomenclature and on the Common Customs Tariff, Chapter 27; *see also* ETD, Article 2(5).
[54] Proposal for a Council Directive restructuring the Community framework for the taxation of energy products (COM/97/0030 final – CNS 97/0111), p. 2.
[55] California Code of Regulations, Title 17, Section 95482.
[56] California Code of Regulations, Title 17, Section 95481(a)(11).
[57] California Code of Regulations, Title 17, Section 95481(a)(28).
[58] California Code of Regulations, Title 17, Section 95486
[59] CARB, *Table 6: Carbon Intensity Lookup Table for Gasoline and Fuels that Substitute for Gasoline*, located at http://www.arb.ca.gov/fuels/lcfs/010611lcfs_lutables.pdf (last visited 24 August 2011).
[60] California Code of Regulations, Title 17, Section 95486(b)(2)(A)(2)(a)(ii)(II).
[61] California Code of Regulations, Title 17, Section 95484(a)(1).
[62] California Code of Regulations, Title 17, Section 95484(c)(3)(A) and (c)(5).
[63] Source: California Air Resources Board; *see also* California Energy Commission, PowerPoint Presentation, *Crude Oil Screening – General Meeting: Results of Initial Screening Process to Identify Potential HCICOs* (17 February 2011), Slide 7.
[64] *See e.g.* Hart Energy, Special Report, EU: Hart Energy's Roundtable on Article 7a of the Fuel Quality Directive (21 July 2011), p. 4 (DG Climate Action response to comment).
[65] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (hereinafter "RED" for EU Renewable Energy Directive), Recitals 1-2; Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC (hereinafter "FQD" for Fuel Quality Directive), Recitals 1-4.
[66] RED, Article 3(4).
[67] RED, Article 17(2).
[68] *See* RED, Annex V(C)(1)(includes clarification on *direct* land-use change factor, $e_{[d]l}$, the methodology for which is outlined in Annex V(C)(7) of RED, and the missing *indirect* land-use change factor. e_{iluc}, referenced in Recital 85 of RED).
[69] RED, Annex V(C)(11)(includes "emissions from the processing itself; from waste and leakages; and from the production of chemicals or products used in processing")
[70] *See* FQD, Article 7a(1); RED, Annex V(C)(2).
[71] Regulation (EU) No 995/2010 laying down the obligations of operators who place timber and timber products on the market (hereinafter the "Timber Regulation")
[72] Located at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52003DC0251:EN:NOT
[73] Timber Regulation, Article 6.