

Non-paper related to the implementation of Article 7a of the FQD

DISCLAIMER

This non-paper is a compilation of correspondence between the European Commission DG Climate Action and members of the Commission group of experts on transposition and harmonised implementation of Council Directive (EU) 2015/652 and Article 7a of the Fuel Quality Directive (FQD). The document is intended to facilitate the implementation of Council Directive (EU) 2015/652 and Article 7a of the FQD. It is not legally binding. Any authoritative reading of the law should only be derived from Council Directive (EU) 2015/652, the Fuel Quality Directive and other applicable legal texts or principles. While this document seeks to assist authorities and operators by explaining the applicable law, only the Court of Justice of the European Union is competent to authoritatively interpret Union legislation.

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Issues relating to Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels¹

Article 2 – Definitions, Paragraph 8 – 'supplier'

Q. Who is the supplier, as mentioned in the FQD, in the case of electricity supply?

In general, the supplier is the entity responsible for passing fuel or energy through the excise duty point. In cases in which this is not applicable, the definition of the supplier is left to the discretion of the Member States.

Article 7a – Greenhouse gas emission reductions, Paragraph 2 - GHG reduction targets

Q. Is there a required trajectory of reduction targets towards 2020?

Member States may require suppliers to comply with a trajectory using interim targets. This option is not mandatory for the Member States. However, the 2020 target is mandatory. See Article 7a Paragraph 2(a) of Directive 98/70/EC.

Q. Will UERs undermine the biofuel market by making it too easy to meet the greenhouse gas intensity reduction target in the Fuel Quality Directive (FQD)?

Member States must not only ensure that fuel suppliers achieve the greenhouse gas intensity target of FQD, but also the renewable energy in transport target of the Renewable Energy Directive (RED). This effectively guarantees market share to renewable energy in transport, which in practice will largely be used by biofuel producers. If delivering emissions reductions in the oil supply chain delivers carbon savings at a lower cost than is possible through addition renewable fuel supply, then fuel suppliers will have that option to meet their FQD targets.

Article 7a – Greenhouse gas emission reductions, Paragraph 4 (joint reporting)

Q. Is international cooperation allowable for suppliers considering joint reporting?

Reporting has to happen within one country and cross border reporting is excluded.

¹ Consolidated version of the Directive is available at:
<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A01998L0070-20151005>

Q. Can a Member State allow use of traded biofuels tickets from another Member States to demonstrate compliance of its suppliers?

The Commission considers this is out of the scope of the legislation. Such an arrangement would not be in line with the exclusion of cross border joint fulfillment and reporting.

Article 7a – Greenhouse gas emission reductions, Paragraph 7 (fuel supplier reporting)

Q. Would it be possible to meet the FQD reporting requirements through existing reporting data for the Renewable Energy Directive (RED)?

While many of the reporting requirements in the Council Directive may be in line with existing reporting of data in relation to the RED, the FQD does require some additional information. For example, the RED does not explicitly require fuel suppliers to report fuel supply data by pathway, which is required under the FQD. However, Member States have the right under RED to require such data from suppliers to demonstrate the sustainability criteria have been complied with. Meeting the reporting requirements for the FQD may aid Member States in checking compliance with the RED sustainability criteria.

Issues relating to Council Directive (EU) 2015/652 of 20 April 2015 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 fuels²

Article 1 – Scope

Q. Does rail transport as non-road mobile machinery (NRMM) fall into the scope of the directive?

The definition of NRMM in Directive 97/68/EC includes rail transport. Hence, in the context of Art 7a implementation diesel or gasoil supplied to be used in locomotives and falling into the definitions based on CN codes in FQD Art 2 (2) and (3) are in the scope of Council Directive (EU) 2015/652. Since FQD Art 7a limits electricity to road vehicles as does the scope Article 1 (2) of Council Directive (EU) 2015/652 renewable energy (electricity) used in electric locomotives cannot count.

Q. Do electricity suppliers have a reporting obligation under the Directive?

According to Article 7a (1), 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. This would in principle include electricity supplied for road transport.

Member States shall ensure that providers of electricity for road transport may choose to become a contributor to the reduction obligation if they can demonstrate that they can adequately measure and monitor electricity supplied for use in those vehicles.

Recital 11 of Council Directive (EU) 2015/652 reads: "Electricity supplied for use in road transport may be reported by suppliers, as laid down in Article 7a(1) of Directive 98/70/EC, as part of their annual reports to the Member States. In order to limit administrative costs, it is appropriate that the calculation method be based on an estimate rather than on an actual measurement of the consumption of electricity in an electric road vehicle or motorcycle for the purpose of supplier reporting. "

² <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015L0652>

Q. Do suppliers who only supply gas or biofuels types that are already 6% below the baseline have any obligations under the directive?

Suppliers of fuels with GHG intensities with 6% below the baseline have reporting obligations but of course comply with the reduction target.

Article 2 – Definitions

Q. How should Member States set a minimum size of company or volume of supplied fuels for a fuel supplier to incur full obligations under the Directive?

Recital (2) of Council Directive 2015/652 states: "Reporting requirements for suppliers which are small and medium-sized enterprises (SMEs) as defined in Commission Recommendation 2003/36/EC should be minimised as far as possible in the context of Article 7a(1) of Directive 98/70/EC."

Annex I, Part 2, Point 4 provides for the following derogation: "By way of derogation for suppliers that are SMEs, 'origin' and 'place of purchase' is either EU or non-EU, as appropriate, irrespective of whether they import crude oil or they supply petroleum oils and oils obtained from bituminous materials."

For further information on the definition, please check: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en.

Article 4 – Calculation of fuel baseline standard and greenhouse gas intensity reduction

Q. Are suppliers expected to calculate individual fuel baseline standards?

The 2010 baseline is calculated and set in the Directive. All suppliers will have to compare their 2020 GHG intensity against the baseline set, rather than to calculate their own 2010 baseline GHG intensity.

Q. What comparator should be used in the case that aviation fuel providers wish to contribute to meeting the greenhouse gas intensity reduction target?

In such cases, only the sustainable biofuel part of aviation fuel should be counted, and the same fuel baseline standard should be used as is used for the case of non-aviation fuels.

Q. Should the same baseline fuel standard be used as a comparison point for electricity as for liquid fossil fuels?

The greenhouse gas intensity of all relevant transport energy supplied by each supplier, including electricity, must be compared to the fuel baseline standard.

Q. What are the respective roles of the fuel baseline standard and the fossil fuel comparator?

The fuel baseline standard, as defined in Annex II of Council Directive (EU) 2015/652, is the baseline for assessment of compliance with the requirement to reduce the greenhouse gas intensity of fuel supplied by 6% in 2020 compared to 2010. The

baseline standard is 94.1 gCO₂e/MJ. The fossil fuel comparator, as defined in Annex IV C (19) of the FQD, is the comparison point against which compliance with the minimum greenhouse gas intensity reduction requirements for biofuels should be measured. The fossil fuel comparator is 83.8 gCO₂e/MJ.

Article 5 – Reporting by Member States

Q. Are Member States expected to report by 31 August 2018 for the previous year (2017), given that there may not be a full year of data available?

The Commission understands that given the transposition date, data may not be available for the full 2017 reporting year in some of the Member States. The Commission would nonetheless expect from those Member States that are able to provide some or all the data for 2017 to do so. Efforts should be made to report as completely as possible. Reporting for 2017 will enable Member States and the Commission to take action to ensure fulfilment of the greenhouse gas intensity reduction obligation should a gap be identified between target and real life data. Reporting for 2017 will also allow for corrections and/or improvements to be made to the reporting template should this be found to be necessary.

Article 6 – Penalties

Q. Would a ‘buy-out’ option for fuel suppliers be in compliance with the requirements of the FQD and Council Directive 2015/652?

The FQD requires that penalties relating to infringements of national provisions adopted pursuant to the FQD should be “effective, proportionate and dissuasive.” When the legislation is transposed the Commission will assess whether the penalties put in place by MS are effective, proportionate and dissuasive. A penalty imposed on fuel suppliers failing to meet their greenhouse gas reduction obligations may be considered compliant with the Directive insofar as the level at which the penalty is set meets those conditions. In particular, for a penalty to be considered dissuasive in terms of encouraging fuel suppliers to meet their targets, the level of the penalty should be higher than the expected cost of complying with the greenhouse gas reduction obligation through other options.

Annex I, Part 1 – Calculation of a supplier’s greenhouse gas intensity of fuels and energy

Q. Do the requirements in Council Directive 2015/652 affect the reporting of the greenhouse gas intensity of biofuels?

The methodology on reporting fossil fuel carbon intensities does not change any rules on biofuels calculation or reporting, but refers to these where necessary. The biofuel reporting/calculation to be carried under the FQD 7a should be consistent with the RED – different approaches are not intended.

Annex I, Part 1, Point 3 (b)

Q. Where advanced fuels are grouped together in the national duty system, is it necessary to disaggregate them in reporting?

Fuels types must be disaggregated in reporting if they have been produced with different pathways.

Biofuels from the same production pathway are to be reported jointly, irrespective of their blending with fossil fuels (e.g. ethanol from sugar beet blended in E5 and in E10 can be grouped together). However, biofuels from different production pathways (e.g. ethanol produced from sugar beet and ethanol produced from ligno-cellulosic feedstocks) are to be reported separately.

Annex I, Part 1, Point 3 (c) (i) – Quantity of each fuel per fuel type

Q. The Council Directive requires the use of energy densities as set out in Appendix 1 of the JEC well-to-tank report version 4, but these are not identical to the energy densities listed in Annex III of the Renewable Energy Directive. Which should be used?

The values in the JEC well-to-tank report are given to one decimal place, whereas in Annex III of the RED the values are rounded to the nearest whole number. For the purposes of the FQD target, the more precise values of the JEC well-to-tank report referred to in the Council Directive should be used.

Annex I, Part 1, Point 3 (d) - Upstream emissions reduction (UER)

Q. Can Member States disallow the use of UERs?

The use of UERs is one option that fuel suppliers have for meeting the 6% target. Member States have the flexibility to define the conditions of their use in line with the general framework provided by the Directive but they must allow fuel suppliers to use this option should they wish so.

Annex I, Part 1, Point 3 (d) (i) - Eligibility of UERs

Q. What types of projects are eligible for UERs?

Any projects that reduce greenhouse gas (GHG) emissions in the upstream portion of the production chain of non-biogenic fuels for transport can be eligible. Council Directive 2015/652 defines 'upstream emissions' as "all greenhouse gas emissions occurring prior to the raw material entering a refinery or a processing plant where the fuel ... was produced." The table in Annex I, Part 2, point 5 lists the raw material source and process of the fuel placed on the market. For petrol and diesel/gasoil, this is conventional crude, natural gas-to-liquid, coal-to-liquid, natural bitumen or oil shale.

For natural gas and liquid petroleum gas, this includes processing facilities (such as gas cleaning or liquefaction plants) if these facilities are positioned earlier in the supply chain than the facilities supplying the finished transport fuel to market.

See also *Guidance note on approaches to quantify, verify, validate, monitor and report upstream emission reductions*³.

Q. How should the requirement on UER project start date be understood?

The Council Directive states that, "Only UER projects which start after the date of the establishment of the fuel baseline standard set out in Article 7a(5)(b) of Directive 98/70/EC, i.e. 1 January 2011, should be eligible." The start date should be understood as the date on which the necessary infrastructure to deliver emissions reductions was in place and activated at a project, regardless of whether emissions reductions were verified at that time.

A longer memo discussing this question is included in the Annex (Memo on UER project start date).

Q. Can Certified Emission Reductions (CERs) from CDM projects be eligible as UERs? Are there any eligibility issues with CERs? Does the use of UERs resulting from CDM projects and surrendered for the purpose of compliance with the target in Article 7a of the FQD require the cancellation of any CERs issued for emission reductions resulting from that same CDM project?

A fuel supplier may claim UERs resulting from a CDM project as long as the respective project fulfils all requirements set up in the Council Directive. In light of the general principle that double counting must be avoided, and considering that the option to use CDM credits in the context of both Council Directive 2015/652 and the Effort Sharing Decision is foreseen in order to incentivise further greenhouse gas emission reductions, this requires the cancellation of as many CERs from a project as UERs have been taken into account for compliance with the FQD target. The same emission reductions in one CDM project may not be used to generate both a UER, to be taken into account with regard to a fuel supplier's compliance with the FQD target, and a CER, to be used for satisfying the ESD targets of Member States.

Q. Can carbon capture and storage projects be eligible for UERs?

CO₂ reductions that directly reduce emissions from upstream petroleum or gas production processes may be eligible for UERs. For example capturing CO₂ emissions from a diesel generator used to power drilling equipment and storing it in a retired oil well. Carbon capture and storage from sources unrelated to oil or gas exploration and treatment would not be eligible, for example storing captured CO₂ from an unrelated coal power plant in a retired oil well.

Q. Can hydrogen from renewable sources that is used in the petroleum refining process be eligible for UERs?

The production of hydrogen which may be used in a fuel refinery cannot be considered as 'upstream' with regard to the life cycle of fuel. Article 2 (1) of Directive (EU) 2015/652 provides a definition of upstream emissions: 'upstream emissions' means all greenhouse gas emissions occurring prior to the raw material entering a refinery or a processing plant where the fuel, as referred to in Annex I, was

³ https://ec.europa.eu/clima/sites/clima/files/guidance_note_on_uer_en.pdf

produced; [...] The table in Annex I, Part 2, point 5 lists the raw material source and process of the fuel placed on the market. For petrol and diesel/gasoil, this is conventional crude, natural gas-to-liquid, coal-to-liquid, natural bitumen or oil shale. Hydrogen is not included in this list.

Q. Can UER credits be accumulated over several years (e.g. 2015 through 2020) and used for compliance in 2020?

Article 7a of the FQD states that fuel suppliers must "reduce as gradually as possible lifecycle greenhouse gas emissions per unit of energy from fuel... by 6% by 31 December 2020." This means that the transport fuel supply on December 31, 2020 should have greenhouse gas intensity 6% lower than the 2010 baseline. Because the requirement for emissions reductions is relative to the amount of fuel (in terms of energy) supplied, it is consistent with the purpose of the Directive that eligible emissions reductions should be achieved within the same timeframe as the supply of the fuel that is used to calculate the lifecycle greenhouse gas intensity. Applying emissions reductions achieved in earlier years to the amount of fuel supplied in 2020 would not deliver the required 6% reduction in greenhouse gas intensity in 2020. The intent of Article 7a of the FQD is to drive a persistent shift in the greenhouse gas intensity of the EU transport fuel mix, and that allowing emission reductions to be accumulated over a period of years would weaken the environmental integrity of this goal. The reporting requirement under the FQD and the Council Directive is explicitly annual, and therefore the greenhouse gas intensity of the fuel mix should be calculated over the year January 1, 2020 – December 31, 2020. Only UERs achieved within that timeframe should be considered applicable to 6% greenhouse gas intensity reduction target.

A longer memo discussing this question is included in the Annex (Memo on credit accumulation).

Q. How should the requirement that "UERs shall only be applied to the upstream emission's part of the average default values for petrol, diesel, CNG or LPG" be understood?

The Directive is explicit in delinking the origin of the UERs from the fuels supplied: "UERs originating from any country may be counted as a reduction in greenhouse gas emissions against fuels from any feedstock source supplied by any supplier." Given that the fraction of the lifecycle greenhouse gas intensity of the fossil fuel supply that is associated with upstream emissions is large compared to the greenhouse gas intensity reduction that it is anticipated that fuel suppliers will deliver through the use of UERs from the fossil fuel supply chain, it is not expected that supplied UERs will be constrained by the cap of Annex 1 Part 1 3 d) i).

At the same time, there are additional reporting requirements for UERs "where the project relates to oil extraction" that do not apply to UERs in the gas supply chain. Fuel suppliers will therefore need to implicitly distinguish between UERs from the oil and gas supply chains in their reporting.

Annex I, Part 1, Point 3 (d) ii) (calculation of UERs)

Q. How should UERs be validated and verified?

The Council Directive states that “UERs shall be estimated and validated in accordance with principles and standards identified in International Standards, and in particular ISO 14064, ISO 14065 and ISO 14066.” The requirements for validation and verification of GHG reduction projects is set out in ISO 14064 Part 2, and the requirements for accreditation of validation and verification bodies are set out in ISO 14065 and 14066. Project participants should submit project plans to an accredited validation body, including details of the project boundary, the relevant GHG sources and sinks, and accurate descriptions of the baseline and project scenarios. If a project is successfully validated, it may begin generating eligible UERs. UERs must be verified after they have been generated by an accredited verification body. All relevant GHG sources and sinks should be accurately monitored on a regular basis, using properly calibrated equipment, and this monitoring data should be inspected by the verification body.

The Council Directive also makes reference to Commission Regulation (EU) No 600/2012 and Commission Regulation (EU) No 601/2012, which contain additional principles for monitoring and verification. Verification procedures should include substantive testing and should be effective in providing quality assurance and quality control. Verification reports should be independently reviewed and verifiers should be impartial and independent from the project operator.

Q. What are the definitions of ‘verification’ and ‘validation’ and how are these processes distinct?

ISO 14064 Part 2 defines ‘verification’ as a “systematic, independent and documented process for the evaluation of a greenhouse gas assertion against agreed verification criteria” and ‘validation’ as a “systematic, independent and documented process for the evaluation of a greenhouse gas assertion in a GHG project plan against agreed validation criteria.” Validation is thus the process of assessing a GHG project plan before the project has been implemented, and verification is the process of assessing GHG reductions after they have been achieved. If the validation or verification body finds the GHG assertion to be correct, that body will issue a ‘validation statement’ or ‘verification statement,’ respectively. ISO 14065 specifies that one body should not validate and verify the same project. A single body may perform both validation and verification activities on separate projects. For example, organization A could validate project X and verify project Y, while organization B verifies project X and validates project Y.

Q. Can projects that started after January 1, 2011 but before transposition of the Council Directive be retrospectively validated, and how?

UER projects may be retroactively validated providing sufficient information is available. The same level of accuracy, completeness, and transparency of data is necessary to retroactively validate projects that have already commenced as to validate new projects that have not yet started. In particular, enough verifiable information should be provided to establish an accurate baseline scenario against which project emission reductions can be calculated. Once a project has been retroactively validated, verification should proceed as normal. While it may be difficult to apply the same data requirements to projects retrospectively validated as

to projects that are validated before implementation, as that data may not have been collected at the time or may not have been kept, the Council Directive makes no provision for lowering the standard for validation in the case of retrospective project validation. The environmental integrity of the system would be undermined if UERs were issued for projects that could not be demonstrated to be consistent with the requirements of the ISO standards.

Q. Is it possible that the reductions generated under CDM are not exactly equivalent to those which will be calculated for UERs, i.e. that CERs are not exactly equal to UERs?

It is possible that a given project could generate a different number of credits if assessed under an FQD-compliant UER 'scheme' than it would under the CDM. A simple example of this could be the case of a methane venting reduction project. Under CDM that reduction would have to be credited as if an equivalent amount (same number of carbon atoms) of CO₂ emissions had been avoided. In contrast, the proposed guidance on UER crediting under FQD would allow in principle for those reductions to be credited at the GWP of methane, if that was permitted under an alternative scheme and considered appropriate by Member State authorities.

Q. Is it acceptable if projects have been verified with an ISO standard other than ISO 14064 Part 2 (e.g. 14064 Part 1)?

Each ISO standard applies to a particular type of accounting action, and the one that sets out rules for verifying emission reduction projects is ISO 14064 Part 2. ISO 14064 Part 1 relates to the calculation of organizational GHG emissions inventories. ISO 14064 Part 1 is not designed to be applied to emissions reduction projects, and it would not be appropriate to treat verified changes in organisational emissions inventories as upstream emissions reductions in the context of the FQD. Projects carried out as 'directed actions' as indicated in ISO 14064-1 §2.26 will therefore not generally be eligible, but it may in some cases be possible for a project undertaken as a directed action to retrospectively be demonstrated to meet the requirements to be a greenhouse gas emissions reduction project.

Q. Could a UER project undertaken under a scheme that is not fully compliant with the requirements of the relevant ISO standards produce eligible UERs under the FQD?

Any scheme that does not meet the requirements of the ISO standards as specified in Council Directive 2015/652 should not be judged eligible by Member States. However, if an existing scheme that is not explicitly compliant with the ISO requirements has been used to assess a project, and it can be retrospectively established that that project would have met the requirements of the ISO standard had it been tested against them, then the project may still be eligible.

Q. Is there an additionality requirement for UER projects?

The Council Directive 2015/652 states: "UERs shall be estimated and validated in accordance with principles and standards identified in International Standards, and in particular ISO 14064, ISO 14065 and ISO 14066." ISO 14064 Part 2 "deals with the concept of additionality by requiring that the GHG project has resulted in GHG

emission reductions or removal enhancements in addition to what would have happened in the absence of that project." Furthermore, ISO 14064 Part 2 defines a greenhouse gas emissions reduction as the "calculated decrease of GHG emissions between a baseline scenario and the project," and states that the baseline should represent the "conditions most likely to occur in the absence of a proposed greenhouse gas project." Thus, if a project was implemented without the explicit intention of reducing GHG emissions (e.g. simply because the project was profitable), the project would generally be included in the baseline scenario. In this case, there would therefore be no difference between the project and baseline scenarios, and the project emission reductions would be zero according to ISO 14064. It is thus clear that the ISO standards referenced in the Council Directive require that eligible UER projects must have been implemented with a goal of GHG reduction, though this may have been only one of several goals for the overall project.

ISO 14064 Part 2 further states that the baseline assessment for a project should consider "relevant information concerning present or future conditions, such as legislative, technical, economic, sociocultural, environmental, geographic, site-specific and temporal assumptions or projections." Particular attention ought to be paid to whether a baseline scenario would be permissible under local law (or at least that if nominally illegal it could be shown that those laws are generally unenforced), and that the baseline scenario should be consistent with the financial best interests of the project participant (i.e. investments that have an overwhelming financial justification must be included in the baseline, not only in the project scenario).

The Council Directive states: "It is not necessary to prove that UERs would not have taken place without the reporting requirement set out in Article 7a of Directive 98/70/EC." There is thus no requirement to demonstrate that UER projects would not have been implemented without the influence of the FQD specifically.

A longer memo addressing this question is included in the Annex (Memo on baseline and additionality).

Q. Can UER projects that are implemented as a part of compliance of existing national (third country) legislation on flaring be used to fulfil the FQD art 7a 6 % target?

UERs are to be calculated in accordance with principles and standards identified in International Standards, and in particular ISO 14064, ISO 14065 and ISO 14066. Compliance with legal requirements should normally be included in the baseline under ISO 14064 Part 2, and thus any savings related to compliance could not be attributed to a project. There may be exceptions in the case where a project would result in compliance with an unenforced legal requirement, i.e. when the baseline emissions scenario agreed by the qualified project validator is assessed as including non-compliance with the local legislation in question.

Q. Is it necessary for UER projects to have been developed with an explicit goal of reducing greenhouse gas emissions?

The foreword to the ISO standard 14064-2 states that, "This part of ISO 14064 focuses on GHG projects or project-based activities specifically designed to reduce GHG emissions or increase GHG removals." The ISO standard is clear that it is to be applied to projects 'specifically designed' to deliver emissions reductions. A consideration of the stated goals of projects that deliver emissions reductions may be particularly relevant to the case of retrospective approvals – a project that was undertaken for reasons that do not relate to greenhouse gas emissions reduction goals should generally be considered to be part of the baseline. A project that was undertaken without a stated emissions reduction goal is likely not in line with ISO 14064 and can then not be treated as a UER project.

Q. Must additionality and baseline for UERs be assessed in the same way that they are under the CDM?

The baseline and additionality considerations are not restricted by the way this is dealt with under the example(s) of the CDM. Types of project that do not currently have an appropriate methodology under CDM (such as energy efficiency related projects) can fall into the broad definition of UER in the Directive and be eligible.

Q. Why would emissions from methane avoidance ever be calculated without reference to the global warming potential of methane?

Under CDM, avoided emissions of methane (and other associated gases) from venting or flaring reduction projects are credited on the basis of the amount of CO₂ that would have been produced had the methane been fully combusted (i.e. with a global warming potential of 1). This practice results in a lower amount of emission reductions awarded than if methane avoidance were credited on the basis of the global warming potential of methane. Treating the avoided emissions as if they had been CO₂ avoids the case in which avoided emissions of gases other than methane would be treated at the GWP of methane, thus resulting in over-crediting. The reason for this treatment is to award emission reductions conservatively, and to avoid a perverse incentive to temporarily increase methane emissions so that they can later be reduced (for example, a project operator who typically flares unused gas might stop flaring and instead vent methane temporarily in order to have non-combusted methane emissions counted in the baseline scenario, resulting in a greater amount of UER credits awarded after gas collection was implemented). In line with the principle of conservativeness from the ISO standards, Member States have the option of following the example of CDM in crediting methane avoidance projects on the basis of the amount of CO₂ that would have been produced from combusted methane. However, where a Member State is satisfied that crediting avoided methane emissions based on the GWP of methane would be consistent with conservatism, then doing so would be allowable under the FQD.

Q. Can the Commission produce a list of countries where flaring is illegal, legal or unenforced?

The Commission does not intend to produce such a list. In line with the requirements set out in ISO 14064, Member States and project validators must give due

consideration to local legal circumstances when considering baseline assessments for UER projects.

Annex I, Part 1, Point 3 (e) (iii) - Greenhouse gas intensity of biofuels

Q. How should the greenhouse gas intensity be assessed for biofuels that do not meet the sustainability requirements set in the Directive?

In the case of biofuels found not to comply with the sustainability requirements, the greenhouse gas intensity should be counted equal to the greenhouse intensity of the respective fossil fuel derived from conventional crude oil or gas.

Annex I, Part 1, Point 3 (e) iy) - co-processing of fuels from non-biological origin and biofuels

Q. How can the biomass fraction be determined for biofuels that are co-processed with fossil fuels?

The quantity of the co-processed biofuel is determined according to the energy balance and efficiency of the co-processing process as set out in point 17 of Part C of Annex IV to Directive 98/70/EC. Therefore, the biomass fraction is calculated using a mass balance methodology based on the mass proportion of feedstock (weighted by energy content) to the process that is biological versus fossil and the conversion efficiencies of each fraction. In some cases the conversion factor for each fraction may not be known, and in these cases the C14 method could be used to determine the conversion factors. The C14 method should only be applied for estimating the conversion factor in the case that the input fossil and biomass feedstocks consist of primarily of organic molecules with similar lower heating value per carbon atom. The C14 method is also an adequate verification measure for confirming that fuel has full or partial biological origin.

Annex I, Part 1, Point 3 (f) – Adjustment factors for powertrain efficiency

Q. Should the adjustment factor for powertrain efficiency be taken into account when reporting the energy from electricity?

Yes, in accordance with the formula provided in Annex I, Part 1 (3) of the Council Directive.

Annex I, Part 2

Annex I, Part 2, Point 1 - UERs of fossil fuels

Q. What information should be included in the unique certificate number for UERs?

The Council Directive sets out in Annex I Part 2 (1) a set of reporting requirements for each batch of UERs, including a “non-reusable certificate number uniquely identifying the scheme and the claimed greenhouse gas reductions” and a “non-reusable number uniquely identifying the calculation method and the associated scheme.” While the Council Directive does not prescribe a particular format for these identifiers, it may be useful to coordinate a single format among Member States. In addition to information on the scheme and the calculation method, it is suggested the certificate number include a unique project identifier, the start date of the project, the calendar year in which UERs were achieved, the latitude and longitude of the project to four decimal places (which is also part of the reporting requirements in the Council Directive), and start and end numbers for the particular batch of UERs generated by a project in a given year. The inclusion of all this information could be useful in avoiding double counting of UERs. For further information and a suggested format for the certificate number, refer to the [Guidance note on approaches to quantify, verify, validate, monitor and report upstream emission reductions](#).

Q. How should the requirement for baseline and project annual emissions for UER projects in gCO₂eq/MJ be understood?

This reporting requirement should be understood as relating specifically to the infrastructure within the system boundary of a project. The baseline annual emissions in gCO₂eq/MJ prior to the project would therefore be assessed as the total emissions associated with that infrastructure for the year before project implementation, divided by the total energy (LHV) in oil/gas passing through that infrastructure in that year. The project annual emissions should be assessed as the total emissions associated with that infrastructure in a given year after project implementation, divided by the total energy (LHV) in oil/gas passing through that infrastructure in that year.

Q. What measures can Member States take to limit the risk of double counting UERs?

One way to reduce the risk of double counting UERs is to appoint/agree a centralised data holder at the EU level, with which all UER credits would be recorded when submitted for compliance with the FQD. Neither the FQD nor the Council Directive provides a legal basis for the Commission to set up a centralised system, but it may be an option should Member States take coordinated action. Identifying credits submitted for compliance more than once would be considerably simplified by the use of consistent reporting requirements, for instance through the use of serial numbers in a defined format that contain information designating the project in question, and distinguishing batches of UERs from the same project. The use of robust serial numbers that contain enough information for each UER to be identified distinctly is a basic measure for preventing double counting. Providing multiple

points of unique identification within each serial number (e.g. providing exact location as well as project number) will further allow cross-checking in the case of transcription errors or other problems. The central data holder would then be able to compare all submitted serial numbers. In the case that the serial numbers relating to the same UERs (or serial numbers that are similar enough that it seems likely that they may relate to the same UERs) are reported multiple times, the data holder should notify the relevant national authorities to trigger an investigation.

If there is no central data holder agreed by the Member States, a distributed system of bilateral checks between Member States would be required. One way to implement this would be for each Member State to provide to the others a comprehensive list of all UERs submitted for compliance. In either option, a consistent format for data reporting (e.g. consistent serial numbers) would significantly reduce the burden for cross-checking and the likelihood of error. Any system implemented for this purpose ought to give due consideration to issues of data security and confidentiality.

A longer memo addressing this question is included in the Annex (Memo on managing the risk of double counting of UERs).

Annex I, Part 2, Points 2 - Origin and 3 - Place of purchase

Q. Does the reporting requirement on the origin of fuels supplied in Europe (FTNs) expire with the 2020 GHG intensity reduction target?

The reporting requirement according to Article 7a (1) does not end in 2020, which means that the origin of fuels will have to be reported beyond this date.

The Commission has proposed to remove reporting on the origin and place of purchase of fuels from the FQD in its proposal for a Regulation on the Governance of the Energy Union (COM(2016) 759 final, Article 49 and Article 40).

Q. Is the reporting on origin and place of purchase still mandatory after the Commission's proposal to remove this reporting from the FQD?

Article 7a (1) (a) of the FQD requires reporting the place of purchase and the origin of fuel for all fuels or energy supplied, including biofuels. The Commission has proposed to remove reporting on the origin and place of purchase of fuels from the FQD in its proposal for a Regulation on the Governance of the Energy Union (COM(2016) 759 final, Article 49 and Article 40). Member States may opt for transposing the reporting requirements in anticipation of the changes to be introduced by the draft Governance Regulation. Should this be the case, the Commission intends to take into account the fact that a legal proposal amending the Directives was adopted. In case the transposition measures would not match the outcome of this legislative process, and transposition measures would thus not be in line with the Directive, the Commission would request the Member State to correct the national legislation.

Q. Should Member States require segregated tracing of crude oils at the national border?

Crude oils of different FTNs are typically blended before being imported into a Member State, and this could mean blending of similar crudes from multiple wells or blending of crudes from different fields with very different carbon intensities. A mass balance system to track FTNs would therefore be consistent and adequate, though Member States would have the option to introduce a more segregated requirement.

Annex I, Part 2, Point 5 - Average life cycle greenhouse gas intensity default values for fuels other than biofuels and electricity

Q. Will the weighted average lifecycle greenhouse gas intensity values be updated in the event of changes to the EU crude mix?

Changes in the portfolio of crudes used in the EU could change the real average greenhouse gas intensity. Any related update of the average lifecycle greenhouse gas intensity default values would require a revision of Annex I of the Council Directive. Given that data on the GHG intensity of fuels would first be reported in 2018, an update is not feasible before 2020.

Q. How should the greenhouse gas intensity of fuel produced from waste rubber be calculated?

The Council Directive does not provide an explicit default greenhouse gas intensity value for fuel produced from waste rubber. In the case of synthetic rubbers, it is recommended that the default value for fuel from waste plastics from fossil sources be used (86 gCO_{2e}/MJ). A process that used a combination of natural and synthetic rubbers could be treated as partially renewable, with the fraction of production derived from natural rubbers treated as biomass-based. As with other co-processing, it would be necessary to determine the renewable fraction in the output fuel. See Annex I, Part 1, Point 3 (ii).

Q. Are there already default values for fuel generated by pyrolysis of plastic waste?

Directive 2015/652 provides a default value for fuels from waste plastic derived from fossil feedstocks, see Annex I, Part 2 (5). This default should be considered applicable to all processes for converting plastic waste into fuel.

Annex I, Part 2, Point 6 - Electricity

Q. Can guarantees of origin be used to demonstrate the renewability of electricity for the purpose of accounting the greenhouse gas intensity of electricity supplied for transport?

The greenhouse gas intensity of electricity consumed by electric vehicles and motorcycles must be calculated in either of two ways:

1) Member States should calculate national average life cycle default values in accordance with appropriate International Standards. When electricity is taken from the national grid, the calculation of GHG intensity should consider domestic production, imports and exports of electricity.

2) Member States may permit their suppliers to establish greenhouse gas intensity values (gCO₂eq/MJ) for electricity from data reported by Member States on the basis of:

(a) Regulation (EC) No 1099/2008 of the European Parliament and of the Council;

(b) Regulation (EU) No 525/2013 of the European Parliament and of the Council; or

(c) Commission Delegated Regulation (EU) No 666/2014.

Guarantees of Origin have no role in either of these possible calculations.

In order to ensure harmonised application of this requirement, Member States are encouraged to use the greenhouse gas intensity values for electricity consumed in the EU calculated by the JRC in the framework of the project "Well-To-Wheels" (JEC-WTW). Please see Memo 1.1.1A.5

Annex I, Part 2, Point 7 - Feedstock trade names

Q. What is the source of the list of feedstock trade names (FTNs) for crude oil, and how should suppliers respond in the case that they supply fuel derived from a crude oil whose FTN is not listed in the table?

The list of FTNs is largely based on a list published by the United States Energy Information Administration to be used by importers of crude oil in the United States for complying with 'EIA-856 - monthly foreign crude oil acquisition report'. It is recognised that this list is not comprehensive of all existing FTNs, and that FTNs may change or be added by the oil industry in future. It would therefore be appropriate for Member States to provide an option to fuel suppliers to report FTNs that are not included on this list, including (where available) the API and sulphur content of these FTNs.

Q. What is the purpose of FTN reporting?

The reporting of feedstock trade names will increase the transparency of the crude mix coming to the EU market, and allow the Commission to improve its estimation of the greenhouse gas intensity of fossil fuels supplied in the EU in future.

Annex III – Member State reporting to the Commission

Q. Are Member States required to report to the Commission the names of fuel suppliers and the associated volumes of fuel supplied by each supplier?

The Council Directive states that fuel volumes and other data are to be "reported separately for fuel or energy placed on the market by suppliers within a given Member State." This requirement should be understood to mean that these data should be reported separately for each type of fuel or energy, aggregated across

all suppliers within a given Member State. It is noted that one potential issue that could arise is that there may be only one supplier of a certain fuel type in a Member State, in which case the “aggregated” volume of this fuel type supplied would indicate the volume for that specific supplier. If this information were published in this form, there may be confidentiality issues. Should confidentiality issues of this kind emerge, the Commission will adapt its own reporting in a way to ensure that no commercially sensitive data are revealed to the public.

Q. Annex III sets a date for Member State reporting to the Commission of 31 December, while Article 5 calls for data to be submitted jointly with the reports required by Article 8(3) of the FQD, which are due by 31 August. Which of these dates is correct?

It is acknowledged that the Directive gives two annual reporting dates, as Article 5(1) stipulates that data related to compliance with Article 7a are to be provided jointly with the report required under Article 8(3), for which the deadline is 31 August, while Annex III indicates a reporting date of 31 December. The reporting date provided by Article 5(1) has precedence over the date in Annex III. Therefore, the reporting date of 31 August is the one required under the legislation in force. The Commission proposed to remove the reference to the reporting date in Annex III in its proposal for a Regulation on the Governance of the Energy Union (COM(2016) 759 final, Article 49 (2) (b)). This does not entail a change in the status quo but only corrects the Directive by deleting the non-applicable date.

Annex IV – template for reporting information for consistency of the reported data

Q. Why are the reporting templates provided by the EEA for Member State and fuel suppliers different to the reporting templates provided in Council Directive 2015/652?

The data required to fill in the EEA templates is identical to that required by the suggested format in the Council Directive. The EEA adapts the formatting for the reporting template in order to optimise and streamline the system for online reporting.

Q. Do different fuel blends within a fuel type need to be reported separately?

It is not necessary to report the blends in which fuels were supplied. All blends within a fuel type should therefore be aggregated into a single entry. For example, the ethanol component of E5, E10, E85, and E100 would all be aggregated based on the reportable characteristics of the ethanol used. There is also no need to disaggregate by different grades of fuel (e.g. by octane number), or to report carbon intensities of different blends. Similarly, the quantities of fossil fuels should be reported without the biofuel admixture.

According to Annex I, Part 1, 3, (c) (ii) of Directive 2015/652, E85 petrol-ethanol blend shall be calculated as a separate fuel for the purpose of Article 6 of Regulation (EC) No 443/2009 of the European Parliament and of the Council. However, as this article has no implications beyond 31 December 2015, separate reporting of E85 is no

longer required. Consequently, the ethanol content in E85 can be reported jointly with that of other ethanol blends.

Q. Does the tonnage in the origin reporting template refer to tonnes of feedstock or tonnes of finished product?

When reporting, all tonnages should reflect quantities of finished product. For fossil fuels, this would therefore mean reporting the number of tonnes of finished fuel associated with each FTN or origin.

Annex A Memos

DISCLAIMER

The memos in this annex were provided by the International Council on Clean Transportation, as technical adviser to the European Commission under service contract CLIMA.C.2/OTH/2015/00303rl, to aid the work of the Expert group on transposition and harmonised implementation of Council Directive (EU) 2015/652 and Fuel Quality Directive 98/70/EC article 7a. These memos were prepared for discussion and do not represent the position of the Commission services. They are included here to provide additional background, where relevant, to the answers detailed above.

A.1 Memo on UER project start date

The FQD Implementing Directive states that, “Only UER projects which start after the date of the establishment of the fuel baseline standard set out in Article 7a(5)(b) of Directive 98/70/EC, i.e. 1 January 2011, should be eligible,” and that, “UERs shall only be counted if they are associated with projects that have started after 1 January 2011.” However, it is not explicitly defined in the Implementing Directive (Council Directive (2015) 652) what it means for a UER project to have started. Several possible definitions might be possible, for instance:

1. Only projects for which initial project design documents were submitted to the relevant UER accreditation scheme after the date of 1 January 2011;
2. Only projects that were validated for emissions reduction crediting after the date of 1 January 2011;
3. Only projects for which associated construction commenced after the date of 1 January 2011;
4. Only projects for which the first emissions reductions were achieved after the date of 1 January 2011.

It is felt that the only one of these definitions that provides a consistent basis for assessment without creating perverse incentives is the fourth option, taking the start date to mean the date at which the first emissions reductions were delivered by a project. It is therefore suggested that the FQD Implementing Directive requires that only projects that start delivering emissions reductions after the date of 11 January 2011 should be considered as having started after 1 January 2011 and thereby being eligible.

A.1.1 Explanation

The reason that it is felt that only the fourth option provides a consistent and implementable definition is that it is the only option that provides a consistent

definition of start point independent of the process requirements of the scheme being used. Given that the requirements for FQD compatible UERs have only been clarified with the recent FQD Implementing Directive (Council Directive (2015) 652), it is anticipated that for any project for which start date is an issue there will need to be a retrospective assessment of eligibility.

In general, this may require the creation of a new scheme (or scheme variation) able to retrospectively award eligible UER status. Given this retrospective character, any start date requirement built around submission of project documentation would become vexatious – there would be no environmental basis to exclude credits generated by a project that was going through a detailed design and validation process in 2010 before commencing delivering reduction in 2011, but to include projects that started in 2011 but did not go through such a formal validation process before time and were only validated at some point between now and 2020. It may also be difficult to assess comparability of process stages for different schemes.

Given that any definition based around scheme process would be problematic, the remaining options would revolve around project construction or project activation. Identifying the start date for construction (or indeed the end date for construction, if distinct from project activation) would be difficult to do unambiguously. Start date could be associated to land clearing, or steel in the ground, and it may be difficult to treat projects consistently given the need to look at records from 5 years ago or more. Similarly, using construction end date could be difficult – it could create incentives to argue that a project that was basically operational in 2010 was not truly complete until 2011 because of some ongoing work of one sort or another. It is therefore suggested that construction related start dates should not be relied upon.

This leaves project activation, defined as the first point at which the project generates emissions reductions. The nature of project activation may vary by type of project. For a venting or flaring reduction project, the first emissions reductions would be achieved at the first point at which gas was captured. For a methane leakage reduction project, the first emissions reductions would be achieved when the first leakage point was upgraded and that infrastructure was reactivated. In some cases, it is possible that project activation could be phased in (for instance a field-wide program of upgrading pipe joints to reduce leakage may run progressively across the field delivering gradually larger savings). For consistency, it is suggested that the start point should be set in all cases as the very first emissions reduction delivered, even if only a fraction of the overall project goal for emissions reduction.

Finally, it should be clarified whether verification should be required when assessing the time at which the first emissions savings occurred. It is noted that while in some cases, projects may have been activated with emissions reductions being immediately verified within a scheme, in other cases projects will not have been part of schemes requiring verification at the point of activation.

For consistency, it is suggested that a project should be considered to have started delivering emissions reductions at the first point that the necessary infrastructure was in place and activated, **regardless of whether emissions reductions were verified at that time**. A project for which gas collection infrastructure was completed and connected in November 2010 would therefore be ineligible to be counted towards

Article 7 compliance, even if measurement errors meant that emissions reductions could only be verified starting from February 2011.

A.2 Memo on baseline and additionality

The FQD implementing Directive (Council Directive (2015) 652 specifies the requirement for calculating emissions reductions from upstream emissions reduction projects in Annex I Part 1 d) ii as follows:

UERs shall be estimated and validated in accordance with principles and standards identified in International Standards, and in particular ISO 14064, ISO 14065 and ISO 14066.

while in Annex I Part 1 d) i specifying that

It is not necessary to prove that UERs would not have taken place without the reporting requirement set out in Article 7a of Directive 98/70/EC;

A UER project must therefore be designed and implemented in accordance with ISO 14064 Part 2 to be eligible under the FQD. This must be validated in accordance with ISO 14064 Part 3 by a team of ISO 14066 competent verifiers working for an ISO 14065 competent organization. The annual emissions reduction claims must then be verified by a separate team of ISO 14066 competent verifiers working for a different ISO 14065 competent organization.⁴

ISO 14064 Part 2 article 2.7 defines a greenhouse gas emissions reduction as the “calculated decrease of GHG emissions between a baseline scenario and the project.” The calculation of emissions reductions therefore requires the assessment of a baseline level of emissions. The baseline is defined as “hypothetical reference case that best represents the conditions most likely to occur in the absence of a proposed greenhouse gas project.” This is built on the definition of a project, given as: “activity or activities that alter the conditions identified in the baseline scenario which cause greenhouse gas emission reductions.”

This definition of the baseline is similar to the definition of the baseline within the CDM methodologies. Because the baseline should represent the ‘conditions most likely to occur in the absence of a proposed greenhouse gas project’, i.e. baseline calculation should be based on an assessment of what emissions would be in a business as usual case. In calculating baseline and project emissions, and hence the reductions delivered by the project, the project proponent must, “identify all relevant GHG sources and sinks controlled by the project proponent, as well as those related to or affected by the project” (ISO 14064 Part 2 article A.3.3.1). In practice, it should be recognised that “the quantification of GHG emissions and removals generally does not involve all of the potentially large number of GHG

⁴ ISO 14065 (5.4.2 b) states that verification or validation bodies “shall not validate and verify GHG assertions from the same GHG project unless allowed by the applicable GHG programme.” As the proposed Implementing Measure makes no specification on this point, it is assumed that the principle should be applied as indicated in the ISO.

sources and sinks" (ibid) and therefore it is appropriate to set criteria to identify relevant sources and sinks.

ISO 16064 Part 2 "deals with the concept of additionality by requiring that the GHG project has resulted in GHG emission reductions or removal enhancements in addition to what would have happened in the absence of that project" (ISO 14064 Part 2 article 0.3). The baseline assessment must be validated by the project validator along with other project documentation.

The baseline assessment for such a project should consider, "relevant information concerning present or future conditions, such as legislative, technical, economic, sociocultural, environmental, geographic, site-specific and temporal assumptions or projections" (ISO 14064 Part 2 article 5.4). Further, "The project proponent shall select or establish, justify and apply criteria and procedures for demonstrating that the project results in GHG emissions reductions or removal enhancements that are additional to what would occur in the baseline scenario" (ibid)⁵.

As the baseline scenario must be defined with reference to information including economic and legal assumptions and projections, Member State authorities must choose what to require fuel suppliers using UERs to include in their baseline assessment as characterization of legal and financial additionality. ISO 14064 Part 2 does not specify the basis for this assessment, and so it will be up to the Member States authorities to determine what should be required from these legal and financial assessments. It is recommended that Member States should include a requirement that a project participant should demonstrate either that the baseline case would be permissible under local law or that local law that ought to prohibit the baseline case is not enforced and that disregard for that local law represents normal business practice (i.e. that the law would likely not have been enforced in the absence of the project).

Member States may refer to analogous examples of the additionality requirements specified under CDM or the suggested additionality tests identified in 'Option 3a' of the ICCT report on crediting venting and flaring reductions under the FQD. This could include requiring that the baseline case would be consistent with financially sound decision making (i.e. that any actions that are clearly in the financial best interest of a participant are included in the baseline).

Member States must decide to what extent to provide detailed criteria for this baseline assessment, and to what extent to set high level principles to be applied by project validators.

A.3 Memo on managing the risk of double counting of UERs

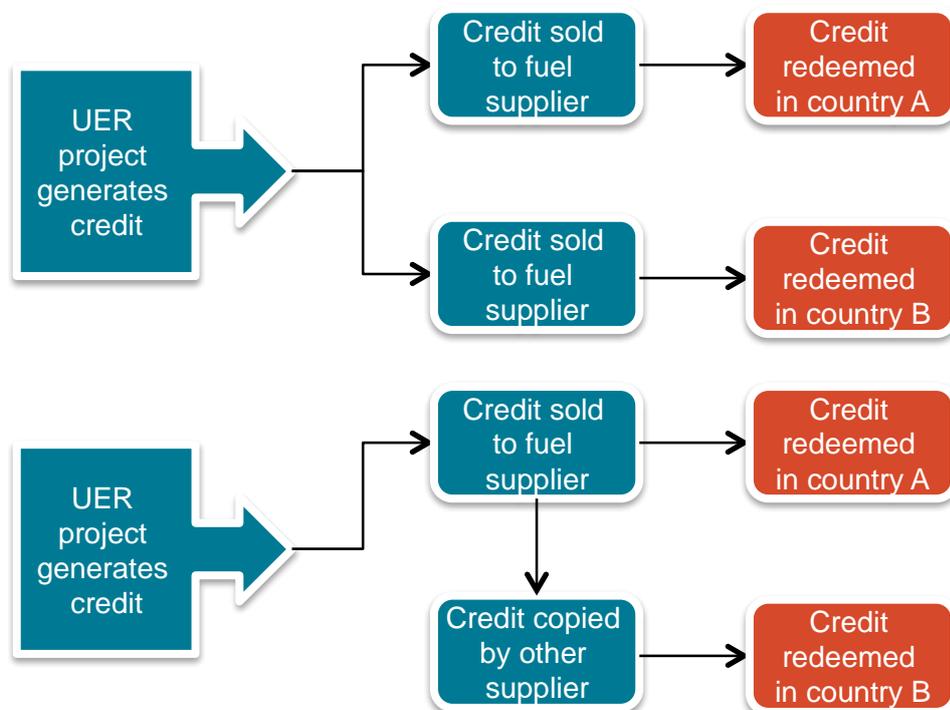
UER are one of the options to reduce the greenhouse gas intensity of fuels supplied. In any emissions reduction crediting system credits used should be monitored to

⁵ As having to be additional to what would occur in the baseline the emissions reduction calculation under the FQD scenario are broadly similar to that under existing CDM methodologies.

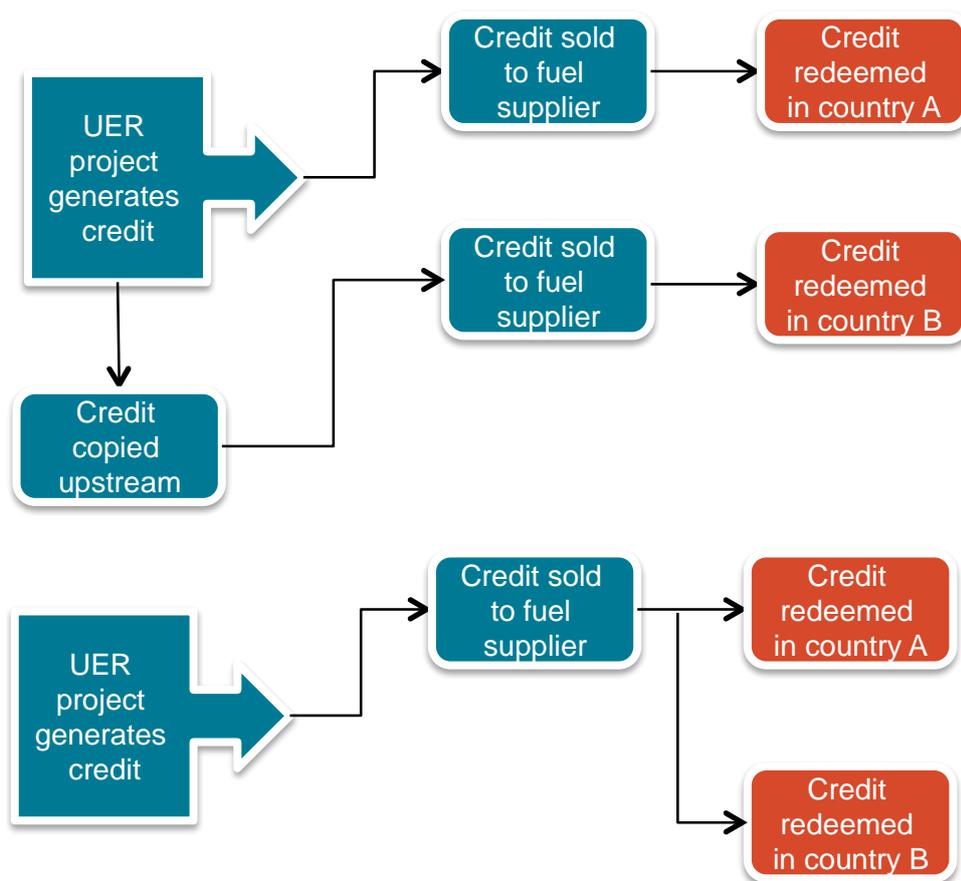
ensure that each emission reduction is counted only once to show compliance with targets⁶.

Neither the FQD (Directive 98/70/EC) nor Council Directive (2015) 652 provide for a legal base or rules for a centralised monitoring of UER, thus ensuring that each emission reduction is counted only once would be dependent upon some coordinated action by the Member States. Not only is there no single UER registry, but UERs may be generated by any number of diverse schemes (provided they are considered eligible by at least one Member State). Without coordination between Member State authorities, there is a risk that a single UER credit may be used for compliance with more than one fuel supplier obligation.

The diagrams below outline various cases in which double counting could occur. Note that it is assumed here that because the FQD requires the use of unique serial numbers for UERs, Member States will be able to prevent any double counting internally. It is also assumed that Member States will have appropriate controls in place to ensure that each serial number is checked against an eligible scheme to confirm that that serial number reflects a correctly verified emission reduction.



⁶ An example - though of very different dimension and a by far larger scope and complexity as regards legislation and its significant administrative resources - is the ETS, for instance, where the use of credits is carefully managed including through the use of a single European registry (which is linked to the CDM registry).



In each of these cases a different party is at fault, and may be purposefully behaving fraudulently, but each raises the same question – how does Country A coordinate with Country B to identify the double counting? This could be done with either a centralised or decentralised (distributed) data sharing system.

A.3.1 Centralised options: One data management approach would be the appointment of a central data holder.

Since the Commission has no legal basis to set up a central data holding and checking the use of this approach would be dependent upon coordinated action by the Member States. If there is an appointed central data holder, then in the event that the same serial numbers are reported by more than one national administrator, or possible double counting is identified by any other method, the data holder should notify the respective administrators. These administrators should then coordinate to undertake an investigation to determine which (if either) of the regulated parties is entitled to count the reductions towards its compliance target. If a regulated party is found to have incorrectly claimed emissions reductions in a Member State, the national administrator should take appropriate enforcement action. If the revocation of emissions reduction claims results in a regulated party being out of compliance with the GHG intensity reduction target of the FQD.

Four options are seen for this approach:

- Member States coordinate to co-fund a new body to act as data holder;

- One Member State takes responsibility for setting up a central database, and the other States agree to use that system;
- Industry sets up a credible system, and Member States agree to use it;
- A non-industry body sets up a credible system, and Member States (and industry) agree to use it.

The first of these options would have appeal in principle as it would ensure full and equal engagement for Member States in the process, however in practice it may be challenging (legally and financially) to coordinate such a system. Giving a single Member State or third party a management role in setting up a central database could streamline the process, but may raise concerns for some stakeholders if there was any perception of conflict of interest.

De-centralised option: If there is no central data holder agreed by Member States then a distributed system of bilateral checks between Member States would be required. A way for this to be organised, would be for each Member State to share with the others (securely) a comprehensive list of all UERs claimed against the Member State implementation. This sharing could be accomplished through email (as a spreadsheet, for instance) if that was considered adequately secure. It could also be achieved by each Member State setting up a secure website for UERs to be listed on, with access credentials shared to all other national administrators. In either event, the identity of companies claiming each UER need not be shared, only the details of the claimed UER. The serial number will be the most important data point for detection of double counting, but it is suggested that posting the full details of each UER claimed would aid monitoring and fraud prevention. The serial numbers of UERs in each Member State could then be simply compared to serial numbers of UERs claimed in each other Member State. Given consistent data formatting, this should be a trivial programmatic exercise. Without consistent data formatting, there may be a need for manual inspection.

A.3.2 Note on serial numbers

In principle, the unique serial number should provide a high level of confidence of correct reporting if correctly implemented. However, as an added protection against transcription errors etc., it is suggested that the combination of the location of the UER project and the date stamp (which should contain the start and end of the period for which UERs have been verified) could be compared for all redeemed UERs. If two UERs have the same location and date, it would trigger an investigation.

Given modern information technology a distributed system of bilateral checks is perfectly implementable, while a system built around a single central data control point might be the least administratively burdensome. Considerations of a solution should also take into account considerations of proportionality. Managing credit revocation in cases of double counting

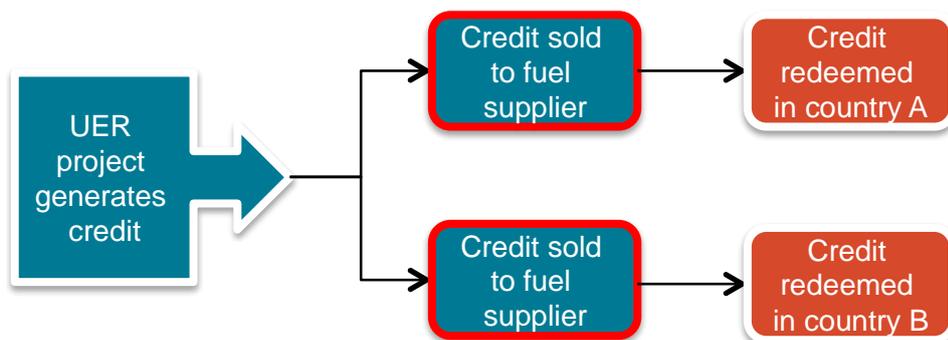
Where credit double counting is identified, it will be important that an investigation should be triggered and the UERs should be revoked from one or both parties that claimed the credit. As there is no central European body with authority to conduct such an investigation, it is suggested that the appropriate national authorities should investigate the suppliers submitting double-reported UERs in the respective Member

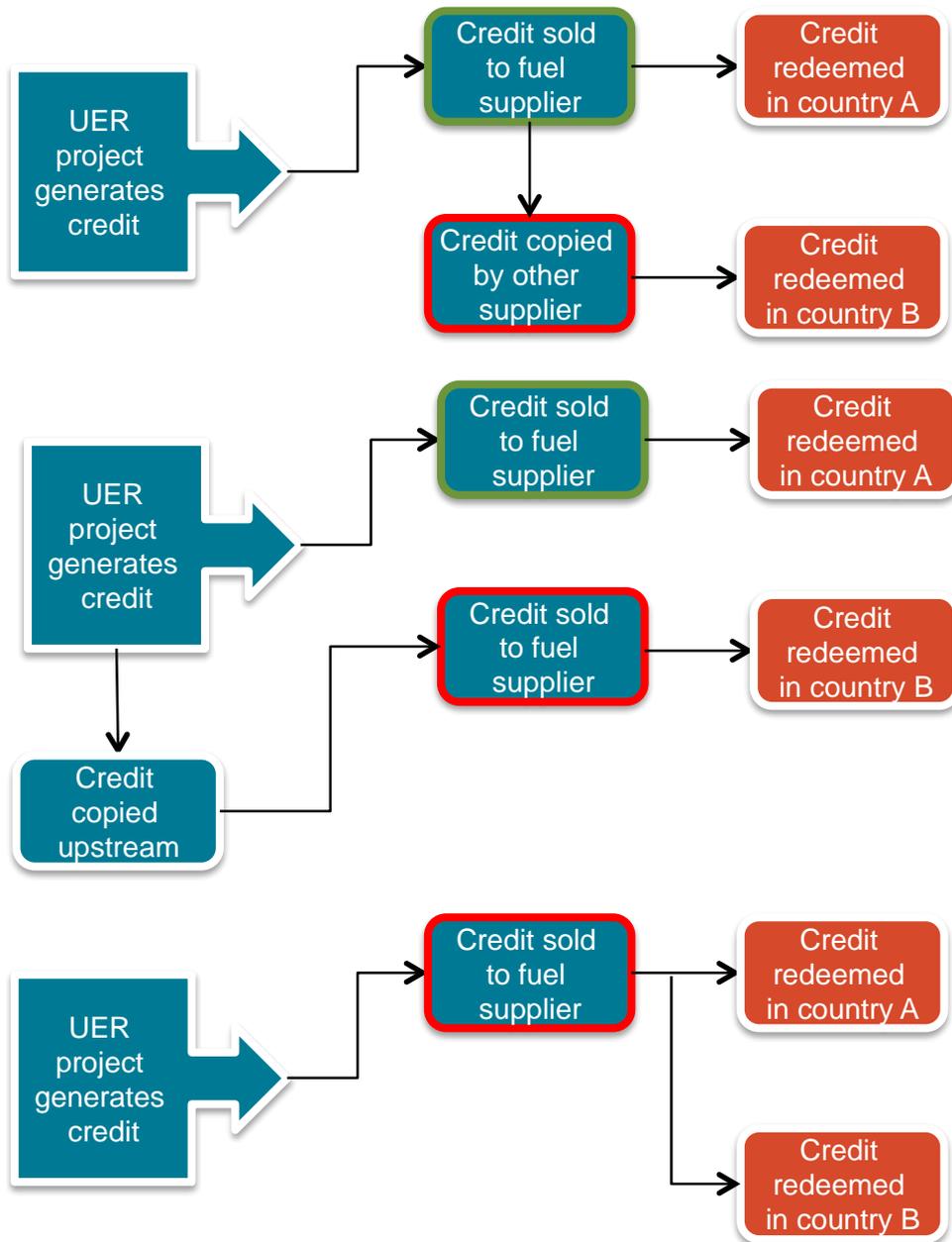
States. As a single credit could in principle be reported up to 28 times in different Member States, there may need to be several parallel investigations. Each investigation should come to one of two conclusions:

- The fuel supplier in question acted in good faith and competently, and was not the source of the paperwork error or attempted fraud that resulted in double counting.
- The fuel supplier in question acted in bad faith or incompetently, and was the source of the paperwork error or attempted fraud that resulted in double counting.

If, following the investigation, it is identified that one party acted in good faith and competently while all other parties acted in bad faith or incompetently, then the party that acted in good faith should be allowed to keep the UER, while the others should have the UER revoked and any appropriate enforcement action should be taken by the national authority. In the event that it is determined that more than one reporting fuel supplier acted in good faith (i.e. that the fraudulent or incompetent party was higher up the supply chain), then the UER should be revoked from all parties. These parties should then seek recourse against the fraudulent or incompetent supplier through the civil courts, and if appropriate and possible enforcement action may be taken against the fraudulent or incompetent party. The fuel suppliers from which the UER has been revoked may be subject to enforcement action for non-compliance if appropriate. This approach is intended to force fuel suppliers to exercise due diligence in picking UER suppliers, and to ensure that any contractual arrangements they enter into with UER suppliers provide them with protection in the event of such a revocation.

Using again the examples above, below we have outlined in green fuel suppliers who would be entitled to keep their UERs under the suggested system, and in red fuel suppliers whose UERs would be revoked after investigation:





A.4 Memo on credit accumulation

Article 7a of the Fuel Quality Directive compels Member States to require fuel suppliers to

“reduce as gradually as possible lifecycle greenhouse gas emissions per unit of energy from fuel... by 6% by 31 December 2020.”

This requirement sets the EU GHG intensity standard for fuels⁷. The FQD requirement is on the LCA GHG emissions “per unit of energy” – at one point in time meaning the

⁷ Also other standards like this regulate the lifecycle GHG emissions over the average fuel mix supplied in a jurisdiction at one point in time, typically on an annual basis (California’s

standard applies for every liter of fuel consumed in the EU in the specified year. This does not mean that literally every liter of fuel must have a GHG intensity 6% lower than the 2010 baseline, but that fuel averaged over the EU must meet this standard on 31 December 2020.

The FQD Implementing Directive (Council Directive (2015) 652) states that upstream emissions reduction may only be eligible to count towards compliance with the 6% greenhouse gas intensity reduction target if they are generated by projects starting after 1 January 2011. However, the Implementing Directive is not explicit on the question of whether there is a limitation on the vintage of upstream emissions reductions that can be counted – i.e., it does not explicitly state whether an emission reduction delivered in a year prior to 2020 by an eligible upstream emission reduction project could be counted towards FQD compliance. It is therefore appropriate for Member States to use national implementations of the Implementing Directive to clarify the issue of temporal eligibility of upstream emissions reduction towards fuel supplier greenhouse gas intensity reduction targets.

In deciding on the question of temporal eligibility, it is suggested that Member States should have particular regard to three points:

1. Analogy to the carbon accounting rules for biofuels;
2. Intent of the greenhouse gas reduction target in the FQD;
3. Environmental integrity of the greenhouse gas reduction target in the FQD.

A.4.1 *Analogy to the carbon accounting rules for biofuels*

The option to use upstream emissions reductions to achieve compliance with the emissions reduction targets under the FQD complements existing compliance measures, in particular the use of biofuels which is expected to deliver the bulk of FQD emissions reductions in 2020. In the biofuel accounting case, the greenhouse gas intensity calculation for actual value reporting must apply to biofuel supplied within the compliance year in question, 2020 for the primary FQD greenhouse gas intensity target. Carbon savings demonstrated through actual value reporting cannot be accumulated over time, any more than renewable energy supply can be accumulated over multiple years to be counted against the 2020 target within the Renewable Energy Directive. It is therefore argued by analogy to biofuel accounting that it would be reasonable to conclude that upstream emissions reductions cannot be accumulated over time.

A.4.2 *Intent of the greenhouse gas reduction target in the FQD*

The third recital in the 2009 amendment to the FQD (Directive 2009/30/EC) states links it to the EU's commitments under the Kyoto protocol, therefore the purpose of Article 7a is to ensure that the fuel supply sub-sector of the transport sector makes a contribution to overall emission reductions in the EU. It seems reasonably clear that it is was the intention of the Co-legislators in adopting the greenhouse gas emission reduction target of the FQD that the 6% greenhouse gas intensity reduction should

Low Carbon Fuel Standard, British Columbian Low Carbon Fuel Requirement, German Low Carbon Fuel Standard).

represent a persistent shift in the greenhouse gas intensity of the European transport fuel mix.

The reporting requirement under FQD and the Council Directive (2015) 652 is explicitly annual, and the target date for the greenhouse gas emission reduction under the FQD is 31 December 2020. Hence, the target year for reducing the greenhouse gas intensity of fuel under the FQD is the year 2020.

Reading Article 7a as requiring all emissions reductions contributing to the 6% reduction in the GHG intensity of fuels to be real within the year 2020 is therefore central to delivering the climate mitigation goal of the FQD. If Member states choose to implement interim targets, as allowed under the FQD, then the analogous period would be the calendar year at the end of which the interim target is to be applied.

A.4.3 Environmental integrity of the greenhouse gas reduction target in the FQD

The FQD greenhouse gas intensity reduction target was introduced as a complementary measure to the RED. The 6% greenhouse gas intensity target is set at a level such that it:

1. Provides an added incentive to deliver emissions reductions in the biofuel supply chain;
2. Provides an added incentive to supply other low carbon fuels;
3. Provides an added incentive to deliver other eligible emissions reductions in the fuel supply chain, such as UERs.

The FQD therefore delivers environmental benefits primarily by improving the greenhouse gas intensity performance of biofuels supplied within Europe and by driving the adoption of additional emissions reduction measures. It is designed to be technology neutral, in the sense that the value of the incentive from the FQD to deliver one tonne of CO₂e emissions reduction in the transport fuel sub-sector should be the same regardless of which option is used to deliver those reductions. Given that accumulation of reductions over time is not permitted for other compliance options (biofuels, electricity in transport etc.), allowing accumulation of emissions reductions in the UER sector would undermine this principle of technology neutrality.

For example, a project introduced in the biofuels supply chain that delivered 20,000 tonnes of CO₂e reduction per annum from 2015 onwards would be eligible to contribute 20,000 tonnes of CO₂e reductions towards a fuel supplier's FQD target. However, if accumulation was allowed for UERs, an equivalent oil industry project delivering 20,000 tonnes of CO₂e reduction per annum from 2015 onwards would be eligible to contribute 120,000 tonnes of CO₂e reductions towards a fuel supplier's FQD target. That would imply that (for this example) savings in the oil supply chain were being valued **six times more highly** than savings delivered in the biofuel supply chain. Allowing such accumulation would reduce the need to deliver emissions reductions elsewhere in the system, violate the goal of technology neutrality and undermine the driver from the FQD to deliver real net greenhouse gas emissions

reductions. . In short, allowing credit accumulation would reduce the environmental integrity and effectiveness of Article 7.

A.4.4 Conclusion

Given the issues outlined above, it is concluded that the FQD Implementing Directive (Council Directive (2015) 652) requires that all UERs used to show compliance with the 2020 target should be generated within the period from 1 January 2020 to 31 December 2020 (irrespective of when projects started reductions (after 1.1.2011))

A.5 Memo on Electricity Greenhouse Gas Intensity in the EU Member States in 2013 including upstream emissions

The Sustainable Transport Unit of the JRC has developed, in the framework of the project “Well-To-Wheels” (JEC-WTW), a methodology and a data set expressly designed to quantify the average greenhouse gas intensity of electricity consumed in each member state.

According to the developed methodology and the most recent data sets (2013 statistic data from the International Energy Agency and EUROSTAT), the Greenhouse Gas Intensity (Carbon intensity, CI) was calculated for all the steps of the electric pathway: starting from the upstream emissions for providing fuel to power plants, the combustion emissions, and the power losses occurring along the grid. Also taken into account is the electricity trade among Member States and neighbouring countries. Note that IEA only elaborates power station combustion emissions per Member State, and do not include upstream emissions, imports/exports and losses in transmission.

Table 1 summarises the average Carbon Intensities (gCO₂ equivalent per kWh) for electricity at low voltage consumed in each Member State of the European Union, in year 2013, which at this moment is the latest reliable data. The numbers are slightly affected by the source used to estimate upstream emissions for supplying the fuel. These figures use the upstream emissions reported in JEC-WTW, updated to February 2017 and consistent with WTW calculations provided for other fuel pathways.

Table 1 – Carbon Intensity of the electricity consumed at low voltage in the European Union in 2013

Member State	Carbon Intensity
	[gCO ₂ eq/kWh]
Austria	331
Belgium	273
Bulgaria	669
Croatia	523
Cyprus	813
Czech Republic	685
Denmark	375
Estonia	944
Finland	211
France	105
Germany	615
Greece	767
Hungary	406
Ireland	622
Italy	431
Latvia	1173
Lithuania	387
Luxembourg	513
Malta	1006
Netherlands	569
Poland	981
Portugal	399
Romania	493
Slovakia	420
Slovenia	321
Spain	341
Sweden	47
United Kingdom	623
Average EU 28	447