

GUIDANCE NOTE

on approaches to quantify, verify, validate, monitor and report upstream emission reductions

DISCLAIMER

This guidance note reflects the discussions of the informal expert meetings on the transposition of the Council Directive (EU) 2015/652 implementing Article 7a Fuel Quality Directive involving the Commission services and experts from the Member States. Industrial stakeholders and non-governmental organisations provided their opinion. The document is intended to facilitate the implementation of Council Directive (EU) 2015/652. It is itself not legally binding. Any authoritative reading of the law should only be derived from Council Directive (EU) 2015/652 itself and other applicable legal texts or principles. While this note 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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upstream emission reductions

1. INTRODUCTION

As part of the EU climate and energy legislation in place to achieve the greenhouse gas (GHG) reduction targets for 2020 the Fuel Quality Directive (FQD)¹ obliges fuels suppliers to reduce the greenhouse gas intensity (life cycle greenhouse gas emissions per unit of energy) of the fuel and energy supplied by them by 6% in 2020 compared to a fuel baseline standard of 2010. The rules on calculation methods laid down in Council Directive (EU) 2015/652 (the implementing Council Directive)² include the possibility to account for upstream emission reductions and to take those emission reductions into account in the compliance assessment of their/that obligation under the FQD.

This document aims to facilitate the implementation by Member States of this legislation by providing non-binding guidance on approaches to quantify, verify, validate, monitor and report upstream emission reductions, as called for in Recital (6) of the implementing Council Directive. It provides practical aspects on certain topics identified in a series of informal discussions³ held with Member States representatives following the adoption of the implementing Council Directive.

2. LEGAL CONTEXT

Article 3(1) of the implementing Council Directive in conjunction with Annex I to that Directive establishes the calculation method to determine greenhouse gas intensity of fuels and energy supplied. This provision allows fuel suppliers to account for upstream emission reductions when demonstrating compliance with their obligation to reduce emissions by subtracting the emission reductions generated upstream from the total greenhouse gas emissions of a supplier.

The main elements regulated in the implementing Council Directive relate to definitions, eligibility of reductions, the respective calculation methods and the approaches to monitor, verify and report upstream emission reductions.

(i) Definitions:

‘Upstream emissions’ is defined in Article 2(1) as "all greenhouse gas emissions occurring prior to the raw material entering a refinery or a processing plant where the fuel was produced."

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 (Text with EEA relevance) OJ L 140, 5.6.2009, p. 88–113

² 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 fuels, OJ L 107, 25.4.2015, p. 26–67

³ Dedicated informal expert meetings on the transposition of the Council Directive (EU) 2015/652 took place on 29 April, 10&11 June, 9 September 2015 and 14 January 2016.

'Upstream emission reduction' (UER), according to Annex I Part 1 3 (d), is the 'upstream emission reduction of greenhouse gases claimed by a supplier, measured in gCO₂eq if quantified and reported in accordance with the following requirements':

(ii) Eligibility:

"- UERs shall only be applied to the upstream emission's part of the average default values for petrol, diesel, CNG or LPG.

- 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.

- UERs shall only be counted if they are associated with projects that have started after 1 January 2011.

- 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."

(iii) Calculation and Monitoring, Reporting, Verification

"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 UERs and baseline emissions are to be monitored, reported and verified in accordance with ISO 14064 and providing results of equivalent confidence of Commission Regulation (EU) No 600/2012⁴ and Commission Regulation (EU) No 601/2012⁵. The verification of methods for estimating UERs must be done in accordance with ISO 14064-3 and the organisation verifying this must be accredited in accordance with ISO 14065."

3. UPSTREAM EMISSION REDUCTION AS COMPLIANCE OPTION

3.1. Main principles

No obligation to use UER as a compliance option. The Fuel Quality Directive and Council Directive (EU) 2015/652 foresee several options for suppliers to reduce the GHG intensity of fuels and energy (and thereby comply with the obligation established in Article 7a of the FQD: a) blend / supply biofuels, b) supply fuels with lower GHG intensity such as LPG, CNG and H₂, c) provide electricity for road transport or d) reduce upstream emission. Suppliers can combine these options as appropriate. There is no obligation to use any specific option.

Possibility to use diverse emission schemes for calculating and certifying emission reductions. Recital 3 of the Council Directive states that, "In order to facilitate the claiming of UERs by suppliers, the use of various emission schemes should be allowed for calculating and certifying emission reductions." In this context, a single upstream emission reduction project generating eligible UERs may be considered to constitute a 'scheme'.

⁴ Commission Regulation (EU) No 600/2012 of 21 June 2012 on the verification of greenhouse gas emission reports and tonne-kilometre reports and the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council (OJ L 181, 12.7.2012, p. 1).

⁵ Commission Regulation (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council (OJ L 181, 12.7.2012, p. 30).

Additionality. For emission reductions to be eligible to be claimed as UERs they must be additional to any emissions changes that would have been expected in the most likely counterfactual scenario.

No double counting. Any particular batch of emission reductions from a given project may only be claimed against FQD GHG emission reduction obligations or other emission reductions targets once. These emission reductions cannot be claimed under the Kyoto Protocol's Clean Development Mechanism or the Joint Implementation. Similarly, upstream emission reductions that have been accounted for third party emission reductions schemes shall not be eligible under the FQD.

Dissociation of upstream reduction and fuel supplied on the market. All GHG reduction projects in any country at upstream production and extraction sites of non-biological raw material for the production of fuels for transport supplied for uses covered by the Fuel Quality Directive should be considered as potentially eligible, so long as they are consistent with the definition in Article 2 of the Council Directive.

3.2. Actors and responsibilities

The role of **project proponents** is to confirm: that the necessary data is being tracked and verified; that the appointed validation and verification teams are qualified, that validation and verification meets expected standards; and that tests for additionality are being appropriately applied. They should also ensure that an appropriate chain of custody is in place so that UERs generated cannot be improperly claimed by others.

The role of **fuel suppliers** is to undertake due diligence to ensure that any UERs made available for them through commercial arrangements are eligible and reflect real emissions savings, and that project proponents with whom they enter into commercial arrangements have not made the same UERs available to other fuel suppliers or redeemed them for compliance with other regulations. Suppliers should ensure that all required data is available, prepare the data in the required format and report to the authority designated by the Member States.

Platform to exchange information. To facilitate the sharing or trading of UERs to enable companies without an upstream branch to obtain UERs, it may be beneficial if a platform is available to allow UER project proponents and fuel suppliers to share information on the UERs they own, respectively need.

Member States shall designate a competent authority to manage the data reported by fuel suppliers. Member States shall ensure that reports are subject to verification. Member States should ensure that UERs have not been double-counted and that UER data is available for sharing.

3.3. Eligibility of UERs

Any facility or infrastructure in the supply chain prior to the facility at which the finished transport fuel is produced may be eligible to report upstream emission reductions. For fuels with crude oil as a raw material, this includes all of the supply chain prior to the refinery. 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.

UERs from any country in- or outside the European Union may be counted as a reduction in greenhouse gas emissions against fuels from any feedstock source supplied by any supplier. Therefore, there shall not be any requirement to demonstrate fuels from the projects considered are physically supplied to the European Union market nor that there is a physical link to the European Union transport sector.

In order to produce eligible UERs, projects must have delivered their first emission reductions after January 1, 2011.

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

In order for UERs to be eligible, suppliers shall fulfil the reporting requirements specified in Annex I Part 2 (1) of the Council Directive and further explained in the next section.

4. REPORTING OBLIGATIONS

In addition to the quantity of UERs being claimed, Council Directive (EU) 2015/652 sets out in Annex I Part 2 (1) a set of further data fuel suppliers shall report to the authority designated by Member States for each batch of UERs:

(a) the starting date of the project

This should be the first point at which a project has generated emission reductions. This does not need to be the same as the date at which a project was registered, the date at which construction of the project was completed or the date at which the first emission reductions were verified. It must be after 1 January 2011.

(b) annual emission reductions in gCO₂eq

This should be the total amount of verified emission reductions from the project in question that are being claimed by the supplier.

(c) the duration for which the claimed reductions occurred;

This should be the reported calendar year over which the emission reductions being claimed have occurred.

(d) the project location closest to the source of the emissions in latitude and longitude coordinates in degrees to the fourth decimal place;

This should be the coordinates of the location at which the avoided emissions would have occurred in the absence of the UER project. Where a project involves emission reductions that are geographically dispersed, a location representing the geographical central point of the project or the location of the primary infrastructure in the project may be reported.

(e) the baseline annual emissions prior to installation of reduction measures and annual emissions after the reduction measures have been implemented in gCO₂eq/MJ of feedstock produced;

Baseline annual emissions prior to the installation of the project are the emissions that would have been expected in the counterfactual project baseline. They should be expressed in gCO₂eq divided by the total energy content in MJ of feedstock passing through the equipment within the system boundary of the project. The level of annual

emissions after the reduction measures have been implemented should be calculated as annual emissions for the project and also expressed in gCO₂eq divided by the total energy content in MJ of feedstock passing through the equipment within the system boundary of the project (see section 5.4. for how to establish a project boundary). Both should be reported for the most recent year for which data is available. Where data is not available for a full year, it may be necessary to extrapolate it in order estimate the annual emissions to be reported. Any extrapolation should be realistic and representative of expected operating conditions. All emissions values in gCO₂eq should be determined accurately and comprehensively and should reflect the values that have been verified by qualified validators and verifiers. Suppliers are not expected to include in this reporting any emissions that are beyond the project system boundary.

(f) the unique certificate number identifying the project, and the claimed quantity of emission reductions; and

(g) the unique number identifying the calculation method and the associated scheme;

While Council Directive (EU) 2015/652 does not prescribe a particular format for these two unique identifiers, it may be useful to require that all unique identification numbers reported to a given designated authority share a single format, and to coordinate that format among Member States. An example of a possible format is suggested in Annex A.

(h) where the project relates to oil extraction, the average annual historical and reporting year gas-to-oil ratio (GOR) in solution, reservoir pressure, depth and well production rate of the crude oil. The historical value shall be defined as the average value recorded in the year before the project start date. The annual value should be a representative value for the year in which the UERs are being claimed, based on year-to-date data where necessary. This data need not be measured to the same level of accuracy as the emission reductions achieved. It will generally be acceptable to report these values based on the monitoring system in place at the oil well.

5. PRACTICAL ASPECTS FOR THE USE OF UERs

5.1. Project plans

Project plans should be produced for all UER projects, in line with the requirements in ISO 14064-2 Article 5.2. Project plans must be validated and UERs must be monitored, reported, and verified in accordance with ISO 14064 (see in particular sections 5.9 and 5.10).

5.2. Validation of UER projects after they have started

UERs may be reported for projects started after January 1, 2011 and before the transposition (deadline 21 April 2017) providing sufficient information is available for retrospective validation of project plans. In particular, for such cases it is required that information is available to allow a baseline to be validated as required by ISO 16064-2. The same level of accuracy, completeness, and transparency of data should be available to validate the baseline scenario for projects that have already started as for those yet to start. The baseline and project emissions should be calculated as they would for a future project, including the considerations for establishing project baselines and assessing additionality. Following retrospective validation, verification of emission reductions should proceed as normal.

5.3. Establishing project baselines

ISO 14064-2 defines the baseline as a counterfactual “hypothetical reference case that best represents the conditions most likely to occur in the absence of a proposed GHG project” (ISO 14064-2 Article 0.3), and states that, “A baseline scenario determined using a project-specific approach represents what would occur in the absence of the project” (ISO 14064-2 Article 5.4.). As the baseline is a counterfactual scenario, it will not always reflect continuation of existing practice. In determining what would have been likely to occur in the absence of the project, for calculation of the project baseline, ISO 14064-2 Article 5.4 requires the proponent to consider, “the project description, including identified GHG sources, sinks and reservoirs; existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project; data availability, reliability and limitations; other relevant information concerning present or future conditions, such as legislative, technical, economic, sociocultural, environmental, geographic, site-specific and temporal assumptions or projections.” If part or all of a project would have been implemented under business-as-usual conditions without reference to any intent to reduce GHG emissions, that element of the project should be included in the baseline. In some cases, the baseline case will already include a reduction in emissions compared to historical emissions rates.

5.4. Criteria to identify sources and sinks of GHG to be accounted in the project boundaries

The validation process of a project shall only be done by validation bodies with the necessary competence and technical knowledge to assess the completeness of project boundaries. The boundary should include all GHG sources and removals and any GHG source, sink, or reservoir that is controlled, related to, or affected by the project (ISO 14064-2 Article 5.3). These are considered ‘relevant’ sources. Examples of project boundaries can be drawn from CDM methodologies⁶ and in the ICCT report on *The Reduction of Upstream Greenhouse Gas Emissions from Flaring and Venting*.⁷ Geographically, the project boundary will typically include the fossil fuel extraction site, existing collection, transport, and processing infrastructure up to the point at which any processed material leaves the site, and all new infrastructure developed as part of the project. It could also include new or existing offsite infrastructure if these are determined to be relevant to the emissions performance of a project.⁸ Exclusion of any relevant GHG source, sink or reservoir must be justified (ISO 14064-2 Article 5.6), for instance by showing that it will be small compared to the overall emission reduction or that it will not be affected by the project. Validation by qualified and accredited validators is important in ensuring that an appropriate set of sources and sinks is assessed.

5.5. Application of the principles of conservativeness, completeness, consistency, and accuracy, which are required under ISO 14064

Project proponents should estimate, monitor and report emission reductions fairly and without bias. Conservativeness means that in emissions estimation one should take

⁶ E.g. [Section 5.1 of CDM methodology AM0009](#) and [Section B.3 in the project design document for CDM project NM0227](#).

⁷ [Section 2.2.2.b](#)

⁸ For instance, if captured gas is to be processed offsite, the energy necessary for that processing would be relevant to the project.

reasonable steps to avoid overestimating emission reductions, even where this creates a possibility that reductions will be underestimated. Completeness means that all relevant GHG emissions and sinks should be assessed, and all relevant information should be provided to validators and verifiers. Consistency allows comparisons to be made in GHG-related information. Accuracy means that all practical steps should be taken to reduce uncertainty and any systematic biases in emission reduction calculation. The principle of conservativeness does not conflict with the principle of accuracy; satisfying both requires that once uncertainty has been minimized to the extent practicable, the values chosen should result in a conservative estimate of emission reductions (ISO 14064-2 Article A.2.5).

5.6. Temporal eligibility of upstream emission reduction projects and definition of start date

Any projects that began generating upstream emission reductions after January 1, 2011, may create UERs eligible for consideration in the compliance assessment under Article 7a of the FQD. The start date refers to the first point at which a project has generated emission reductions and applies regardless of whether these first emission reductions were verified. Only UERs generated during the calendar year 2020 shall be eligible to be counted towards the Fuel Quality Directive target in 2020. Where Member States decide to count UERs to interim targets, only UERs generated in the corresponding calendar year should be considered eligible.

5.7. Calculation of emissions in the UER project and baseline scenarios

Emission savings must be calculated as “the difference between the GHG emissions and/or removals...for the project...and for the baseline scenario” and expressed in gCO₂eq. This calculation should follow the principle of conservativeness as described above (ISO 14064-2 Article 3.7). All relevant GHG sources, sinks and reservoirs that are controlled by, related to or affected by the project must be included in the baseline and project scenarios (ISO 14064-2 Article 5.3). Some sinks or sources may involve climate pollutants (e.g. methane) with a different radiative forcing effect than carbon dioxide. Where consistent with the principle of conservativeness⁹, global warming potentials (GWPs) may be used to assess emission reductions from non-CO₂ greenhouse gases. Where GWPs are used, the values should be taken from Council Directive (EU) 2015/652, Annex I, Part 1, Paragraph 1.

5.8. Assessing additionality in line with ISO 14064

Emission savings must be calculated as the difference between the project and baseline scenarios (ISO 14064-2, Article 5.8). The baseline is defined as the most likely counterfactual given legislative, economic and other factors. For emission reductions to be eligible to be claimed as UERs they must be additional to any emissions changes that would have been expected in the most likely counterfactual scenario. If any expected value of UERs contributed to the decision to pursue a project, this may be included in a

⁹ It may be determined for any given project that it is more consistent with the principle of conservativeness to require that reducing methane sources should be credited only for the GHG benefit of reducing the equivalent emissions of carbon dioxide. This approach is taken in CDM methodologies for crediting venting reduction.

project participant's declared reasoning for establishing a baseline.¹⁰ Projects may be considered ineligible unless they are/were developed with an explicit included goal of GHG emission reductions, including energy efficiency projects. Council Directive (EU) 2015/652 states in Annex I Part 1 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".

5.9. Monitoring and verification of emission reductions by UER projects

For a UER project to be eligible, validation and verification bodies for the project must be accredited in accordance with ISO 14065 and 14066. UERs assessed by validation and verification bodies that are not compliant with the ISO requirements are not eligible for compliance with the target of the FQD Article 7a.

All relevant GHG sources, sinks and reservoirs should be identified and monitored (ISO 14064-2 Article A.2.3) "on a regular basis during project implementation" using equipment that is properly calibrated on a regular basis (ISO 14064-2 Article 5.10) and following the principle of accuracy (ISO 14064-2 Article 3.5). It may be appropriate to require duplicated measurement or similar checks. UER project plans must be validated and claimed emission reductions should be verified (ISO 14064-2 Article 5.12) by qualified personnel (ISO 14065, 14066) of the verification body. Council Directive (EU) 2015/652 Annex 1 Part 1 (3) d ii requires that the results of these monitoring, reporting and verification are of equivalent confidence of Commission Regulations (EU) No 600/2012¹¹, which contains general principles for verification and the accreditation of verifiers and Commission Regulation (EU) No 601/2012¹², which contains general principles for monitoring and reporting that can be applied to upstream emission reduction projects.

The general principles and key requirements of verifiers and the verification process in Commission Regulation (EU) No 600/2012 include:

- The process of verifying emission reports shall be an effective and reliable tool in support of quality assurance and quality control procedures. (Article 6).
- The verifier must carry out verification in the public interest and with an attitude of professional scepticism of the claims being verified (Article 7).
- The verifier shall conduct substantive testing using analytical procedures, including verifying data and checking the monitoring methodology, and shall conduct site visits (Article 14-21).
- All verification reports shall be independently reviewed (Article 25).
- All verification personnel (Article 35) and independent reviewers (Article 38) shall be competent.

¹⁰ An example of how the financial consideration could be elaborated can be found in the ICCT report on *The Reduction of Upstream Greenhouse Gas Emissions from Flaring and Venting* Section 4.2.2, pages 112-115.

¹¹ Ibid, p.3.

¹² Ibid, p.3.

- Verifiers shall be impartial and independent from an operator (Article 42).
- All verifiers shall be accredited for the scope of activities being verified (Article 43-44).

The general principles and key requirements for monitoring in reporting in Commission Regulation (EU) No 601/2012 include:

- Monitoring and reporting should be complete, consistent, comparable, transparent, and accurate (Article 5-7).
- Procedures should be maintained for the management and quality control of data resulting from monitoring and reporting activities (Article 57-60).
- All data should be internally reviewed and validated in addition to the verification process (Article 62).
- Operators should keep records of all relevant data and make appropriate corrections (Article 66-67).

The ISO standards are intended to be complementary to requirements in existing greenhouse gas reduction programmes, and therefore in several places within the standards explicit provisions are made that the ISO standards should not be considered to overrule alternate measures put in place by such programmes. These provisions are not relevant to the use of UERs under the Fuel Quality Directive, and in particular these requirements in existing third countries' greenhouse gas reduction programmes to report UERs may not in any case be allowed to supersede the standard ISO requirements.

5.10. Accreditation of validators and verifiers in line with ISO

Validation and verification bodies should be required to establish and maintain procedures to determine the competencies and technical knowledge required of accredited verifiers as necessary skills to assess UER projects and data (ISO 14066 Article 5.2.1; ISO 14065 Article 6.1). Validation and verification bodies must be asked to establish and document formal rules to support the principles of independence, integrity, fair presentation, due professional care, professional judgement, and an evidence-based approach and be unbiased and free of conflict of interest (ISO 14066 Articles 4.1-4.7; ISO 14065 Article 5.4). Only UERs from projects where all validators and verifiers comply with these standards may be counted for compliance. The Council Directive Annex 1 Part 1 (3) d ii makes reference to the respective accreditation rules under the EU ETS, and so it is recommended that any validator or verifier used should have European accreditation¹³.

6. SPECIFIC QUESTIONS

6.1. Upstream emission reductions from CDM projects

Units from the Kyoto Protocol flexible mechanisms - Certified Emission Reduction units (CERs) generated by the Clean Development Mechanism (CDM) projects and Emission Reduction units (ERUs) generated by Joint Implementation (JI) projects - are not eligible

¹³ <http://www.european-accreditation.org/publication/ea-inf-10-rev-00-january-14>

to be counted towards the 6% GHG emissions intensity reduction target of the Fuel Quality Directive.¹⁴ Nevertheless, UERs may be considered eligible under the Fuel Quality Directive and Council Directive (EU) 2015/652 when resulting from projects that meet the conditions detailed in Council Directive (EU) 2015/652, even if they were also registered as projects under the CDM or JI. However, if any reductions have been credited in the form of CERs under CDM or ERUs under JI, those reductions can only be claimed as verified and validated UERs if it is verified that any CERs or ERUs issued for these reductions have been cancelled.

For reasons of consistency, Member States should not count emission reductions from cancelled CERs or ERUs which are not eligible for use in the EU Emissions Trading Scheme.

6.2. Upstream emission reductions used for compliance with the FQD and emission reductions requirements in non-EU jurisdictions

Emission reductions used for compliance with Article 7a of the FQD must not also be used for compliance with emission reduction requirements in non-EU countries. Fuel suppliers claiming UERs for compliance with FQD obligations should attest that these UERs have not been and will not be used for compliance with obligations in non-EU countries. For this purpose, it may be appropriate for Member States' appointed authorities to share data with the administrators of emission reduction requirements in jurisdictions in non-EU countries.

6.3. Upstream emission reductions from waste plastics as raw material

The upstream emissions associated with waste plastic as a raw material for transport fuel production are treated as zero for the purpose of lifecycle greenhouse gas calculation and therefore no upstream emission reductions can be generated in the supply chain for waste plastic derived transport fuels.

6.4. Addressing the cap in Annex 1 Part 1 3(d) i

The use of upstream emission reductions from a given fossil fuel by a single supplier shall be limited to a total reduction of emissions in gCO₂eq consistent with the upstream part of the default values for that fuel in gCO₂eq/MJ multiplied by the amount of that fuel in MJ supplied by that supplier. For petrol, the upstream part of the greenhouse gas emissions intensity is 11.0 gCO₂eq/MJ. For diesel, the upstream part of the greenhouse gas emissions intensity is 11.3 gCO₂eq/MJ.¹⁵ For compressed natural gas, the upstream

¹⁴ Where the legislation allows operators to surrender international credits instead of making a reduction it expressly provides so: CERs generated under CDM may be eligible to count towards achievement of the indicative additional 2% GHG emissions intensity reduction target detailed in Article 7a Paragraph 2(c) of the Fuel Quality Directive in Member States where such an additional target is active.

¹⁵ The petrol and diesel values are based on a value of 10.2 gCO₂eq/MJ of crude for the average upstream carbon intensity of conventional crude oil consumed in European Union transport, based on the ICCT report [Upstream emissions of fossil fuel feedstocks for transport fuels consumed in the European Union](#), (February 2014 version) and a value of 25.5 gCO₂eq/MJ of finished fuel given for the upstream carbon intensity of European Union transport fuel from natural bitumen based on the 'most likely' case from Adam Brandt report [Upstream green house gas \(GHG\) emissions from Canadian oil sands as a feedstock for European refineries](#). The upstream value for conventional crude is adjusted to a value per megajoule of petrol/diesel by the application of ratios of energy in finished fuel to energy in crude oil based on the [Well-to-Tank Report](#) (version 4.a) from the JEC *Well-to-Wheels Analysis*, as detailed in [Appendix 4 Description, results and input data per pathway](#). It is assumed that 0.81% of EU petrol and 1% of EU diesel is derived from natural bitumen sources.

part of the greenhouse gas emissions intensity is 9.1 gCO₂eq/MJ. For liquefied natural gas, the upstream part of the greenhouse gas emissions intensity is 15.0 gCO₂eq/MJ. For liquid petroleum gas, the upstream part of the greenhouse gas emissions intensity is 6.2 gCO₂eq/MJ.¹⁶ The maximum number of UERs (in gCO₂eq) from the oil supply chain that can be used for compliance by a given supplier is therefore:

$$MJ_{petrol} \times 11.0 + MJ_{diesel} \times 11.3 + \alpha \times MJ_{LPG} \times 6.2$$

The maximum number of UERs (in gCO₂eq) from the gas supply chain that can be used for compliance by a given supplier is therefore:

$$MJ_{CNG} \times 9.1 + MJ_{LNG} \times 15.0 + (1 - \alpha) \times MJ_{LPG} \times 6.2$$

LPG may be produced either from oil or natural gas as feedstock. UERs in either supply chain may therefore be counted against LPG supply. The term α in the expressions above shall be the fraction (between 0 and 1) of LPG supplied that a supplier chooses to count UERs from the oil supply chain against, and $(1 - \alpha)$ is therefore the fraction (between 0 and 1) of LPG supplied that a supplier chooses to count UERs from the gas supply chain against.

7. MANAGING THE RISK OF MULTIPLE CLAIMING UPSTREAM EMISSION REDUCTIONS WITHIN THE EU

It will be necessary to ensure that any particular batch of emission reductions from a given project may only be claimed against FQD GHG emission reduction obligations once. Coordination thus needs to take place between the administrators in Member States. For the purpose of identifying any attempt at multiple claiming, national administrators will need to access information uniquely identifying UERs claimed for compliance in all other Member States. At a minimum, this is likely to require access to batch numbers, unique project identifiers and information on the location of projects. The necessary steps to be taken in order to identify attempts at multiple claiming will differ depending on whether administrators have access to a secure central database containing information on all UERs claimed by EU suppliers or not.¹⁷

7.1. Uniquely identifying the UERs

The risk of multiple claiming upstream emission reductions can be reduced by the adoption of consistent requirements on the composition and use of serial numbers for UERs. Applying consistent principles for unique identification of different batches of UERs generated by the same project within the same year will reduce the risk of over-claiming on any single project. UERs should therefore be numbered consecutively (in tCO₂eq) by the project participant and the serial number should include identification of both the first and last unit of emission reduction constituting a batch.¹⁸ The unique

¹⁶ The CNG, LNG and LPG values are taken from the [Well-to-Tank Report](#) (version 4.a) from the JEC [Well-to-Wheels Analysis](#), as detailed in Appendix 4 [Description, results and input data per pathway](#).

¹⁷ While a central database could in principle support various functions, the non-legislative guidance herein relates only to the objective of facilitating prevention of multiple claiming.

¹⁸ For instance, in the case of a project generating 1,000 tCO₂eq of emission reduction in a year, the project participant could allocate two batches of equal size, and these would be identified as 0001_0500 and 0501_1000 respectively.

identifier should also include locational data for the project. Correct locational information would assist in preventing or identifying cases in which UERs from a single project may be claimed multiple times.

In order to allow trading of UERs, division of batches of UERs into arbitrary numbers of sub-batches identified by start and end references (down to a minimum size of 1 tCO₂eq) should be allowed. In the event that more than one supplier claimed UERs covering the same UER numbers from a single project and year, this could be readily identified in the central database or provided appropriate data sharing is in place in case a central database is not available.

Administration of a central database or national reporting in case a central database is not available would be aided by requiring all claimants to use the same reporting format, including for the unique numerical identifiers. Including much or all of the information that suppliers are required to report within the unique identifier would be one way to implement a consistent reporting format. An example of such a common format is presented in Annex A.

7.2. Verification to minimise risk

Reported data, and in particular the location and batch start- and end-points, should uniquely identify each batch of UERs. Effective audit controls for data reported for claimed UERs, in particular for establishing that batch numbers and location of emission reductions are correctly reported, are therefore a key element of managing risk of multiple claiming. Particular attention should be given to proper chain of custody and verification of this information through the UER supply chain.

7.3. Options to detect/avoid duplications or fraud

Given a central database or national administrator holding reported information on all claimed UERs, and given that this information is accurate, it should be straightforward to identify any UERs that may have been claimed in multiple times. For each project, this should involve confirming that the batch numbers on the separate batches of UERs claimed do not overlap. In addition, the location of all UERs should be assessed to identify whether UERs from different projects are being claimed at the same location. If multiple projects are identified in a single location it should be confirmed that there are genuinely distinct projects. If a single project is reported with multiple identification numbers, it must be confirmed that the batch numbers do not overlap.

a) In the case of an available secure central database, this checking could be undertaken by the administrator of the secure central database or by any national authority with access to the central database. Any party acting as an agreed data holder managing a central database and/or taking responsibility for any aspect of verification or fraud prevention should be subjected to appropriate oversight to ensure protection of data and effective implementation of its agreed role.

b) In the case a secure central base is not available, confirming that no multiple counting has occurred between jurisdictions would require additional bilateral checks between/by national administrators. Member States thus need to ensure, in order to avoid any double counting of UERs, that the relevant UER data is available for sharing. One approach for data sharing would be to have a secure web portal set up in each Member State to host data on UERs claimed for compliance in that Member State, with access to that information made available to other national administrators. If reporting formats vary

between Member States, it will be important that data formats are clearly documented to allow data comparison.

(1) optional steps for resolving cases in which a potential issue is identified

Where multiple claiming is identified, it will be necessary to establish which party or parties is/are at fault. This investigation will involve the appropriate authority in each Member State where a batch of UERs has been multiply claimed. Should an investigation identify that a party does not have a legitimate right to claim a batch of UERs, those UERs should not be allowed to count towards compliance with its obligations under the FQD.

Annex A:

Recommended format for unique identifier

PPPP_KKKK_AAAAAAAA_DDDD_LLL.LLLL,LLL.LLLL_CCCC_SSSS...S.E
EEE...E

Where:

PPPP = Unique project identifier to be allocated by the scheme operator, 4 characters

KKKK = unique alphanumeric identifier code for the scheme, to be agreed by the appropriate authority, 4 characters.

AAAAAAA = Start date of project in the form YYYYMMDD, 8 characters

DDDD = Calendar year in which UERs were achieved in the format YYYY, 4 characters

LLL.LLLL,LLL.LLLL = the latitude of the project to four decimal places followed by the longitude of the project to four decimal places, 14 characters

CCCC = unique alphanumeric identifier code for the calculation method used, to be agreed by the appropriate authority, 4 characters.

SSSS...S.EEEE...E = Start and end of batch number of UERs being claimed in tonnes of CO₂e. This section of the identifier will consist of a variable number of digits depending on the number of credits being claimed. The difference between EEEE...E and SSSS...S is the number of UERs being claimed. Project participants should allocate sequential batch numbers to each supplier being offered the right to use UERs for compliance, i.e. the number EEEE...E shall never be higher than the number of UERs generated by a given project in a year.

Note that for projects relating to oil extraction, in addition to the information held in the unique identifier claimants must report the annual and historical gas-to-oil ratio, reservoir pressure, depth, and well production rate (Council Directive (EU) 2015/652 Annex I Part 2 (1) h).