VDB Zukunft tanken.

OVID VERBAND DER ÖLSAATEN-VERARBEITENDEN INDUSTRIE IN DEUTSCHLAND

Executive Summary

I. Introduction

The notion of Upstream Emissions Reduction (UER) was introduced within the recent Council Directive 2015/652 on "**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**" and aims to enforce the implementation of Article 7a of the Fuel Quality Directive (FQD). Currently, there is an **ongoing consultation between the European Commission, Member States experts and key stakeholders** aimed at the development of a common interpretation of the FQD Implementing Measure. The European Commission announced that the output of this consultation will consist of a non-legislative guidance document on approaches to quantify, verify, validate, monitor and report Upstream Emission Reductions (UERs).

The eligibility, monitoring and verification procedures as well as technical aspects related to projects to be accounted for the acquisition of UER credits are expected to be clarified once the consultation is finalised and the Implementing Measure is transposed within Member States national legislation.

According to Directive EC/2015/652, "*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 produced*". Thus, the notion of Upstream Emissions as provided within the Directive includes the following major stages of the fossil fuel lifecycle:

- Exploration and field development,
- Fuel production and recovery
- Fuel processing
- Feedstock transportation to the refinery gate

The scope of this study is to

- provide an understanding of the significance of Upstream Emissions and their reduction,
- explain the preconditions that have to be met if UER are accounted for under the FQD,
- show the practical challenges of implementing UER under the FQD.

II. Key Findings

UER compete with Renwable Energies as measures to meet the reduction targets in the FQD. The study shows that UER have the potential to completely fulfill these GHG reduction goals. Other measures such as E-Mobility, LNG, CNG or 1st and 2nd Generation Biofuels would not be needed anymore. Therefore **UER could prevent the use of Renewable Energies** in the transport sector. The replacement effects are dependent on market prices of CO_2 emission reductions. At a low price of 20 US$/t CO_2eq. already half of the FQD target could be met through UER. With prices comparable to those of Renewable Energies the potential CO2 reduction through UER doubles. Another important influence on the emission savings is the timeframe for the accountability of the measure.

The scope and number of emission reduction projects, as well as the magnitude of associated UERs that could presumably be counted towards the FQD target remain unclear. Furthermore, without restrictions related to the eligibility of candidate projects, there is a considerable **risk that the FQD target is achieved with reductions from projects that would have happened anyway**. This would undermine the FQD's initial purpose: achieving additional reductions in the lifecycle carbon intensity of road transport fuels.

In particular projects related to oil upstream emissions and verified under the Joint Implementation (JI) and the Clean Development Mechanisms (CDM), i.e. GHG-reductions that were developed in the Kyoto Protocol, could be counted towards the FQD target in 2020.

These JI and CDM measures were meant to be used under the Emissions Trading System (ETS), where GHG reductions have been reaching only very low prices for many years.Therefore there is an incentive to redirect such projects and count their reductions not towards the ETS but the FQD.

In the FQD, the CO2 abatement costs of other alternatives, especially of biofuels, are much higher, thus the expectations of the investors for much higher carbon prices are reasonable. As the FQD target must only be fulfilled in one year, 2020, it is foreseeable that a short term redirection of JI and CDM projects are much more worthwhile than the long-term development of new, additional projects in oil extracting countries. Because of this, the prior goal of the FQD to trigger additional GHG – reduction is clearly missed.

In order to establish secure and lasting emission reductions without fraud, an UER project is only eligible to count towards the FQD if it meets a number of ISO standards. Important requirements are concerning the additionally, the quality and the qualifications of certifying bodies, the determination of baseline scenarios and the reporting system.

Other emission reduction options such as biofuels have to meet legally binding sustainability criteria and run through a Life Cycle Assessment. In parallel UER should be obliged to consider the same standards.

Facts about Upstream Emission Reduction:

1. Flaring, venting and fugitive emissions represent the most important source of GHG emissions from oil production operations. Venting and fugitive emissions arise from oil field operations and devices. Sources include well work-overs and clean-ups, compressor start-ups and blowdowns, pipeline maintenance, gas dehydrators, well cellars, separators (wash tanks, free knock outs, etc.), sumps and pits, and components (valves, connectors, pump seals, flanges, etc.). Flaring of gas, either as a means of disposal or as a safety measure, is a significant source of air emissions from oil and gas installations.
2. Estimates calculated from satellite images of flares (NOAA data, reported by GGFR) suggest that global gas flaring in 2012 was 144 billion cubic meters (bcm). This represents a massive resource waste and a considerable environmental problem, representing, in terms of emissions, some 400 million tons in CO2 emissions and in terms of quantity of natural gas wasted, one third

of the European Union's gas annual consumption. According to a recent study by ICCT , these global flaring quantities are comparable to the annual emissions from 125 medium sized (63 gigawatt) coal plants in the USA, or, in other words, close to the entire emissions of Brazil, Australia, France or Italy. In some countries with important oil production this is a major contributor to the national greenhouse gas emissions inventory.

3. While flaring emissions can be estimated with some degree of accuracy, venting and fugitive emissions are still very difficult to detect, creating thus an important uncertainty in the quantification of their contribution to global upstream emissions, as currently, measurement facilities are not widespread. Some studies indicate that GHG emissions related to deliberate venting and leakage of natural gas (fugitive) could represent a share of up to 5% of total global greenhouse gas emissions.

Preconditions and practical challenges that have to be met if UER are accounted for under the FQD:

1. Project eligibility: The FQD describes in rough lines eligible projects, which are not limited to those reducing venting and flaring emissions. Project eligibility is left to the hands of national legislators who have a large degree of flexibility. Furthermore, ISO 14064-2 limits the scope of **eligible projects** to those that are **additional** to the appropriately defined baseline scenario. In any case the Implementing Measure and the expected non-legislative guidance that will follow should provide clear directions on which projects could be considered as eligible.
2. Additionality: Although the FQD does not include a reference on additionality, it is essential to prove - as derived from ISO 14064 - that the emission changes are additional to what would have been expected in a business as usual scenario.
   Nonetheless, poor additionality criteria would significantly undermine its purpose. In this case, the project baseline, as well as the project boundaries must be clearly defined. It is therefore essential to develop common rules between project proponents and national administrators from Member States on the establishment of these two parameters.
4. Implementation by Member States: National administrating bodies must be appointed, which will be responsible for monitoring and receiving emission reductions from regulated parties and for confirming that reports of emissions reductions comply with the requirements of the FQD.
5. Common rules and criteria among MS: In order to ensure that the appropriate quality is delivered by all FQD-eligible UER projects, it is necessary for MS to establish appropriate common criteria for measurement and reporting under UER schemes.
6. Centralized UER registry: The experience from the EU ETS and the recent transition from a distributed crediting system to a centralized approach with a single EU registry, with standardized monitoring, reporting and verification procedures among Member States shows that under such a system, credit trading is easier, less administration and transaction costs are required and the potential of fraud/double counting is reduced.
7. Equal treatment among different emission reduction options: A requirement for biofuels is a full Life Cycle Assessment ; while only a relatively simple CO2 saving calculation is prescribed for emissions reduction in the fossil fuel sector. Furthermore, in the case of biofuels there is actual deployment, while in the case of fossil fuels emissions savings, these appear to have an accounting character. Thus, despite the fact that the accounting of net emission savings is the correct methodology in the context of climate change policy in the transport sector, it should apply to all emission reduction options equally.