Obstacles to achieve an internal market for transportation fuels with bio-components

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Take away messages

- The EU biofuels market is badly fragmented and nothing that approaches a "common market".
- It is nearly impossible for market operators to obtain a clear and reliable view on how Member States (MS) have transposed and implemented the EU legislation on renewable energy. A comprehensive overview is long overdue. Greater transparency in this respect would help the European Commission to identify potential threats to the common market and the principle of free movement of goods.
- The Commission should be more forceful in starting infringement cases. Seven years after the RED has been adopted there are still MS that have not complied with the law.
- The present system of sustainability certificates issued is not transparent enough. Only a limited number of Voluntary Schemes (VS) have registers (or database) of certificates issued. A EU register will minimise the risk of fraud with certificates and will make monitoring and control of certificates much easier.
- The various Communications (guidelines) the Commission published to clarify the legislation did not prevent that MS transposed and implemented the law in quite different ways. The Guidelines are either not clear enough or still leave too much room for interpretation.
- The highest differentiation can be noted in the way the double counting measure is complied with.
- The rules on mutual recognition of VS are not clear enough and results in market operators having to obtain various certificates for the same batch of fuel. This means additional costs and potentially cases of fraud.

The best way to minimize or avoid national rules that obstruct a common market for transportation fuels with bio-components is to have EU law that allows as little as room possible for interpretation of the law (harmonization) with the lowest possible level of complexity; implementation rules to be set at Community level.

The variety in transposition in national law and implementation at national level is obstructing a truly common market for trading transportation fuels with bio-components cross border. Considering that advanced biofuels' role to play in reducing emissions from transport should increase strongly, a coherent and consistent transposition of Directive 2015/1513 is vital.

The Commission has not (yet) issued any guidance documents for Member States and market operators on how to comply or to transpose in the best possible way Directive 2015/1513. Considering the history of how MS have transposed the previous Directives on renewable energy it is strongly recommended. If guidance is not provided for we can expect continued fragmentation of the market and further confusion for market operators.

Even though EU legislation is clear on the maximum level of bio-component than can be blended there are differences between the MS how much bio-component is allowed or can be used for both ethanol and bio-diesel. This makes it difficult for fuel suppliers to trade fuel with bio-components cross border.

To date two MS have a system in place to trade biofuels through a system of tickets or credits (similar to the US RIN-system). The benefit of such a system is that biofuel can be used also in sectors (such as shipping or aviation) on which no obligation rests, whereas the operators in these sectors can sell the tickets against market value to obligated parties. The ticketing system can also foster virtual trade in biofuels to MS that have less ambition in promoting biofuel use.

It is unclear how the new regime on VS (Directive 2015/1513) will apply to those schemes that still have a license to operate under Directive 2009/28. The objective should be to have a level-playing field between all VS, operating under identical rules.

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1. Introduction

Since 2003 the European Union is pursuing a policy to increase the use of renewable energy (RE) in transport with the objectives to diversify energy use in the transport sector, to reduce greenhouse gas emissions in that sector and to give a boost to regional development especially in rural and isolated areas.[1]

Even though there is in the European Union a single market for road fuel and road vehicles[2] there is a concern, especially amongst small and medium size fuel suppliers that such a single market does not exist for biofuels. These market operators feel that they have to operate in a fragmented market confronted with many different rules in a great number of Member States.

Notwithstanding that there is already for more than 12 years EU legislation on biofuels the stage of a truly internal market on biofuels is still not achieved.

Besides the fact that Member States have a rather different approach on how to transpose and implement the EU law there is also the frequent changes of legislation at EU level itself that contributes to increased complexity and uncertainty. Since 2003 the EU legislation on biofuels has changed twice substantially, not to simplify the law but first and foremost to expand the number of rules. There is, unfortunately, less energy put in explaining the law and to pursue actions that would reduce the level of inconsistency in transposition.

There is general agreement that biofuels have a role to play in the decarbonisation of transport. Having 28 different sets of implementation rules will make this task very hard to achieve. Consideration how this can be changed is urgently needed especially if more advanced biofuels need to get into the market. The findings of this report will hopefully contribute to bringing the EU biofuel market closer to a truly single market.

[1] *Directive 2009/28/EC, whereas 1.*

[2] *Commission Roadmap on the Communication on decarbonising the transport sector, 7.4.2016, page 8*

2. Purpose of the study

The purpose of this study is to map out the kind and level of fragmentation in the EU market for fuels with bio-components (biofuels) and to provide recommendations how this fragmentation could be addressed.

3. Approach

Only limited time was given to prepare this report and therefore only a limited number of sources could be consulted and equally only limited fieldwork was possible.

As a first step desk research was carried out to collect data on how Member States (MS) have transposed and implemented Directive 2009/28 (RED) and Directive 2009/30 (FQD).[3] This has been done under the assumption that the way the EU law is transposed and implemented at national level is the single most important explanation why market fragmentation could be occurring.

Sources used were reports available in the public domain, national policy documents and legislation, progress reports both national and EU reports, Eurobserv'ER Biofuel Barometer and statistics.

Secondly, a questionnaire was compiled and sent to a number of small and medium-sized market operators as well as biofuel stakeholders to obtain an understanding what they see as market barriers and what should or could be done about it.

Finally, a few non-structured interviews were conducted following the analysis of MS implementation and feedback on the questionnaire. Some interviews took place face-to-face others by phone.

The report first provides a compressed overview of the EU legislative framework followed by a summary and analysis how Member States have transposed and implemented the EU legislation.[4] Annex I holds a detailed overview how at Member State level the EU legislation is transposed and implemented. The next paragraph represents and analyzes the views of the stakeholders.

The report provides for some conclusions and makes a number of recommendations how fragmentation can be reduced and hopefully prevented eventually.

[3] *Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 200/30/EC. OJ L140/16 of 5.6.2009 also known as RED and Directive 2009/30/EC amending Directive 98/70/EC as regards the specification of petrol diesel and gas-oil and introducing a mechanism to monitor and reduce GHG emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and replacing Directive 93/12/EEC. OJ L 140/88 of 5.6.2009 (FQD). Directive 2015/1513 amended both RED and FQD, however, this report does not explicitly cover the transposition and implementation of this Directive, unless indicated otherwise.*

[4] *This report could not cover the transposition of Directive 2015/1513 as this process is still ongoing. MS have until 27 September 2017 to transpose this Directive.*

4. The legislative framework at a glance

The EU biofuel legislation dates from 2003[5] and was substantially amended in 2009. Since then the Union has two Directives[6] that have determined the biofuel development and use in the European Union. In comparison to the 2003 Directive the RED introduced a mandatory target of renewable energy (RE) in transport (10% in energy terms by 2020) as well as a set of environmental sustainability criteria that have to be met to supply biofuels to the market. To boost biofuels made from waste streams, residues and ligno-cellulosic material the measure of double counting was introduced. The law also introduced the level of GHG emission savings that had to be realized. To this end a rather complex methodology was written into the law that give market operators the possibility to calculate the actual value of the emission saving achieved. Market operators (suppliers of road transportation fuel) need to provide evidence that the biofuel is sustainable and to this end can use one or several of the now 19 existing sustainability verification schemes operational in the EU market.

Within the Fuel Quality Directive (FQD) identical sustainability criteria are included as in the Renewable Energy Directive (RED) be it that the saving to be achieved by 2020 is expressed in a relative number of CO_2 to be achieved: 6% compared to 2010 levels of the entire life cycle of the fossil fuel. In the FQD there is no double counting mechanism like in the RED. Whereas the RED puts a mandate upon Member States, the FQD binds the Member States to force market operators (fuel suppliers) to comply with the target.

In 2015 a FQD implementation Directive was adopted[7] that determines the emission values of fossil fuel. The Member States need to have transposed this Directive by 21 April 2017. The Commission has not (yet) issued any guidance documents for Member States and market operators how to comply with this Directive.

The Commission issued a number of guiding documents Communications, Decisions and Regulations how to implement/understand the Directives:

- Communication *on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels*.[8]
- Communication on voluntary schemes and default values in the EU biofuels and bioliquids sustainability schemes.[9]
- Commission Decision on certain types of information about biofuels and bioliquids to be submitted by economic operators to Member States.[10]
- Commission Decision on guidelines for the calculation of land carbon stocks.[11]
- Commission Regulation on highly biodiverse grasslands.[12]

[5] *Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport. OJ L123/42 of 17.5.2003.*
[6] *See footnote 2.*
[7] *Council Directive 2015/625 of 20 April 2015 laying down calculation methods and reporting requirements to Directive 98/70/EC of the EP and the Council relating to the quality of petrol and diesel fuels. OJ L 107/26 of 25.4.2015.*
[8] *OJ C 160/8 of 19.6.2010.*
[9] *OJ C 160/1 of 19.6.2010.*
[10] *OJ L 9/11 of 13.1.2011.*
[11] *OJ L 151/19 of 17.6.2010.*
[12] *OJ L 351/3 of 9.12.2014.*

External consultants drafted guidance documents on GHG and land carbon stock calculation as well as on land status.

A major overhaul of the legislation (both RED and FQD) took place in 2015 as a result of the discussion around possible additional emission from land use for growing feedstock for biofuel production. The new legislation[13] set a limit of 7% point (of the 10%) on the use of biofuel made from food/feed crops (sugar; starch and vegetable oil) and introduced new measures to boost the production and use of advanced biofuels (AB). To achieve the latter an indicative mandatory sub-target of 0.5% AB was set for 2020 and a list of feedstock was agreed upon that could be used for making those biofuels. Given the limited volume of AB available this biofuel would count double. However, certain waste-based biofuels such as UCO (Used Cooking Oils) and animal fats shall count double but are not considered AB. Furthermore emission thresholds to be achieved were increased, rules on voluntary sustainability schemes tightened and ILUC emissions values agreed to report upon. Renewable electricity is counted multiple times the multiplier depending on whether it is used for road (5x) or rail transport (2.5x). This Directive needs to be transposed by the Member States by 10 September 2017 be it that MS need to present their plan on how to achieve the 0.5% AB target already by 6 April 2017. The Commission has not (yet) issued any guidance documents for Member States and market operators how to comply with this Directive.

[13] *Directive 2015/1513 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources. OJ L 239/1 of 15.9.2015.*

5. Transposition and implementation

Finding an overview how RED/FQD have been transposed and implemented at MS-level is difficult. At the website of the Commission there exists no such overview. The next best thing is the MS biofuel reports but these are very different in the detail of information given, there is no reporting template used which makes comparison very difficult, and several MS do not report in time or not at all. There are a few studies, but these often look at only a limited number of MS, and there is of course the Biofuel Progress report. (Commission, 2015) That is basically the end of the story. Remarkably the best source is to be found outside the EU: the US GAIN annual report on biofuels in the EU (USDA Foreign Agricultural Service's Global Agricultural Information Network). (GAIN, 2015, 2016)

In summary there is no single, publicly available, document that shows in a structured way where Member States are in terms of transposition and implementation of the EU law on renewable energy in transport.

In annex I is given an overview of when and how the MS transposed/implemented the RED and FQD. The information in the table is collected by consulting various reports and, as much as possible, national legislation.

The way and speed in which Member States (MS) transpose and implement EU legislation is key for achieving a single market at European level. It is not uncommon that MS take their time to transpose legislation, not respecting the deadline agreed by themselves, or transpose the EU law in such a way that effectively new and more market obstacles are created than reduced.

The European Commission (COM) has the duty to watch over (timely) compliance. If MS fail to deliver on what was agreed or are too 'creative' in how to transpose and implement the COM has the task to start an infringement procedure which can result in case for the EU Court of Justice (CoJ). Also in on biofuel legislation the first case has been brought to the CoJ[14] but considering that this is six years after the law has been published demonstrates how much time it can take to get EU law applied correctly.

If the assumption is that having a harmonized transposition and coherent implementation of EU law at national level is crucial for avoiding a fragmented European market on transportation fuel with bio-components then the first step is to map out how MS did transpose the relevant Directives (RED and FQD). The next step is then to show where the inconsistencies are.

Transposition and implementation: A rather scattered image

In the table (Annex I) a number of (obvious) topics have been mapped out. The choice of topics is based on what is expected to be relevant information for market operators to know. The following topics were chosen:

- What is the year of implementation and have targets been set up to 2020?
- Are there overall and/or separate targets for the two biofuels (biodiesel and ethanol) and at what level are these set?

[14] *Commission refers Poland to EU CoJ because of restrictions to some imported biofuels and biofuel raw materials. IP-16-1824 of 26.5.2016.*

- How have the targets been expressed; in volume (V) or energy (E)?
- Is the annual target set been achieved?
- Is there are tax incentives, yes/no? And if so, how much and for what fuel?
- Is there a target set on GHG emission saving?
- Is there a double counting measure / rule in place? If yes, what are the kinds of feedstock allowed? Are there any other considerations?
- Is there a penalty in place for non-compliance?
- Is Article 7a of the FQD transposed?

Besides this information comments were added where needed. Also in some cases a link is given to the relevant national legislation.

The data that have been collected show the following results.

Year of implementation and target setting

The year of implementation or setting a target or multi-annual targets gives a very scattered image. We can distinct four groups of MS:

- 9 MS set already a target in 2010.
- Only 6 MS (CZ, SF, D, IT, NL and ES) set targets for the entire decade (2010-2020); Spain lowered its target in 2013.
- 15 MS have set a final target for 2020. Three countries, Italy, France and Finland set a target for beyond 2020.
- 5 MS (GR, H, LT, LxB, SV) set targets for only a few years but none for 2010 or 2020.
- One MS (Estonia) has set not targets at all; has still no legislation in place.

Kind of targets

Also as regards the targets there is a rather scattered image. The majority of MS (21 in total) have set overall targets. All others (except Estonia) have set (additionally in some cases) separate targets for bio-diesel and ethanol. In most case the target for biodiesel is higher than for ethanol.

One MS (Finland) has set a target of 20% (e) by 2020 whereas Denmark has set for 2020 a target of only 5.75% (e). France has set a target of just over 10% for 2020. And the UK is the least ambitious by setting a target for 2015 (!) of no more than 4.75% by volume.

A total of 18 MS express targets in energy terms, all the rest in volume. One MS (Slovakia) has overall targets expressed in energy and specific targets for biodiesel and ethanol expressed in volume.

Germany is the only MS that has introduced an annual to be achieved GHG emission saving target and no longer expressing the RED target in volume or energy terms.

Targets for advanced biofuels

Two MS (Italy, France set in their legislation additional targets on advanced biofuels. Italy has set the following targets: 1.2% by 2018 and 2019, 1.6% for 2020 and 2021 and 2% for

2022%. France set for petrol targets of 1.6% in 2018 and 3.4% by 2023 and for diesel 1% in 2018 and 2.3% in 2023. In France double counting no longer applies and the following feedstock are allowed on top of Annex IX, Part A of Directive 2015/1513: molasses, c-starch, and acid oils. Denmark has announced that it will set an overall 0.9% AB target for 2020. The Netherlands ministry of environment is submitting a draft law on an advanced biofuel target to the Parliament this year most likely proposing a target that goes beyond 0.5%.

What's achieved?

Maybe less relevant for this report, but still interesting to note, is that in general the annual targets are met (if data available). Most remarkable is Finland that achieved in 2014 almost 25% of biofuel in its fuel pool. For a number of MS it was not possible to find data (CR, CZ, H, IRL, IT, LXB, MT, PT, RO, SLO, SV). Many MS do not have results yet for 2015.

Tax incentives

Only a very few MS have still a tax incentive in place for high blends. The tax rebate differs from 30 to 100% depending on the fuel and, for example, in France, the region.

GHG emission saving and Article 7a FQD

Most of the MS have set a target of 6% GHG emission saving by 2020. Clearly, this target is flowing from Article 7a of the FQD, but no MS has yet indicated how to transpose the FQD.

Double counting (DC)

This is probably the measure that fragments the market more than any other implementation measure.

17 of the MS allow double counted biofuels. Of this group there are 3 MS (A, B and IRL) that allow DC on a case-to-case basis only one of those 17 MS (Spain) has no procedure in place yet to allow DC biofuels. Austria has capped DC biofuel to 1.5% point (in volume half) and France has set ceilings for DC biodiesel (0.35% point) and ethanol (0.25% point). Both Poland and Croatia are in the process of designing legislation for DC. When Germany introduced the GHG emission saving target it abolished the DC measure.

Those countries that 'actively' allow DC biofuels have all a positive list of feedstock that can be used for making a DC biofuel. However, notwithstanding that a number of MS have identical lists there are also substantial difference between some lists. Moreover, some MS do not allow certain feedstock to be used like used cooking oils and (some) animal fats.

This highly diverse way of transposing and implementing the DC article is a clear obstacle to a free flow of fuel with bio-components.

The contribution of DC biofuel in achieving the target(s) is quite skewed in Europe. In the UK 54% of the biofuel used is DC biofuel whereas in other MS the contribution is 0%.[15]

[15] *UK Department for Transport, Renewable Transport Fuel Obligation statistics: period 8, 2015/16, report 3, issued 5.5.2016. In this reporting period 400 million litres of bio-diesel were used of which 320 million was UCO. RFTO (2016).*

Penalty in case of non-compliance

> 24 MS have a system of fiscal penalty in place in case of non-compliance. The NL considers non-compliance a misdemeanor liable for prosecution. The UK works with a buy-out option.

From this overview it becomes clear that the RED (and the sustainability articles of the FQD) have been transposed at MS-level in a not so harmonious way.

Even though the COM issued a number of guidance documents (see page 7) it did not deliver the intended result of a truly harmonized transposition. The reasons for this could be various. To name a few:

- Even with the help of the Communications the law remains complex;
- The Communications are not always explicit or clear enough;
- MS have a different political agenda than to what they have signed up to.

In the Communication on the practical implementation of the biofuel sustainability scheme it is written in the section harmonization of sustainability criteria that these *"…. criteria are fully harmonised at Community level and were adopted under Article 95 (internal market) of the EC Treaty. Therefore, Member States may not set additional criteria of their own …. "* and *"… may not for those purposes exclude biofuels/bioliquids on other sustainability grounds than the sustainability criteria laid down in the Directive."*[16] Unfortunately this logic has not been extended to the Article that regulates the double counting, the area where the strongest fragmentation exists. One could have expected and hoped that the COM would have been more forceful in expressing a similar view on the measure of double counting. With hindsight the law should have included a list of allowed feedstock, which has been (partly) corrected with Directive 2015/1513, instead of leaving the choice of feedstock open for interpretation. But even with the new law in place it remains to be seen if the problem is solved as the law leaves room for MS to allow feedstock to be used that is allowed under the 'old' RED.

There are a few other developments that are reason for concern.

First of all, MS are (sometimes very) slow in transposing and implementing the EU law. In the recent Court of Auditors report on the EU system for the certification of sustainable biofuels (CoA, 2016) it is stated, that: *"All MS were required to transpose the RED into national legislation by December 5, 2010.*" Following this deadline, the EU has handled warning and infringement cases with six MS. Cases for failure to transpose the Directive against Cyprus, Ireland, and Poland were all dropped. In 2015, the EU asked Spain and Poland to correctly apply the provisions of the Directive, stating that both countries had incorrectly transposed it. Specifically, both Spain and Poland suspended the sustainability targets in regards to the 10 percent renewable sourcing requirements for transport fuel. Should Spain and Poland fail to correctly apply the Directive, the EU could potentially seek action with the EU Court of Justice. As of April 2016, the EU had issued an "Urge to Comply" message to Portugal in reference to the RED. Portugal currently favors domestically produced biofuels in addition to imposing stricter sustainability standards for select biofuels—an action violating the Directive. In May 2016 the Commission referred Poland to the Court of Justice because of restrictions to some imported biofuels and biofuel raw material (Commission, 2016b). One MS, Estonia, has still no legislation on biofuels, which is mind boggling 7 years after the RED was adopted.

[16] *Communication 2010C160/02, page 10.*

Secondly, Member States have a tendency to adopt, in some case, very complicated and detailed implementation rules that are not always easy and self-explanatory especially if a market operator is based in a different MS.

Thirdly, some MS keep changing the rules every year, like the UK and NL. It is almost like changing the goal posts during a match. It makes longer-term and strategic planning for market operators difficult, even more so if the MS are late in fixing the targets for the running year (which is the case in a number of MS).

The decision of Germany to move away from a volumetric target to a GHG emission savings target has had a major impact in the market. First and foremost actual emission savings were very much higher than the EU law requires; on average 60% and in some cases even over 100% saving making it very unpredictable how big the German market will be in volume every year again (the higher the saving in emission the lower the volume needed). Secondly, a market price distortion may develop, like happened with DC material, because an identical biofuel may have a different price depending on the market where it is sold which make administrative transfers of biofuels as good as impossible.

Bio-tickets

Two MS (UK and NL) have introduced a paper-based system to comply with the targets set, which makes it possible to trade biofuels between market operators on paper as long as there is underlying physical product used.

The Dutch law determines which operators are obliged to comply with the RE target. For every 1 GJ of RE in transport a so-called HBE (Hernieuwbare Brandstof Eenheden – Renewable Fuel Units) or bio-tickets is created. These HBE are placed in a register and those companies that have an entry in the register can trade these bio-tickets. With the bio tickets the obligated parties can redeem their RE-obligation. A biofuel producer can also sell its biofuel to non-obligated parties such as aviation and shipping. These two sectors can then sell the bio-tickets that go with the biofuel to obligated parties. The UK has a similar system (RTFCs - Renewable Transport Fuel Certificates) and so does the US with their RIN (Renewable Identification Number) system. (EPA, 2016)

This paper-system has the advantage over the mandatory physical use of biofuels that it would allow an easy opt-out for those MS that prefer to use less biofuel on their territory but still can contribute to achieving targets set at EU level. According to CE Delft the bio-ticket system also lowers the risk of fraud (double use of PoS – Proof of Sustainability) and reduces the administrative costs for market operators (CE Delft, 2015).

In a recent study from CE Delft on the current implementation of the RED/FQD researchers also tried to provide an overview of MS positions, intentions and plans to implement Directive 2015/1513 and the FQD target (CE Delft, 2015).

One of the conclusions of the researchers is that they anticipate significant differences between Member States regarding national implementation choices, which may further decrease the level of harmonisation. Furthermore, there is the impression that Member States are finding

implementation of Directive 2015/652 challenging (the Directive that implements Article 7a of the FQD). According to CE Delft *"MS are still awaiting the guidelines of the EC for further clarification. A comparison is often made with the verification systems in place for the sustainability of biofuels. Because there will be no overall EU verification system, the level of harmonization will be under pressure."* Another observation made by CE Delft is that several Member States think that the sub-target on advanced biofuel does not offer sufficient flexibility, while others are concerned about the sustainability of some of the feedstocks on the list. If this indeed is correct it is highly likely that the fragmentation for the market on advanced biofuels will continue to exist, which would be very unfortunate considering that the Community is banking so much on more advanced biofuels in the market, especially post 2020.

Voluntary schemes

Biofuels receiving public support or used for achieving national targets need to comply with the sustainability criteria (Articles 17, 18 and 19 of the RED). To demonstrate compliance companies can make use of voluntary schemes (VS) provided such a scheme has received recognition from the EU.[17] A scheme receives a license to operate for no more than 5 years, which can be renewed. At present there are 19 VS recognized. Annex 2 provides an overview of the various schemes.

Some schemes are very popular some are used hardly and some not at all. The most and best-known scheme is ISCC (International Sustainability and Carbon Certification) that has issued since it became operation more than 10,000 certificates in 100 countries whereas RSB has issued a modest 17 certificates and certificates from GAFTA Trade Assurance Scheme, TASCC (Trade Assurance Scheme for Combinable Crops) or Ensus Voluntary Scheme under RED for Ensus Bioethanol Production have never been seen in the market.[18]

Fuel suppliers can only claim the use of biofuel if the biofuel batch is accompanied by a certificate that states the Proof of Sustainability. Ideally the fuel supplier would need only one certificate for each batch, however, according to some economic operators in some cases more PoS certificates are needed.

New regime brings uncertainty

The rules on VS were changed by the adoption of Directive 2015/1513 (Article 2(b)-((d)). The main reason for changing towards a stricter reporting system was triggered by concerns of certain MS (France, Germany and Poland) on rumours on fraud with waste-based biofuels.[19]

From 2016 onwards VS are thus put under a more strict regime and will have to report on an annual basis providing information on a range of issues such as independence, auditing, transparency, governance, stakeholder involvement, robustness of the scheme, its market. The Commission can introduce rules on independent auditing if the reporting by the VS justifies this.

The first 6 approved schemes (ISCC, Bonsucro EU, RTRS EU RED, RSB EU RED, 2BSvs and RBSA) are up for renewal this year. Those schemes that will ask for renewal of their permit

[17] *For more information on voluntary schemes see: https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/voluntary-schemes*

[18] *This number is taken from the latest RSB annual report, http://rsb.org/news-and-publications/rsb-newsletters/*

[19] *These were concerns about the possibility that virgin vegetable oil could be easily changed into a used cooking oil or double use of these used cooking oils.*

will have to do this under the new regime whereas those schemes that not yet need to renew their permit can continue under the old RED rules. This would undermine the level playing field between the VS.

How VS need to move forward is rather uncertain at this stage. It is for example unclear when the new and amended requirements, e.g. regarding GHG emission calculation, must be implemented by all VS especially by those schemes, that are currently not due for re-recognition. Additionally, from letters sent to the VS by the Commission, it is not clear if it is obligatory for VS to implement the content and by when. Furthermore, the legal framework in the individual EU Member States needs to be amended (transposition into national law) which is not necessarily done at the same time in all EU Member States. Until the amended EU legislation is transposed into national law, the national law of EU Member States may require VS to comply with the old requirements.

This lack of synchronization and transparency may lead to further fragmentation of the market. Recognized VS will comply with different versions of the EU biofuel legislation. Economic operators may switch to those schemes, which have not (yet) implemented the adjusted and/or stricter requirements. Furthermore, there is a high uncertainty for economic operators which VS meet the relevant requirements.

Besides this legal uncertainty following the new regime there are other problems VS are faced with that will impact the way market operators can comply with the law.[20]

Additional administrative requirements

Some MS introduced additional administrative requirements. The clearest example is Poland: EU recognized VS active on Polish territory are required by national law to register with the Polish authorities. Otherwise, certified material from Polish territory may not be accepted for the Polish biofuel quota even if the material was certified as sustainable under a recognized VS. Preconditions for registration with the Polish authorities include, inter alia, setting up an office of the VS in Poland, official translations of all scheme documents into Polish language resulting in substantial higher costs for VS and hence those that need to certified.

Waste and residues

Another major problem for VS is the fact that within the EU there is no harmonized classification of materials that are accepted as waste or residues eligible for biofuel production. Instead, the waste and residue classification and the eligibility to count towards the national biofuel quota depend on each individual EU Member State where the final biofuel is brought to the market. The classification influences the certification process (land-related sustainability criteria mandatory or not) and the GHG emission value already at the beginning of the supply chain. However, economic operators are not necessarily in the position to identify the EU Member State where the final biofuel will come to the market. If economic operators sell a material certified as waste or residue, this material may be accepted in one MS, accepting the material as waste/residue, but may not be accepted in another MS due to a classification as (co-) product.

Furthermore, the verification requirements specified by the Commission are not necessarily implemented and controlled equivalently by all VS. Not all schemes apply a reliable procedure on how to distinguish between products, waste and residues. Therefore,

[20] *The information on VS was obtained through face-to-face interviews with managers of some VS. The Commission letters mentioned are NOT in the public domain.*

economic operators with the intention to receive incentives, e.g. double-counting, may choose the scheme with the less strict verification requirements. This increases the risk of fraudulently declaring actual (co-) products as waste or residue.

Co-processing

EU Member States have non-harmonized national legislation regarding co-processed biofuel (biofuel that is processed together with fossil fuel). For example, co-processed biofuel is not eligible for the biofuel quota in Germany but it is in Spain. Other Member States have implemented specific requirements that must be met. However, recognition of the co-processing approach does not mean that co-processed biofuel complies with the national requirements. There is no guidance or specific requirements from the Commission available how VS must implement and certify co-processing in the context of the EU biofuel legislation. This can lead to significant competitive imbalances between the VS as economic operators may favour those schemes with "flexible" or "less strict" approach.

Cross-border Trade of Bio-methane as a Transport Fuel via the Gas Grid

Not all EU Member States allow for bio-methane extracted from the grid to be counted towards their national biofuel quota if the bio-methane was fed into the grid in another country. Before the EU Court of Justice a case is pending on this problem.[21]

Company-owned Voluntary Schemes

Compared to the 'generic' VS there is a lack of transparency of company-owned VS. For example several of these company schemes have no website and if there is a website the information provided is scarce. These VS publish no certificates or other basic information. The Commission has communicated requirements on transparency in a letter to the VS. However, as of yet not all schemes have implemented these letters accordingly. The new Directive 2015/1513 should address these governance issues.

New Requirements for Actual GHG Emissions

The Commission has specified in a letter to the VS new GHG requirements for individually calculated emissions. The new requirements adjust the process on how to forward and report such GHG emission data. According to the new procedure, economic operators must report specific element of the GHG calculation methodology separately throughout the entire (global) supply chain. This significantly increases the complexity of data handling and thus the administrative burden for all economic operators. There is, however, little to no additional benefit to the new process. Furthermore, it is not clear if the new requirements apply on a mandatory basis to all recognized VS and national schemes at the same time. If they do not apply to all schemes equally and at the same time, economic operators may not be in the position to accept individually calculated GHG values from their suppliers certified under another VS.

Obligatory Recognition of National Certification Schemes

VS are obligated by the European Commission to accept national schemes that are recognized by the Commission. This means, that material from such national schemes must be accepted as sustainable according to the RED. However, there is no detailed information about the requirements that national schemes must comply with available. This procedure

[21] *CoJ, C-549/15*

jeopardises the strict requirements applicable to VS. Furthermore, it jeopardises the effort undertaken by such VS that apply higher standards and additional requirements than the mere legal obligations.

Mutual Recognition of VS

It is currently not ensured that all VS are obligated to apply the same requirements at the same time. If some VS already apply the new and adjusted EU biofuels regulations, whereas others still operate under the old requirements, a mutual recognition between VS is not possible. This means, economic operators cannot necessarily rely on all recognized VS equivalently. Economic operators need to assess the scope for which a VS is actually recognized. Furthermore, economic operators must investigate which VS accept each other. For example, it must be ensured, that the same GHG emission calculation rules and requirements to forward information through the supply chain apply to all VS.

A level playing field is crucial for the mutual recognition of multiple VS. A level playing field means harmonized and obligatory requirements with a binding implementation date for all VS. Without a level playing field, mutual recognition between recognized VS will become impossible leading to further market distortion and fragmentation.

Conclusions

The main conclusion to be drawn from the overview how MS have transposed and implemented the RED is that this is done in a far from harmonized way.

Further more, Member States were slow in transposing the law, which adds to creating market obstacles and uncertainty for market operators. The Commission could and should be more pro-active in correcting the delay in transposition.

The combination of a fairly high level of freedom for MS to transpose the legislation as they deem fit combined with a fairly limited number of explanatory notes / guidelines / Communications from the Commission has allowed this to happen.

Some MS have added to the already as fairly complex perceived legislation a complex and detailed set of national rules and regulations making it even more difficult to achieve a common market.

Most confusing is the way the double counting provision has been transposed. There is great variety in allowed feedstock which hampers a free flow of fuels blended with advanced biofuels.

The immediate consequence is that it is impossible under these circumstances to have a fully free flow of fuel with bio-components. In the case of bio-methane there is no free circulation possible at all (see next section).

The system of voluntary schemes on sustainability certification is one of the great achievements of the EU law on the use of biofuels.[22] Nowhere else in the world such a system exists. It was not the purpose of this report to analyse the VS, but there are clear indications that the system has worked well (for example: never have been identified cases of fraud). Still, the system of VS is

[22] *The Court of Auditors published a report on the EU system for the certification of sustainable biofuels, (CoA, 2016). Besides the somewhat strange title (the system is designed to certify that biofuels are proven sustainable; not to certify sustainable biofuels) the report is judging and criticizing the system on disputable grounds. Many of the flagged concerns have been addressed in Directive 2015/1513 and hence the report misses relevance. Moreover, there is no word of appreciation of the concept of VS, which is a missed opportunity.*

not working perfect either. First of all it is questionable if there is a need for so many schemes. There is nothing wrong about competition but considering that most schemes are not used questions the need for so many. But more importantly those schemes that are used should all cover the same sustainability criteria, perform in the same rigourous way so that mutual recognition becomes possible and MS cannot question a particular scheme or create additional criteria for VS to operate. The present system also drives up bureaucracy and costs for the VS and the fuel suppliers. The changeover to a new regime under the new Directive (2015/1513) risks creating two different leagues of VS: those that operate under the new rules and others still under the old set of rules. From an internal market point of view this is difficult to justify.

6. The view of market operators

Introduction

Fuel suppliers are the economic operators that need to supply the motor fuel blended with bio components to the market in accordance with the European and national requirements. These operators are a vital part of the biofuel chain and most likely the economic operators know best if and how fragmented the EU market is.

In the case of conventional fuels like petrol and diesel there is a truly single EU market. Those fuels can be traded freely throughout the European Union, provided petrol complies with standard EN 228 and diesel with standard EN 590. Furthermore the fuel needs to comply with environmental standards as stipulated in Directive 98/70/EC (the so-called Fuel Quality Directive). If these conditions are fulfilled there is no obstacle in shipping the motor fuel cross border.

This common market is, however, not that obvious for motor fuels that are a blend of petrol/ethanol and diesel/bio-diesel. Even though there are standards for both ethanol (EN 15376) and biodiesel (EN 14214) it is not sufficient to allow a free trade in petrol/diesel blended with bio components. There are a few reasons why cross border trade of fuels with bio components is problematic.

The first reason is that Member States, as was shown in the previous section, set different blending rates, varying also year-to-year. A fuel supplier can therefore not automatically ship a blend from MS A to MS B if the blending mandates are different. The supplier needs to deal with different national 'specifications' not needed in the case of a biofuel-free fuel.

The second reason is that the Fuel Quality Directive introduced upper limits in the volume of bio component that can be blended: for ethanol 10% by volume and for biodiesel (FAME) 7% by volume, whereas some countries allow E10 (France, Germany, Finland, Netherlands, and Belgium form 1/1/2017 onwards) others not and (only) France allows more than 7% FAME in bio-diesel.

A third obstacle is that in certain MS adding ETBE[23] to petrol is allowed provided the rule on oxygen content (set in the FQD at maximum 3.7% m/m) is respected whereas in other MS adding ETBE is not common or even not allowed (Denmark). For biodiesel there is the issue of adding instead of FAME-based biodiesel HVO,[24] which is not limited by the 7% v/v ceiling and can be blended up to a level of 30%, but not allowed in all MS due to sustainability issues.

A fourth complicating factor is the different national rules on advanced biofuels, which in extremis could mean that a biofuel considered advanced in one country is not in another.

A final cause that is making trade difficult is the sustainability certification of the bio component. As already outlined in the previous chapter the voluntary schemes are not identical, do not certify always the same sustainability criteria, are sometimes inconsistent and mutual

[23] *ETBE, Ethyl tert-butyl ether. s commonly used as an oxygenate gasoline additive in the production of gasoline from crude oil. ETBE offers equal or greater air quality benefits than ethanol, while being technically and logistically less challenging.*

[24] *HVO, Hydrotreated Vegetable Oil. It is regarded a 'drop-in' fuel or 'fit-for-purpose' fuel.*

recognition is not guaranteed. It could result in the fact that a fuel supplier needs to have multiple proofs of sustainability before the blend can be brought to the market.

Not that any of these factors make trade impossible but they make trade very much more complicated and into a far more bureaucratic hassle than fuels without bio components.

However, for bio-methane cross-border trade is not possible. Even though the bio-methane is brought to the quality level of natural gas, the biogas cannot be injected into the pipeline to bring it to another EU Member States. Where bio-diesel or ethanol can be put in a barge, train, or truck to transport it from one MS to another this cannot happen with biogas or bio-methane. For biogas/bio-methane there is no EU common market at all while there is huge potential in using agricultural waste streams in Central and Eastern Europe to produce bio-methane.

To understand better what fuel suppliers conceive or experience as problematic to operate in a fuel market that requires bio components a short questionnaire was sent to mainly small and medium-sized fuel suppliers. The assumption is that the oil majors can operate in a much more flexible way given their size and their presence in many MS.

Through UPEI (Europe's organization representing the interests of independent fuel suppliers) 9 open questions were sent to its membership.

Outcome of the questionnaire

Following is a summary of the answers provided by the market operators.

Question 1

The first question asked the respondent to list the 5 most pressing issues, and this in order of priority, that cause fragmentation of the EU biofuels market. Besides indicating the problem respondents were asked in what way trade in biofuels is hampered; if the problem had to do with the way the EU biofuel legislation has been transposed by MS; in what MS the identified problem(s) occur(s); and finally if guidance from the EU (Commission) would be helpful/need in solving the problem.

A large number of issues were identified. Those identified have been grouped into the 5 most pressing issues.

1. Inconsistent transposition of the EU legislation

The inconsistent transposition by the MS is seen as the most important reason for causing a fragmented market. This applies especially to the rules on double counting, (additional) sustainability criteria and ways to measure the bio-content in fuel (volume, energy or MJ).

Especially the double counting provision in the RED (Article 21§2) is seen as allowing a level of freedom to the MS that causes fragmentation in the market. First of all because not all MS allow double counting and secondly because those countries that have double counting in place have different rules on (how much) feedstock allowed. This different transposition of the DC-mechanism results in biofuels having different value and this impacts commercial possibilities.

The Directive allows MS to set different interpretation of sustainability criteria and moreover the control of it. Some MS add conditions and criteria, which sometimes make it impossible

for biofuels producers or importers to meet the demands of the MS and thus limiting the commercial possibilities.

PL has no stringent system to track the use of PoS, additionally the law allows fulfilment of quota through export to other countries.

There are different regulations how to fulfil the biofuels obligation. For example in some Member States exist a system whereby the biofuel quantities of purchase are decisive and not the marketed quantities creating the possibility to trade the biofuels again after purchase unless there is a water-tight system of registration. This creates conditions of unequal and unfair competition.

2. Restrictive policies of some Member States

Closely linked to the previous problem is the fact that some MS have introduced measures that are equal to a protectionist measure, either to protect national biofuel producers or fuel suppliers.

For example Spain is restrictive in allowing imports of petrol, FAME and HVO and in Estonia all biofuels have to be pre-blended either in the refinery or in-tank in excise warehouse. The bio content has to be indicated in the quality certificate that shall be issued before releasing fuels to the internal market. In this way it is impossible to bring different biofuels blends into the market because each grade has to be stored in the terminal in separate tanks.

Explicitly mentioned are Poland, Spain, France and Austria having restrictive rules in place.

3. Administrative burden

The two problems mentioned earlier cause additional administrative burden. MS demand a lot of – sometimes commercially sensitive – information and large dossiers, which also take a long time to be evaluated, before they accept a biofuel from another MS. This means that some producers don't even try to enter the market of some MS. Besides the information that needs to be provided there is extra burden due to requiring knowledge of the respective (national) legislation and regulations. Especially at regulatory level there can be a high degree of detail. In this respect mentioned are: NL, BE, LUX, GER, FR, AU.

Some respondents suggest to introduce a system of bio tickets (what exists now in the NL and the UK) at EU level, which would make it much easier (less bureaucracy) to comply with the targets. Equally a EU-wide system of registration of Proof of Sustainability certificates, a system based on the German Nabisy[25] model, would make trade easier and lower the possibility of fraud.

4. Fuel standards

The fuel standards EN 590 and EN 228 limit the use of biofuels, which make it difficult to achieve the 10% RE target. These standards should allow for higher level of biofuels.

5. Policy uncertainty also post 2020

Many MS are late in setting national mandates up to 2020, which creates uncertainty for fuel suppliers in making medium-term planning. It is argued that the EU should not just set targets but also agree on a roadmap to make the market development more predictable.

[25] *https://nabisy.ble.de/nabima-web/app/start*

Question 2: Respondents were asked to indicate what caused the problem they had identified.

As regards the inconsistent and sometimes restrictive transposition of the EU legislation the most often cited explanation given was the very complex nature of the EU legislation (RED and FQD) not always correctly understood by national administrations and hence 'wrongly' and differently transposed. However, this is not seen as the only explanation. The EU law also leaves too much room for interpretation, which makes MS creative in their transposition. Furthermore, national administrations sometimes try to reinvent the wheel or go to a level of detail that makes it burdensome to comply with the law. Finally MS also have the tendency to protect national economic interests (be it farm, oil or biofuel interests) introducing measures that make their policy more restrictive compared to what is allowed under EU law. The absence of mutual recognition is an obstacle to getting towards a harmonised system and contributes to a fragmented market.

The Spanish case

The Spanish fuel distribution system shows how fragmented the biofuel market can become and market abuse can take place.

Imports of petrol

More than 80% of fuels that are marketed in Spain are conducted across terminals and pipe-lines of CLH (Compañía Logística de Hidrocarburos, which is now a private company owning the Spanish pipe-line network and the accessory logistics).

When 10% compulsory target of renewables for transport set by Directive 2009/28 was implemented in Spain by means of compulsory biofuels targets and particularly, a minimum percentage for gasoline, CLH raised the fact that adapting its logistic system to more than two grades of gasoline (unleaded 95 and unleaded 98) was unaffordable

Alternatives were (1) to substitute unleaded 95 gasoline by BOB and set up blending facilities in all terminals and (2) to produce a finished unleaded 95 gasoline containing ETBE to which ethanol could be added only in terminals with a higher volume of gasoline.

The 2nd alternative was preferred as the 1st one was not compatible with the legal obligation to market, in all petrol stations, the so-called protection grade gasoline (having a maximum 2,7% oxygen contents and a maximum 5% ethanol contents) in accordance with article 3 of Directive 2009/30. Such a limit for ethanol contents did not allow meeting the required percentage of biofuels for gasoline. This choice also allowed refiners to take advantage of their co-processed ETBE.

Once the choice was made, petrol imports became unviable for two reasons:

- *There is on the international market no petrol produced with ETBE.*
- *BOB is not technically suitable to be circulated across CLH's logistics*

CLH's logistics are compatible with imported gasoline containing MTBE but this choice would not allow the importer to meet the required percentage of biofuels for gasoline for two reasons:

- *The importer would only be able to blend ethanol in 9 of 36 terminals.*

- *The importer would not be able to add the quantity of ethanol that would fit with its product but only the one programmed for CLH's commingled system (max 2% in 9 terminals).*

The cost of not fulfilling the biofuels obligation is substantially higher than any other competitive advantage that could come from importing gasoline.

Since 1 January 2016, there are no longer separate targets for gasoline and therefore, the described situation is at the moment not pressing but as soon as the global target for gasoline and diesel goes up, approaching the maximum contents of FAME admitted for diesel, the Spanish market will face again the same problem. This will happen in one year or two.

Imports of FAME

Such a system was set up in 2012, meaning the closure of the national market to any producers that were excluded. Although open to the EU, this system was established in order to protect the Spanish FAME industry, specially, against imports subsidized by third countries. It can be described as follows.

- *A maximum volume 5.5 million tons of FAME qualifying for certificates can be annually offered in Spain. This volume covers the internal demand in conditions of a certain competition.*
- *The total is distributed amongst those EU and non-EU producers, which have obtained permission to sell FAME qualifying for certificate. Distribution is made according to several criteria: environmental protection, security of supply, production capacity and financial solvency.*

The quota system started to be applied in May 2015. However, only a few factories got to recover from their insolvency, supply became uncertain, completion disappeared and prices went up. The application of the system was initially for 2 years but could be extended for another two years.

HVO

Refinery co-processed HVO is accounted towards the obligation. As a consequence of this, Spanish refineries are meeting the mandatory biofuels targets at HVO self-producing cost while independents have to meet those targets at FAME market prices (standalone HVO is technically available but is more expensive).
Another factor of this problem is that bio certificates can legally be dissociate from the physical product so that they can be kept by the seller instead of being transferred with the product that is sold. This is what is being practiced by refiners towards the independents wholesalers when imports are not competitive.

The combination of both factors make it more difficult and costly for independents to meet the bio targets and the same situation is foreseeable in the next future as regards the GHG emissions reduction targets. This extremely difficult situation for independents prevents independents from other MS from entering the Spanish market."

Question 3: Respondents were asked to list what the solution might be to solve the problem identified.

The most frequently mentioned solution to inconsistent transposition is the production of clear guidelines by the Commissions to the MS how to transpose directives, explaining the consequences if a MS decides to deviate from the guidelines. These guidelines should not only be given to the MS but also to the concerned industry. Guidelines will help in avoiding that MS need to interpret the Directive as they deem fit.

Avoiding fragmentation also requires mutual recognition of certification system and a EU recognized list or uniform regulation on allowable feedstock for making biofuels.[26]

Reducing the administrative burden could be achieved by, again, common guidance for regulators but also a common database system that registers every issued Proof of Sustainability (PoS). The administrative burden can also be reduced by using one and the same metric in the EU to express the bio content in fuels.

The market distortion occurring with HVO in Spain should be solved by not allowing co-processed HVO to be counted towards the target. It is felt that the Commission should act against this as an infringement of the RED.

Furthermore it is suggested to change the EU Waste Directive (Directive 2008/98/EC) in such a way that biofuel production is regarded as recycling.

Question 4: This question tried to identify if and what the additional costs are for the problems signalled.

The market obstacles identified result in higher costs for market operators as they need to find "creative solutions" to deal with these obstacles. The precise costs are not predictable because they depend on many factors. One of these is the administrative burden, i.e. necessary recruitment of new staff as well as implementation of new systems. Another factor is the competitive disadvantage as mentioned in the points before so that some particular commercial transactions cannot be done which could lead to financial losses. One fuel supplier quoted additional estimated costs of 2-5 €/mt for exporting diesel and petrol from Germany to Austria as a result of the different transposition of EU legislation.

At the same time fuel suppliers are facing a huge uncertainty in the prices they will find in the market due to high volatility in the biofuels market. This volatility is mainly due to a fragmented legislation that allows traders to direct product from one country to another in function of the new rules implemented.

Question 5: Though not immediately relevant to all fuel suppliers the question was asked whether the problems have had an impact on investments in the biofuel sector.

It was clearly felt that the lack of stability of the legislation ("changing implementation rules every year") has had an adverse impact on investment making long-term planning near impossible; one responding company made explicit that they had stopped all investments. More in particular it was quoted that several investments in the (advanced) biofuels sector have been stopped because of the unavailability of an open internal market. There is an

[26] *This is partly achieved with the list included in Directive 2015/1513; Annex IX part A and part B.*

expectation that investment will take place outside the EU so that biofuels can be sold to Europe instead of produced in Europe.

Question 6: Are the problems making business impossible (for example too bureaucratic and too expensive)?

There is a general feeling that business is difficult even though not impossible but many fear that doing business will become more difficult for the small and medium-sized companies; not necessarily the big players or traders. Some see difficulties ahead, higher costs, due to lack of product (advanced biofuels), volatility of the market and increased bureaucracy. The lack of a level-playing field with the conventional fuels will increase loopholes even further. In one particular case the blending requirements put upon fuel suppliers are so restrictive that the use of biofuels becomes effectively impossible unless against much higher costs. This is the case of Estonia as reported by fuel suppliers.

The case of Estonia

"In Estonia all biofuels shall be pre-blended either in the refinery or in-tank in an excise warehouse. The bio content shall be indicated in the quality certificate that shall be issued before releasing fuels to the internal market. In this way it is impossible to bring different biofuels blends into the market because each grade shall be stored in the terminal in separate tanks. It is the simplest solution for the government because it means low bureaucracy for the state. As explained above, this is causing inflexibility in the system and the result of this will be the lower competition in the fuel supply into Estonia. Without allowing the blending/injection of biofuels into fuel flows during loading of a road tanker (splash blending) the number of possible suppliers are limited. In addition the possibilities for blending in-tank in the excise warehouse are limited with the number of available tanks. Therefore the supplies from Denmark, Sweden, Russia and Belarus will be very limited or stopped at all. It is obvious that this will result in lower competition and higher fuel prices."

Question 7: Do you know REFUREC? If so, have you had ever contact with a REFUREC delegate?[27]

This question had as objective to know if the respondent was familiar with the body that brings together national regulators. The question was raised first of all to obtain insight on knowledge about the mere existence of REFUREC and secondly to obtain evidence if there are (regular) contacts between industry and regulators.

Not a single respondent knows REFUREC. Maybe not entirely strange as this body is not mentioned in the EU Directive, contrary to CARES[28] the concerted action on the RE Directive. REFUREC was set up by the initiative of the UK Regulatory body and is an informal club that offers a pan-European platform for discussion, information exchange and tackling cross-border issues relating to the biofuels market in the European Union and beyond.

The fact that REFUREC is not known by the industry could imply that either REFUREC is keeping a very low profile or that the industry is less aware of how MS interact with each other.

[27] *REFUREC: http://www.refurec.org/*
[28] *http://www.ca-res.eu/index.php?id=7*

Question 8: What in your view could or should the European Commission do to reduce market fragmentation?

The way the EU laws on biofuel has been transposed and implemented is not conducive to have a fair competition according to several respondents. The now overly complex system induces market volatility, which benefits larger operators and traders more than small and medium sized players. The most frequently suggested approach is for the Commission to draft clear guidelines for transposition of EU directives, which should and would allow less freedom for interpretation. There should also be a common guidance ideally compulsory system for bio content ratio and bio calculation.

Furthermore it is recommended that the Commission produces from time-to time studies on possible market barriers.

Finally a few questions were raised on a) the need to consult other stakeholders; b) if respondents were available for a follow-up interview; and c) if they would like to make any additional comments.

It was suggested to contact biofuel producers to ask their opinion. A few biofuel producers were contacted by phone but they did not bring any new information to the table that was not yet found in the replies of the respondents. Most respondents indicated that they were available for a follow-up interview. Given time-constraints no follow-up interviews took place, except with 1. Not further comments were made.

Conclusions

The overall feeling by market operators is that there is a competitiveness imbalance between the Member States because of the different market conditions and requirements. Therefore trading of biofuels between the Member States is difficult. The operators try to find solutions to fulfil the obligation but if the issues above described are not tackled, it becomes more and more difficult to shift fuels from one country to another and future increase of biofuels obligation shall not be reached.

It is generally felt that the European Directives allow too much freedom to MS to transpose and implement those same Directives whereas at the same time all MS need to achieve the same goal. There are too many different roads that lead up to the same goal and that hamper an easy flow of transportation fuels with bio-components. If there would be an obligation of mutual recognition of the various national systems a common market would be possible.

Another way to reduce market fragmentation is the introduction of a harmonized way of bio content calculation; for example in each litre an average either by volume %, or energy %, or all calculated in MJ, but most importantly in one single unit. In this respect it would be helpful that there would be a common guidance that sets out the compulsory bio content or tolerance allowed.

Furthermore fragmentation can be substantially reduced if the European law stipulates that member states shall not establish any restrictions to the system in bringing the biofuels into market. The system shall be flexible allowing different biofuels grades into market. The system would be more flexible in case there would be the possibility to blend/inject biofuels into fuel flow during loading the fuel into road tanker. This gives the possibility to blend e.g. B7 (or E10) into one road tanker and B30 (or E20) into another road tanker.

For bio-methane cross-border trade is not possible and this should be resolved soon.

To reduce the risk of fraud (for example double use of the same bio-component) it is preferable that physical volume of biofuels always corresponds to the amount of used paper proofs. A EU-wide registration system could help.

Fuel suppliers and REFUREC members seem to live on different planets. Regular contacts between industry and Regulators (also CARES) could be helpful in reducing border obstacles.

7. Key findings and recommendations

One of the pillars of the European Union is the Single or Common Market. This presupposes that a free flow of goods is possible, national obstacles kept to the bear minimum. For the conventional (unblended) motor fuels such a common market exists. However, once these fuels are blended with bio-components border obstacles do arise and especially if these bio-components are advanced. Hence, there is no unified EU market for transportation fuels blended with bio-components; the market is fragmented.

A scan of how MS have transposed and implemented the EU biofuel legislation delivers the evidence that this is done in a far from harmonized way. There are differences in trajectories towards 2020, differences in national targets (sometimes for the entire fuel market, sometimes differentiated by biofuel), different units for measurement, different support schemes, different penalty systems and also, substantial, difference on the mechanism of double counting biofuels.

It is also recognized that the MS have been dragging their feet on the transposition of the law. The Commission has been too forthcoming in MS taking their time for this. Whether the reason was the complexity of the law or the fact that MS simply had second thoughts in transposing to what they had agreed to is not material. Important is that the Commission can force MS to comply with the agreed timetable of transposition and choose not to do so.

Market operators struggle with these national differences, are faced with more bureaucracy and higher costs as the survey showed. Some markets are simply closed due to these hurdles.

The main reason for these differences in national legislation is twofold: the EU law allowing too much interpretation freedom on how to transpose and implement the law and secondly the complexity of the legislation further increased by the most recent amendments to Directive 2009/28 (RED). The EU law on renewable energy on transport has got itself lost in either too much vagueness or too many incomprehensible details. The lack of guidance how to read the law didn't help either.

Most worrying is the way the double counting mechanism is applied. This was a mechanism intended to drive innovation for advanced biofuels. To date that has not happened but instead used cooking oils got all the benefit whereas its conversion process into biofuel represents no or very limited innovation. Substantial volumes of innovative biofuels did not come to the market and restrictions on trade were put up for certain biofuels that were regarded double counting in one country but not in another. It can only be hoped for that the new Directive (2015/1513) will bring about the needed harmonized approach required to boost the development, production and use of truly advanced biofuels.

The system of voluntary schemes on sustainability certification is one of the great achievements of the EU law. But it is questionable if there is a need for so many schemes. More importantly is that those schemes that are used should all cover the same sustainability criteria, perform in the same rigorous way so that mutual recognition becomes possible and MS cannot question a particular scheme or create additional criteria for Voluntary Schemes to operate.

Recommendations

I. Recommendation on clear legislation

a) The best way to minimize or avoid national rules that obstruct a common market for transportation fuels with bio-components is to have EU law that allows as little as room possible for interpretation of the law (harmonization) with the lowest possible level of complexity; implementation rules to be set at Community or Committee level. For example, instead of having targets in %, calories or MJ it would be easier to have one single unit fixed in the legislation.

II. Recommendation on Commission Guidance and infringement

a) The various Communications (guidelines) the Commission published to clarify the legislation did not prevent that MS transposed and implemented the law in quite different ways. This variety in national law is obstructing a truly common market for trading transportation fuels with bio-components cross border. The highest differentiation can be noted in the way the double counting measure is complied with. Considering that advanced biofuels' role to play in reducing emissions from transport should increase strongly, a coherent and consistent transposition of the new Directive is vital. Obviously, the COM is not the EU CoJ and cannot issue binding interpretation but clarification on how the COM reads the law would be helpful for both market operators and Member States and would possibly avoid a lack of harmonization, frustration, uncertainty and additional costs.

b) The Commission has not (yet) issued any guidance documents for Member States and market operators how to comply or to transpose in the best possible way Directive 2015/1513. Considering the history of how MS have transposed the previous Directives on renewable energy it is strongly recommended. If guidance is not provided for we can expect continued fragmentation of the market and further confusion for market operators.

c) Coherent and consistent transposition and implementation of EU law are key to achieve a common market. The Commission has the power under the Treaty (TEU) to force MS to stick to the timetable of transposition and to be in compliance. Seven years after the RED has been adopted there are still MS that have not complied with the law. Infringement is slow. Even though the Commission is confident that the Member States will correctly implement the RED including the recent amendments by 2020 (CoA, 2016) it is recommended that in the case of compliance with Directive 2015/1513 the Commission will act forcefully and will not allow any additional administrative burden put upon stakeholders and market operators.

III. Recommendation on Transparency of transposition

a) Obtaining a clear and reliable view on how MS have transposed and implemented the EU legislation on renewable energy is difficult. Besides the language barrier there are differences nationally in legal structures and hierarchy in law. The European Commission could provide on its website for a dynamic overview of the state-of-play at MS-level; an overview of transposition and implementation listing national targets, support measures, penalties, blends allowed, double counting measures, references to national law and possibly other data so that every market operator and stakeholder knows what the law and

regulations are at MS level. Both REFUREC and CARES can play a coordinating role in producing this overview and to be updated yearly.

IV. Recommendation on Tradability of fuels with bio-components

a) Even though EU legislation is clear on the maximum level of bio-component than can be blended there are differences between the MS how much bio-component is allowed or can be used for both ethanol and bio-diesel. This makes it difficult for fuel suppliers to trade fuel with bio-components cross border. Market fragmentation can be reduced by writing into the EU legislation that by a certain date a minimum level of bio-components is required similar to the way the FQD has prescribed the need for the existence of a so-called protection-grade type fuel (Directive 2009/30 Article 1(3)(a)§3).[29]

b) To date two MS have a system in place to trade biofuels through a system of tickets or credits (similar to the US RIN-system). The benefit of such a system is that biofuel can be used also in sectors (such as shipping or aviation) on which no obligation rests, whereas the operators in these sectors can sell the tickets against market value to obligated parties. The ticketing system can also foster virtual trade in biofuels to MS that have less ambition in promoting biofuel use (clearly, there must be underlying physical product). With a view on the new renewable energy policy post 2020 the Commission is recommend to study the introduction of a ticket system and its pros and cons.

V. Recommendation on Mutual recognition of VS, their transparency and the new rules

a) Several issues around governance of VS are addressed by Directive 2015/1513 not, however, the compatibility of VS. The rules on mutual recognition of VS are not clear enough and results in market operators having to obtain various certificates for the same batch of fuel. This means additional costs and potentially cases of fraud. The Commission should issue a clarifying note on mutual recognition of VS: what schemes are interchangeable and in which cases this is not possible.

b) The present system of sustainability certificates issued is not transparent enough. Only a limited number of VS have registers (or database) of certificates issued. It is recommend to design a EU-wide register on sustainability certificates managed and operated by the European Commission similar to the German NABISY. Such a register will minimise the risk of fraud with certificates, makes monitoring and control of certificates much easier. Such a register will provide useful information on the frequency of VS used.

c) Directive 2015/1513 addresses many concerns that have been raised by MS, some market operators and most recently by the EU Court of Auditors. However, it is recommended to provide in the least possible delay clarity to market operators how the new regime will apply to those VS that still have a license to operate under Directive 2009/28. The objective should be to have a level-playing field between all VS, operating all under identical rules.

[29] *The "protection-grade type fuel date" is just mentioned as an example and it is not implied to advocate proliferation of protection-grade type of fuels.*

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MS	Year	Overall target %	V(olume) or E(nergy)	Differentiated targets		Achieved			Tax incentive	GHG emission saving target	Double Counting			Penalty non-compliance	FQD (Directive 2015/652) Article 7a transposed	Comments	Legal basis
				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
A	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	5.75 5.75 5.75 5.75 5.75 5.75 8.45	E	6.3 6.3 6.3 6.3 6.3 6.3	3.4 3.4 3.4 3.4 3.4 3.4	6.58 6.75 6.77 6.19 7.70 ?			N	Y 6% by 2021	Y	DC on a case-by-case basis		Y Administrative penalty	N	Advanced biofuels are capped at 1.5% double counted. So, effectively not more than 0.75%	Ordinance BGBL.II Nr. 250/2010 (BGBL.II Nr. 250/2010) Act BGBL.I Nr.75/2011 Act BGBL/II Nr.398/2012 Abfallwirtschassgesetz 2002 AWG 2002' Nr.102/2002 .
B	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020		V	5 5 5 5 6 6-7 6-7 6-7	7 7 7 7 4 4-5 4-5 8.5		4.54 4.43 4.60 4.63 5.87 ?	5.98 6.13 6.10 6.08 4.16 ?	N	Y 6% by 2021	Possible; case-by-case basis			Y € 900 per 1 000 liter	N	Belgian regulators are looking at the option to shift the 10% RE in transport obligation to fuel suppliers. E10 will be introduced in the market from 1/1/2017 onwards.	
BG	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020		V	 6 6 6 6 6 6 6 6	 3 4 5 7 7 7 8 9 10		 6 6 6 6	 3 4 5 7	N	Y 6% by 2021	N			Y Administrative penalty	N		

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
CR	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 1.45 3.31 - 5.99 - 8.23 9.18	E			?			100% for B100	Y 6% by 2021	?			Y If the supplier has not fulfilled the obligation, he has to put on the market the obligatory amount for the current year plus the amount which had not been put in the previous year. If obligation not fulfilled for two consecutive years, supplier will pay an environmental fee of 0.088 HRK (0,012 €/MJ), and an administration fine of 10,000 - 150,000 HRK (1,300-20,000€).	N	Max. 7% vol FAME in diesel. Legislation on advanced biofuels is in preparation.	
CY	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	2.0 2.4 2.4 2.4 2.4 2.4 2.4	E			1.93 2.42 2.82 2.6 2.62 ?			N	Y 6% by 2021	Y	Uses language of the RED without specifying sort of feedstock		Y Fraud can result in imprisonment up to 5 years and/or a fine of € 85 247	N		

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
CZ	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020		V	6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3	4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1		? ? ? ? ? ? ?	? ? ? ? ? ? ?	Until beginning of this year tax support for B30, B100 and E85 but all lowered and no longer economic	Y 2% by 2015 4% by 2017 6% by 2020	N			Y Penalty of CZK 40 (€ 1.45) for every liter of missing biofuel	N	The government has approved the introduction of E-10. Gasoline 95 (Natural 95) will remain available at least until 2018. An amendment to the biofuels legislation would introduce double counting provisions for waste-based biofuel from April 2017. It also includes an enforced use of other alternative fuels such as natural gas products, LPG, electricity or hydrogen under the quotas.	
DK	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 5.75 5.75 5.75 5.75 5.75 5.75 5.75 5.75 5.75 5.75 / 0.9	E			 5.75 5.75 5.75 5.75 5.75			N	Y 6% by 2021	Y	Positive list that includes: straw, bagasse, husks, bellows, non-edible part of corncobs, nutshells, animal manure, raw glycerine, sulphate pitch, animal fat C1&2	UCO	Y Penalty to be set by the Court	N	Discussion ongoing how to achieve 10% by 2020. Danish government announced a 0.9% advanced biofuels blending mandate by 2020 put upon all suppliers of transport fuels, including gasoline, diesel and gas, and will be met with all kinds of advanced biofuels.	Denmark has a CO2 and Energy tax on fuels. The Danish government proposed a target for advanced biofuels of 0.9% by 2020
EST	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020														N	Government proposed: min 3.3% e/e by 2017; 6.5% in 2018 to 10% by 2020. Gasoline 98 octane excluded from blending obligation	

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
SF	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	4.0 6.0 6.0 6.0 6.0 8.0 10.0 12 15 18 20	E			? ? ? 12 23.5 ?				Y 6% by 2021	Y	Waste or remains or inedible cellulose or ligno-cellulosic material		Y Penalty of € 0.04/MJ which is € 0.84/L of ethanol and € 1.32 for biodiesel	N		
F	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2023	6.5 6.9 7.2 7.5 7.6 7.7 8.4 8.8 9.4 10 10.5	E	7.0 7.0 7.0 7.0 7.7 7.7 7.7 1% 2.3%	6.85 7.07 7.04 7.01 7.72 ? 1.6% 3.4%	6.70 6.84 6.83 6.78 7.45 ?	7.0 7.0 7.0 7.0 7.0 7.0 7.0	6.85 7.07 7.04 7.01 7.72 ?	E85: Between 50-100% less tax depending on region	Y 10% by 2021	N	All feedstock as listed by Annex IX Part A of Directive 2015/1513 plus Molasses, C-starch and acid oils.		Y Pollution tax (TGAP - Taxe Générale sur les Activités Polluantes)to be paid by suppliers that do not comply with the blending obligation	N	Limit on volume of material that can be double counted: 0.35% of biodiesel and 0.25% of EtOH all by energy Every year new rules on DC	By Decree DEVR1607461A France introduced advanced biofuel targets for petrol and diesel. Double counting no longer applies.
D	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	6.25 6.25 6.25 6.25 6.25 3.5% 3.5% 4% 4% 4% 6%	E	4.4 4.4 4.4 4.4 4.4	2.8 2.8 2.8 2.8 2.8	7.08 6.58 7.08 6.96 ?	8.59 7.52 6.91 6.29 ?	4.69 4.77 5.31 6.11 ?	2.14 cts/l for B100 100% for E85	Y 6% by 2021	N			Y Penalty of € 470/tCO2eq	N	The decarbonisation of transport goal has been changed into a GHG emission reduction to be realised in steps to achieve 6% in 2020. Animal fats are not allowed as biofuel.	No co-processing allowed

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
GR	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020		V	 7.0 7.0 7.0			 7.0 ?		N	Y 6% by 2021	Y	List that includes: UCO, animal fats, non-food cellulosic and ligno-cellulosic material (straw, nutshells) waste and residues of AG, forestry and aquaculture		Y	N	Only a target set for biodiesel	
H	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 4.9 4.9 4.9 4.9 	E	 4.9 4.9	 4.9 4.9	 ? ?	 ? ?	 ? ?	100% for E85	Y 6% by 2021	Y	waste, AG/forestry residues, non-food, (ligno)-cellulosic material		Y Penalty of HUF 35/MJ (€ 0.12/MJ)	N	From 2016 onwards no longer separate targets for diesel and petrol	
IRL	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 4.0 6.0 6.0 6.0 6.0 10	V			 ? ? ? ?			N	Y 6% by 2021	Y Possible; case-by-case basis	No list of eligible feedstock but the feedstock should be a biodegradable waste, residue, non-food, (ligno-)cellulosic material or algae. POME (Palm Oil Mill Effluent is authorised		Y Penalty of 0.45 Eurocents/l	N		
IT	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	3.5 4.0 4.5 4.5 4.5 5.0 5.5 6.5 7.5 / 1.2 9.0 / 1.2 10.0 / 1.6	E			 			N	Y 6% by 2021	Y	Works with a positive list of feedstock for advanced biofuels: (a) Algae if cultivated on land in ponds or photobioreactors. (b) Biomass fraction of mixed municipal waste, but not separated household waste subject to	UCO, animal fats	Y Penalty of € 750 for every missing certificate (10 Gcal) of biofuel	N	Only country that has set targets for beyond 2020 and minimal target for AB from 2018 until 2022. Biodiesel: blending up to 7% in retail market. Blending with 25% for the wholesale market. Bioethanol: blending up to 10% in retail market. Blending	The Italian law sets advanced biofuels targets from 2018 onwards going from 1.2% to 2.0% in 2022.

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
	2021 2022	10.0 / 1.6 10.0 / 2.0										recycling targets under Article 11(2)(a) of the Waste Directive (ba) Bio-waste as defined in Article 3(4) of Waste Directive, (c) Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in Part B of this Annex, (d) Straw. (e) Animal manure and sewage sludge. (g) Tall oil pitch. (h) Crude glycerine. (i) Bagasse (j) Grape marcs and wine lees. (k) Nut shells. (l) Husks. (m) Cobs cleaned of kernels of corn. (n) Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil. (o) Other non-food cellulosic material as defined in point r). THIS INCLUDES ARUNDO, MISCANTHUS, (p) Other ligno-cellulosic material as defined in point s). THIS				with 25% for the wholesale market	

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
												INCLUDES FORESTRESIDUES ETC (q) Renewable liquid and gaseous fuels of non-biological origin.					
LV	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	2.6 2.6 2.5 2.5 2.6 ?	E	2.5 2.6 2.3 2.3 2.5 ?	2.8 2.8 2.7 3.0 3.1 ?				**B100:** no excise duty; **E85:** minus 30% on duty	Y 6% by 2021	N			N	N	Mandatory blending: gasoline with RON is 95 or more but less than 98 - 4.5-5.0%, gasoline with RON 98 and more - no bio blending, diesel - 4.5-5.0% with RME (excluding Arctic diesel with 0,1,2,3,4 classes - without bio).	
LT	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 5.8 - -	V	 6.45 7.0 7.0	 3.34 5.0 5.0	 ? ?	 ? 7	 ? 5	N	Y 6% by 2021	N			Y Penalty but unclear how much; risk of loss of operating license.	N		
LXB	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 4.75 5.40 5.15	E			 ? ? ?			N	Y 6% by 2021	N			Y Penalty (pollution tax) of € 1,200 per 1,000 litre.	N		

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
MLT	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 1.5 2.5 3.5 5.5 6.25 7.0 7.75 8.5 9.25 10.0	E						N	Y 2% by 2015 4% by 2018 10% by 2021	Y	Uses language of the RED without specifying sort of feedstock. The definition of waste is taken from the Waste Directive 2008/98.		Y Level of penalty unclear.	N	Source: NeA, https://www.emissieautoriteit.nl/	
NL	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	4.0 4.25 4.5 5.0 5.5 6.25 7.0 7.75 8.5 9.25 10.0	E	3.5 3.5 3.5 3.5 3.5	3.5 3.5 3.5 3.5 3.5	? 4.31 4.54 5.05 5.54 ?	? 4.62 4.86 5.62 6.40	? 3.78 3.99 4.07 4.12	When on an energy basis blending is more than 10%	Y 6% by 2021	Y	Dutch legislation (from 2015) contains a very detailed list captured in 3 annexes what feedstock counts double (25 in total).	2 annexes of feedstock that do NOT count double.	N However, non-compliance is seen as an economic misdemeanour and liable for prosecution	N	Dutch Parliament favours a 5% cap on 1G biofuels. Obligation of yearly turnover (Dutch volume sold including excise duty). System of Renewable Energy Units (HBE) https://www.emissionsauthority.nl/topics/renewable-energy-units-hbes Trading system: parties can trade shortage or surplus to fulfil own obligation. Non-obligated parties such as aviation and shipping can also trade biotockets	Biofuel legislation under review to adapt to Directive 2015/1513. New law will introduce 3 types of biotickets: one for 1G biofuels (market share possible lower than 7%); one for advanced biofuels (market share 0.5%) and one for UCOME (maximum market share of 3.5%). No more double counting. Law will enter into force not before 1/1/2018 is the expectation.

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
P	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	5.75 6.2 6.2 7.1 7.1 7.1 7.1 7.8 8.5 10.0	E			5.91 6.06 5.32 5.67 6.2 ?			N	Y 6% by 2021	N	Uses language of the RED. The definition of waste is taken from the Waste Directive 2008/98. Positive list of residues: manure, olive pomace (after extraction of pomace), grape marc without alcohol, glycerine (not refined), cereal straws, rice straw, peel fruits and other vegetables, carob pulp, fleshy fruit pulp, certain whey, left-over breweries.		Y Level of penalty unclear.	N	DC in consideration; bill on the table. COM has gone to EU CoJ over non-compliance with the RED (26.05.2016). Firstly, fuels can only be marketed if specific fuel requirements are in place, but such requirements do not exist for hydrotreated vegetable oil (HVO), a biofuel that is imported into Poland. Secondly, preferential treatment is given to fuel operators who source at least 70% of their biofuels-from Polish manufacturers and when the biofuels are produced predominantly from raw materials originating in certain countries. This preferential treatment discriminates against biofuels manufacturers and raw material producers in other countries.	
PT	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 5.5 7.5 7.5 9.0 9.0 10.0 10.0	E	 6.75 - - - - - 7	 2.5 2.5 2.5 2.5 2.5 2.5 2.5	 ? ?	 ? ?	 ? ?	N	Y 10% by 2021	Y			Y Penalty between € 2,500 and € 44,891.	N	The Commission has sent to Portugal a reasoned opinion urging full compliance with the RED. The Portuguese legislation on biofuels contradicts the Directive in two respects: First, it favours biofuels produced in Portugal over biofuels of other countries of origin that are equally suitable, but produced elsewhere. Second, the legislation imposes stricter sustainability requirements on some biofuels, without this being warranted by the Directive. Portugal now has two months to address the Commission's	

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
																concerns; otherwise the Commission may decide to refer Portugal to the Court of Justice of the EU.	
RO	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020		V	 5.0 5.0 5.0 6.5 - - - 10.0	 5.0 4.5 4.5 4.5 4.5 8.0 - 10.0		 ? ? ? 	 ? ? ? 		Y 2% by 2015 4% by 2018 10% by 2021	Y	Uses language of the RED without specifying sort of feedstock.		Y Penalty between € 2,500 and € 4,500 for not complying with administrative information, Between € 6,700 and 11,200 for not achieving target for 2020.	N		
SK	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	 3.8 3.9 4.0 4.5 5.5 5.5 5.8 7.2 7.5 8.5	E for overall target V for specific target	 5.2 5.3 5.3 6.8 6.8 6.9 6.9 9.7 10.1 11.5	 3.1 3.2 3.3 4.1 4.5 4.6 4.7 5.9 6.2 7.0	 ? ? ? 5.73 ?	 ? ? ? 6.72 ?	 ? ? ? 6.37 ?	100% up to 5 vol % blend for bio-diesel; 100% for up to 7.5 vol % ETBE	Y 2% by 2015 4% by 2018 6% by 2021	Y	Esters made from UCO and fats (or their mix) fulfilling biodiesel quality requirements and sustainability criteria count double.		Y Penalty of € 2 per missing litre of biofuel.	N	Up to 5 % vol for Biodiesel and 7.05 % volume for ETBE blending is without tax, above this percentage tax is payable. The excise duty reduction for biofuels is granted only to companies that operate as tax warehouses. Only ETBE used in petrol, no splash blending	

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
SLO	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	5.0 5.5 6.0 6.5 7.0 7.5 7.5	E			? ? ? ? ? ?			Full exemption for pure biofuels; blends excluded.	Y 2% by 2015 4% by 2018 6% by 2021	?			Y Penalty between € 10,000 and € 100,000.	N	The proportion of the annual quantity of biofuel may be reduced if the price of one or more of the highest daily biofuel prices on the stock exchange exceeds the amount of the daily stock exchange price of the mineral fuel with which the biofuel is mixed and the excise duty for that mineral fuel.	
ES	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	5.83 6.2 6.5 4.1 4.1 4.1 4.3 5.0 6.0 7.0 8.5	E	3.9 6.0 7.0 4.1 4.1 4.1	3.9 3.9 4.1 3.9 3.9 3.9	5.0 6.2 8.5 3.6 3.9 ?	5.1 6.7 9.5 3.6 3.9 ?	4.2 4.3 4.1 3.6 4.1 ?	N	N	Y, but no procedures in place to make the instrument work	UCO and animal fats Cat 1 & 2		Y Penalty of € 763/TOE for not fulfilling the target. Market operators not complying need to buy certificates from the National Commission for Markets and Competition. Those companies that do comply obtain certificates (for free) from the same body.s	N	From 2016 onwards no more overall targets to give obligated parties more flexibility. 7% cap on consumption for transport purposes in 2020 of biofuels produced from certain food crops and crops on agricultural land. Industry group APPA Biocarburantes has asked the Industry Ministry (Minetur) to extend the quotas awarded to local and EU FAME producers in 2014 for another two years. Companies with a quota can deliver FAME under the national biofuels quota. The quotas were not linked to tax advantages, unlike it was the case in France until end-2015. The quotas awarded by Minetur totalled almost 5 mln tonnes p.a., compared with an annual local FAME demand of around 600,000-700,000 tonnes. APPA stated that an end of the quotas would open the Spanish market for imports, especially if the anti-dumping (AD) duties on Indonesian and Argentine product were cut. A World	Co-processing accepted

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
																Trade Organisation panel recently said in a report that the AD duty rates imposed by the EU in 2013 were not calculated correctly. There was no response from the European Commission yet. However, APPA said it sees a high risk that a cut may come in coming months.	
SV	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020		E	 5.2 7.5 12.0 13.0	 4.7 4.6 5.1 5.0	 16.7%	 ? ? ? ?	 ? ? ? ?	Y System up for renewal in 2017	Y 6% by 2021	N			N	N	Discussion ongoing to have an overall target of 10% v/v by 2020 and differentiated targets as well.	Co-processing accepted. Sweden has an Energy and CO2 tax on fuels.

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				Biodiesel %	EtOH %	Overall	Biodiesel	EtOH			Y/N	Feedstock					
												Allowed	Not-allowed				
UK	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	3.5 4.0 4.5 4.75 4.75 4.75 4.75 (tbd)	V			3.1 2.7 3.7 4.4 4.8			N		Y	There are 3 tabes that lists feedstock that count double listing a total of 29 feedstocks	There is 1 table for single counting and another table that mentions 2 feedstocks that are not recognised: free fatty acids or acid oils or soapstocks, yellow grease	Y Buy-out of 30 pence for every litre missed to comply with the obligation. Also civil penalty possible up to £ 50,000 or 10% turnover derived from biofuels.	N	Consultation process ongoing to determine the targets up to 2020 and the implementation of Directive 2015/1213	Working on rules fro co-processing
Totals			18 (+1)		5.4% (2013)						15 (16)						

Sources:

- National legislation to the extent possible
- Commission, (2015),
- Eurobserv'ER, (2015)
- GAIN (2015, 2016a)
- CE Delft (2015a, 2015b)
- UPEI BIOMatrix, March 2016 http://www.upei.org/download/39/85/17?method=view
- Waldheim, Lars, Renewable Fuels and Biofuels Mandates and Regulations Overview, March 2016. (Prepared for the Commission expert group on Advanced Biofuels - Internal document).

Annex 2: Overview Voluntary Schemes on sustainability

Voluntary scheme name	Accepted under the RTFO from[1]	Scheme version no.	Scheme scope			RED sustainability compliance				
			Geographical	Feedstock	Chain of custody	GHG	Biodiversity	Carbon stocks	Mass balance chain of custody	Audit quality
European Commission recognised schemes[2]										
Abengoa RED Bioenergy Sustainability Assurance (RBSA)	10 August 2011	Various[3]	Global	Multi-feedstock	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
BioGrace GHG calculation tool	19 June 2013	v4c	Global	Multi-feedstock	Whole supply chain	Actual[4]	No	No	No	No[4]
Biomass Biofuels voluntary scheme (2BSvs)	10 August 2011	Various[3]	Global	Multi-feedstock	Whole supply chain	Actual or default	Yes[5]	Yes	Yes	Yes
Bonsucro EU (formerly Better Sugar Cane Initiative, BSI)	10 August 2011	v3.0 (March 2011)	Global	Sugar cane	Whole supply chain	Default only	Yes[5]	Yes	Yes	Yes
Ensus Voluntary Scheme under RED for Ensus Bioethanol Production	13 May 2012	Version as submitted to the European Commission 21 Nov 2011	UK + other EU MS	Wheat	From the first gathering point to the Ensus One bioethanol storage	Actual or default	Yes[5]	Yes	Yes	Yes
Gafta Trade Assurance Scheme	23 June 2014	Various[3]	Global	Multi-feedstock	Farm gate to first processor	No[6]	Yes	Yes	Yes	Yes
Greenergy Brazilian Bioethanol verification programme (Greenergy)	10 August 2011	Various[3]	Brazil	Sugar cane	Whole supply chain	Default only	Yes[5]	Yes	Yes	Yes
HVO Renewable Diesel Scheme for Verification of Compliance with the RED sustainability criteria for biofuels	29 January 2014	Version as submitted to the European Commission 14 Aug 2013	Global	Any feedstock, sutiable for hydtrotreated vegetable oil (HVO) biodiesel	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
International Sustainability and Carbon Certification (ISCC)	10 August 2011	v2.3 EU	Global	Multi-feedstock	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
KZR INiG System	23 June 2014	1st issue	Europe	Multi-feedstock	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
NTA 8080 Certification Scheme (NTA 8080)	20 August 2012	Various[3]	Global	Multi-feedstock	Whole supply chain	Actual or default	Yes[5]	Yes	Yes	Yes
Red Tractor Farm Assurance Combinable Crops & Sugar Beet Scheme (Red Tractor)	05 August 2012	v2.02	UK	Cereals, oil seeds, sugarbeet	Farm to first gathering point	No[7]	Yes	Yes	Yes	Yes
REDcert	13 August 2012	EU 3	EU and selected countries	Multi-feedstock	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
Roundtable on Sustainable Biofuels EU RED (RSB EU RED)	10 August 2011	v2.0	Global	Multi-feedstock	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
Round Table on Responsible Soy EU RED (RTRS EU RED)	10 August 2011	Various[3]	Global (outside of EU)	Soy	Whole supply chain	Actual or default	Yes	Yes	Yes	Yes
Roundtable on Sustainable Palm Oil RED (RSPO RED)	11 December 2012	Various[3], RSPO RED v4	Global	Palm	Whole supply chain	Default only	Yes	Yes	Yes	Yes
Scottish Quality Farm Assured Combinable Crops (SQC)	13 August 2012	Various[3]	Scotland & N England	Winter wheat, maize, oil seed rape	Farm to first gathering point	No[7]	Yes	Yes	Yes	Yes
Trade Assurance Scheme for Combinable Crops (TASCC)	07 October 2014	Various[3]	UK	Combinable crops, such as cereals, oilseeds and sugar beet	From farm gate to first processor	No[6]	Yes	Yes	Yes	Yes
Universal Feed Assurance Scheme (UFAS)	07 October 2014	Various[3]	UK	Feed ingredients and compound feeds as well as combinable crops	From farm gate to first processor	No[6]	Yes	Yes	Yes	Yes

Notes:

1 - Subject to parties in the supply chain being audited against the version of the voluntary scheme that the EC Decision refers to. Note that in practice therefore, a scheme may not be able to be used from the date listed if recent changes have been made to the scheme to enable the EC to recognise the scheme.
2 - Please refer to the EC Transparency Platform for further details: http://ec.europa.eu/energy/renewables/biofuels/sustainability_schemes_en.htm
3 - Please refer to the EC Transparency Platform for the specific version numbers of the scheme documents: http://ec.europa.eu/energy/renewables/biofuels/sustainability_schemes_en.htm
4 - The BioGrace GHG calculation tool contains accurate data for the purposes of the GHG criteria. Voluntary schemes using the tool need to ensure that it is applied appropriately and that adequate standards of reliability, transparency and independent auditing are met.
5 - With the exception of highly biodiverse grasslands (Article 17.3c of the RED)
6 - Ensures all relevant information on GHG emissions is transferred
7 - These schemes contain information on whether a RED-compliant land-use change has occurred, which needs to be taken into account in the GHG calculation. They also provide informaton on location which can be used to determine NUTS2 region & hence whether the default can be reported.

Source: *https://www.gov.uk/government/...data/.../Table_of_voluntary_schemes_year_8.xlsx*

Annex 3: Questionnaire for stakeholders

1. List the 5 most pressing issues, and in order of priority, that cause fragmentation of the EU biofuels market; these may include country specific measures that have been introduced by one Member State.

Issue(s)	Please indicate in what way this hampers the trade in biofuels.	Has this issue arisen as a result of the transposition of EU biofuel legislation (**Directive 2009/30 (FQD) and/or Directive 2009/28 (RED)** by national authorities? Please explain.	In which Member State(s) does this problem occur?	Would guidance on this issue from the EU help to achieve a level playing field? Please elaborate.

Any further comment(s)? .....

2. What in your opinion is causing the indicated problem?

Issue(s)	**Cause**

Any further comment(s)? .....

3. What in your opinion is the solution to the indicated problem?

Issue(s)	**Solution**

Any further comment(s)? .....

4. Can you give an estimate of the annual additional costs of the problems occurring?

5. What has been the impact on investments in the biofuels sector as a result of these issues?

6. Are the problems making business impossible (too expensive or too much bureaucracy)?

7. Do you know REFUREC? If so, have you had ever contact with a REFUREC delegate?

8. What in your view could or should the European Commission do to reduce market fragmentation?

9. What other stakeholders could be contacted?

10. Would you be available for an interview?

11. Is there any additional suggestions you would like to make?