

Sustainability Criteria in the EU Renewable Energy Directive: Consistent with WTO Rules?

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Introduction

The European Union has adopted a very ambitious plan to increase the share of renewables in their energy consumption to 20% by 2020, including a 10% goal for the use of renewables in transport alone. Renewable energy could come from a variety of sources, but for transport the main source is biofuel.¹ The Renewable Energy Directive 2009/28/EC, which sets these goals, will therefore trigger a large increase in the consumption of biofuel in the EU.

The debate around biofuels is well known. Critics argue that biofuels could have negative social implications because they could lead to an increase in food prices. This is particularly relevant for today's first generation biofuels, which are based on biomass that could otherwise be used for food purposes, or on biomass produced on land otherwise suitable for food production.

The environmental effects of biofuels are also controversial. Although in principle CO₂-neutral, the use of biofuel never leads to a 100% reduction in greenhouse gas (GHG) emissions compared to the use of fossil fuels and could, in extreme cases, even lead to an *increase* in emissions. To address the possible negative environmental concerns, the Directive lays out sustainability criteria that biofuels have to fulfil. These relate to overall efficiency in terms of emission reductions, but also specify which type of land can be used to produce the feedstock. Some critics have argued that making a distinction between biofuels based on such criteria is incompatible with WTO disciplines. This paper examines the Directive's biofuel sustainability criteria and their WTO-consistency within the framework of specific WTO Articles, with a particular emphasis on the general exemption clause (Article XX of the GATT).

Background to Directive 2009/28/EC

Directive 2009/28/EC on the promotion of the use of energy from renewable sources (the Directive) was adopted on 23 April 2009. The Directive entered into force on 25 June 2009 and mandates implementation by Member States by 5 December 2010. The EU

¹ *The alternative and complementary approach is the use of electric cars charged on electricity from renewable sources such as hydropower. While on the increase, the share of electric cars will remain modest in the near future.*



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Renewable Energy Directive pursues a dual objective of increased security of energy supply and reduced GHG emissions through replacing fossil fuel with renewables.² This Directive is distinct from previous directives in that it provides a stronger regulatory framework by introducing legally binding targets for renewable energy at the EU level.

Directive 2009/28/EC lays out mandatory country-specific targets for each EU Member State for the overall share of energy that has to come from renewable sources by 2020. The targets, which will increase in several steps until 2020,³ vary widely between Member States (between 10% for Malta and 49% for Sweden) and are set such that a Community average of 20% will be reached compared to 1990 levels.⁴ The target applies to energy used for electricity generation, heating and cooling and transport. Article 3.4 of the Directive sets a mandatory target of a 10% share of renewable energy used for transport in each Member State.

In order to reach these targets, Member States are encouraged to implement domestic support schemes ‘that promote the use of energy from renewable sources by reducing the cost of that energy, increasing the price at which it can be sold, or increasing, by means of a renewable energy obligation or otherwise, the volume of such energy purchases’.⁵ These support schemes can include, amongst others, financial means such as ‘investment aid, tax exemptions or reductions, tax refunds, [...], and direct price support schemes including feed-in tariffs and premium payments’. Biofuels and other ‘bioliquids’ not produced according to the sustainability criteria set by the Directive will not be counted towards the share of renewable energy in overall energy consumption nor towards the 10% share in transportation.⁶ Moreover, non-sustainable biofuels are not eligible for ‘financial support’⁷ from the domestic support schemes.

Sustainability Criteria for Biofuels

Article 17 of the Directive defines two sets of *sustainability* criteria for biofuels. The biofuels must be sustainable in order to be counted towards the mandatory renewable energy targets and in order to be eligible for ‘financial support’.⁸ The two main sets of criteria, which must be fulfilled cumulatively, are greenhouse gas (GHG) emission savings and land-use requirements.

Greenhouse gas emission savings

The rationale for the use of biofuels is that they can lower GHG emissions and that they are ‘renewable’. However, the production and processing of biofuel is not emission-free and emissions could reach levels similar to those associated with the use of fossil fuel. To fulfil the sustainability criteria, the percentage reduction of GHG emissions generated through the use of a specific biofuel instead of a fossil fuel has to be above a certain threshold. A minimum savings rate of 35% applies initially. However, there is a grace period for installations that were in operation before 23 January 2008. This grace period expires on 1 April 2013. From 2017 on, all biofuels will have to fulfil a 50% threshold and from 2018 the threshold will increase to 60%, but only for installations that started operating in 2017 or later. The Directive specifies the method for calculating GHG emissions as the sum of emissions from (1) extraction and cultivation of raw materials, (2) land-use change, (3) processing and (4) transport and distribution. Net emissions from the final use of the biofuel are considered to be zero because the CO₂ emitted is equivalent to the carbon captured when the plant used as feedstock was growing. Deductions are made for soil carbon accumulation via improved agricultural management, for carbon capture (a technology that is still under development) and for co-generation of electricity. These emissions

2 This includes Albania, Algeria, Argentina, Bangladesh, Bahrain, Cambodia, Colombia, Ecuador, The Philippines, Jordan, Macedonia, Morocco, Mexico, Nigeria, New Zealand, Pakistan, Peru, Thailand, Sri Lanka, Uganda and Venezuela. Compare CIEL Background Paper March 2006, ‘The Brazil Retreated Tires Case’, Centre for International Environmental Law, 2006, available at http://www.ciel.org/Publications/Brazil_Tires_3Apr06.pdf.

3 1993/31/EC

4 2005/53/EC

5 2000/76/EC

6 Directive 2009/28/EC, Art. 5(1).

7 Directive, Article 17 (1) (c).

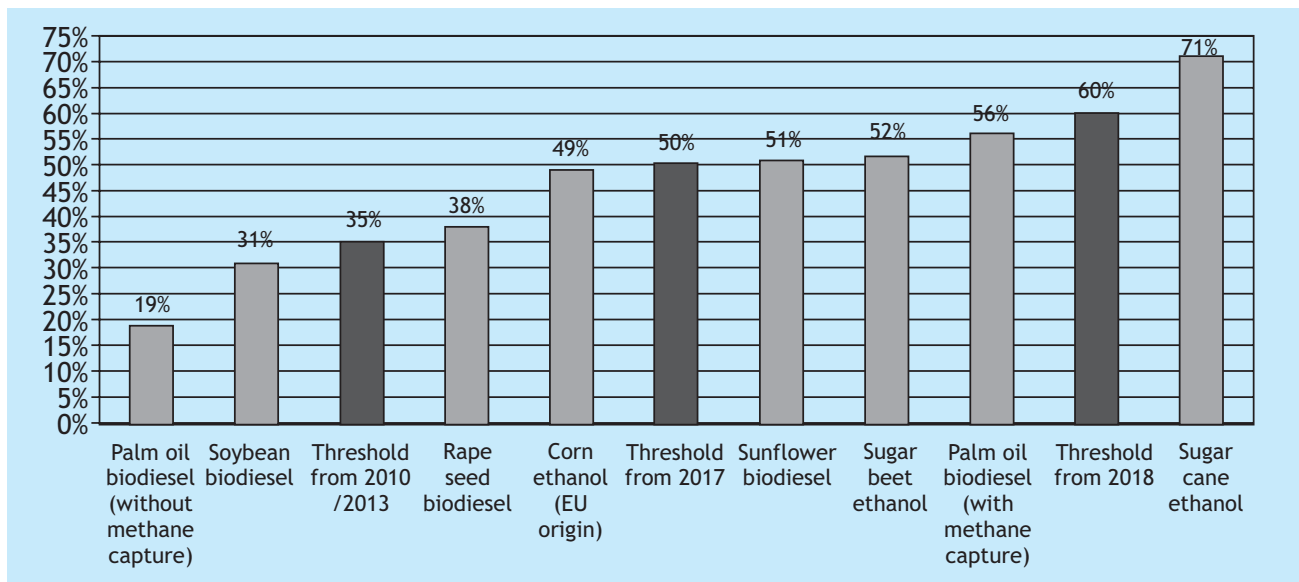
8 We will from here on only refer to « biofuels ». However, it should be kept in mind that the sustainability criteria also apply to bioliquids in general, i.e. to liquids produced from biomass that are used for purposes other than for fuel (e.g. electricity generation or heating).

are then compared with emissions of fossil fuel to calculate the emission savings rate. However, as discussed further below, it is important to note that the land-use requirements do not consider so called indirect land-use changes (ILUC).

The Directive also specifies default values for a variety of biofuels that can be used as an alternative to case-by-case calculations. Producers thus have

a choice between the default and actual emission savings, meaning that if the default emission value is too high for a biofuel (i.e. the 'saving rate' is too low), they could calculate the actual value. In comparison to the default emission savings values provided in the Directive, the threshold values set for 2017 and 2018 are very ambitious and will only be reached by a small number of today's first-generation biofuels (see Figure 1).⁹

Default values for some biofuels compared with threshold values



Two important aspects should be highlighted here. Firstly, there are two different default values for the processing of palm oil diesel, depending on whether methane is captured during the processing. Methane has a much higher GHG effect than CO₂ and the overall emissions measured in CO₂- equivalents is drastically reduced if methane is captured (and then used for cogeneration, for example).

Secondly, a default value is provided for corn ethanol of EU origin only. This means that there is no default value available for US corn ethanol. Thus, unlike US-based producers, EU-based corn ethanol producers would not have to prove that they fulfil the 35% savings requirement as the default value is set at 49%. This could be seen as discriminatory and will be discussed below.

Land-use requirements

Article 17 (3)-(5) of the Directive 2009/28/EC specifies three criteria for the land from which the feedstock for the biofuel originates. These are determined based on the status of the land in January 2008.

First, biofuels shall not be made from raw material obtained from land with high biodiversity value, which includes primary forest and other wooded land, areas designated for nature protection or the protection of rare, threatened or endangered ecosystems or species, and highly biodiverse grasslands.¹⁰ Second, biofuels shall not be made from raw material obtained from land with high carbon stock, namely wetlands, continuously forested areas, or land spanning more than one

⁹ Second-generation biofuels (which are made of biomass that today cannot commercially be used to produce biofuel) could reach these saving rates. The Directive provides estimated saving rates for some second-generation biofuels such as waste wood ethanol. These biofuels reach saving rates of 76-95%.

¹⁰ Further details are set out in Article 17 (3) of the Directive.

hectare with a certain minimum canopy cover. Third, biofuels shall not be made from raw material obtained from peatland, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.

Although the EU's sustainability criteria include emissions due to land-use change and rule out biofuels produced from feedstock grown on certain lands as unsustainable, this does not guarantee that there are no indirect effects of the policy. Indirect land-use change (ILUC) refers to the potential change in land use due to higher demand for biofuels. For example, higher demand for palm oil could cause producers to shift production of palm oil intended for the EU market to land that is in conformity with the sustainability criteria. Production of palm oil not exported to the EU could then be relocated to deforested land, and cause further deforestation. Moreover, the increase in biofuel consumption and thus production of biofuel feedstock within the EU or third countries can lead to indirect land-use changes on a global scale, due to, *inter alia*, the need to expand the cultivation of food crops elsewhere. It is not yet clear whether and how the EU might change its sustainability criteria to take into consideration ILUC, but one option would be to add average emissions caused by ILUC to the biofuel-specific emissions on a country-by-country basis.

Other requirements

The inclusion of mandatory social criteria in the Directive has also been discussed. Although eventually their inclusion was rejected, paragraph 7 of Article 17 of the Directive specifies a mechanism to monitor the potential social impact of biofuel production in source countries, whether EU members or not. Accordingly, the Commission will assess the impact of increased demand for biofuel on food prices and 'wider development issues'. The Commission shall also state whether source countries have ratified and implemented certain International Labour Organization (ILO) conventions, the Cartagena Protocol on Biosafety and the Convention on International Trade in Endangered Species of Wild

Fauna and Flora (CITES). 'Corrective action' can be proposed, 'in particular if evidence shows that biofuel production has a significant impact on food prices'. However, paragraph 8 of Article 17 makes clear that social criteria cannot be used to define the eligibility of biofuels.

Consequences of the sustainability criteria and effects on biofuel producers

The production costs of current biofuels are usually well above the market prices for fossil fuels. As long as this does not change, the Directive's targets will not be met through market forces alone. Member States will therefore have to set regulations to reach the 10% target while taking account of the sustainability criteria. This could be done in different ways. One option is to reduce or waive excise taxes for biofuels. A second option is to set mandatory blending requirements for producers or consumers. Germany, for example, already sets specific targets for the share of fuels from renewable sources that apply to all fuel providers.¹¹ Accordingly, every provider that brings fuel into circulation has to mix the regular fuel with a certain amount of biofuel in order to achieve a specific proportion for petrol and diesel.

These options, or a combination thereof, would give an advantage to all biofuel producers (foreign and EU based) because they create demand for biofuel that would otherwise be almost non-existent. The crucial question is from where this biofuel will come, and whether foreign producers will have equal chances to gain from the increased demand. If refiners are completely free to choose the sources of the biofuel (assuming the 10% target is implemented through mandatory blending), the most efficient producers will capture the market. Thus, in case foreign producers are able to produce biofuel more efficiently, there will be large amounts of imports. This, however, could be impeded if foreign producers found it difficult to fulfil the sustainability criteria. The Commission expects around 70% of the biofuel demand in 2020 (when the 10% target is to be reached) to be met by Community-produced feedstock and the remainder to be imported (USDA, 2009).

¹¹ *Bundes-Immissionsschutzgesetz, Art. 37a; In Belgium, a similar obligation exists, Wet houdende verplichting tot bijmenging van biobrandstof in de tot verbruik uitgeslagen fossiele motorbrandstoffen, 22 July 2009.*

Moreover, tariffs could block foreign producers from entering the EU market. Currently, tariffs are set at very different levels for major biofuels. This is because biofuels fall under different product categories in the tariff schedule. Bioethanol faces particularly high tariffs of around 45%.¹² Biodiesel faces a tariff of 6.5%, but palm oil can be imported duty-free and soybean oil faces a tariff of only 3.2%. The high tariffs on certain biofuels can be considered a significant trade barrier. With the conclusion of the Doha round some of the tariffs might be lowered. In particular, if bio-ethanol is considered an 'environmental good' within the negotiations on environmental goods and services (EGS), tariffs may come down to close to zero. The outcome of the negotiations, however, continues to be uncertain and strong opposition by some countries indicates that the recognition of bio-ethanol as an environmental good is unlikely. The EU, on the other hand, seems willing to reduce tariffs on biofuel.¹³

The principle of non-discrimination: consistency with GATT Article I and III

As the Directive affects global trade flows, the EU has to ensure that the sustainability criteria contained in Article 17 are compatible with applicable WTO law. In this regard, GATT Articles I, III, XI and XX are of relevance. Articles I and III lay out the non-discrimination principles providing for *most-favoured-nation treatment* (MFN) and *national treatment* (NT). Alternatively, Article XI GATT, prohibiting any quantitative restrictions for imports, can be applied. If a violation is found under any of these provisions, the sustainability criteria could still be justified under the general exception clause provided for by Article XX GATT.¹⁴

According to the principles of non-discrimination, Member States cannot discriminate between '*like products*' from different trading partners (giving them equally '*most favoured-nation treatment*'),

GATT Article I); nor between its own and *like* foreign products (giving them '*national treatment*', GATT Article III). A related question is whether products that are produced using different process or production methods (PPMs), can be found to be '*unlike*' even if these different methods do not leave a physical trace in the final product. In other words, is discrimination between products on the basis of the production process - as required by the Directive's sustainability criteria - allowed?

Product or PPM

With regard to WTO law, PPMs are generally divided into two categories: product-related and non-product-related PPMs. Product-related PPMs are '*used to assure the functionality of the product, or to safeguard the consumer who uses the product*', whereas the non-product-related PPMs are '*designed to achieve a social purpose*'.¹⁵ Non-product-related PPMs can be further divided into three types: the *how-produced standard* specifying the processing method used for making the product; the *government policy standard* concerning the laws or regulations of a foreign government regarding the production process; and the *producer characteristics standard* specifying attributes of a producer or its contractual relations.¹⁶

The GHG emission saving as well as the land-use criteria can be considered *non-product-related how-produced PPMs* as they relate to the biofuel *production* process of an individual producer. The required GHG savings are calculated by adding emissions from the whole production process, most of which are completely unrelated to the product itself. For example, it matters whether methane is extracted from the emissions of a biofuel processing plant, but this has no bearing on the final product. The land-use criteria define whether the land used for the production of the raw material allows '*sustainable*' production, which is also unrelated to the final product.

12 The tariff is set at 10.2 EUR/hl for denatured ethanol and 19.2 EUR/hl for undenatured ethanol. Swinbank, (2009) states an estimated ad-valorem equivalent of 45%, though this may be overrated for denatured ethanol, given current gasoline prices of around 0.40 Euro/l..

13 '[I]f it would appear that supply of sustainable biofuels to the EU is constrained, the EU should be ready to examine whether further market access would be an option to help the development of the market.' Communication from the Commission, Renewable Energy Road Map: Renewable energies in the 21st century: building a more sustainable future, 10/01/2007, p. 7.

14 TBT compatibility has been assessed in a longer version of this paper, with the conclusion that the Directive is largely in line with the TBT agreement.

15 Charnovitz St., *The Law of Environmental « PPMs » in the WTO : Debunking the Myth of Illegality*, 27 Yale J. Int'l L. 59 2002, p.65.

16 Ibid.

Until today, no GATT or WTO case has ever addressed the *how-produced standards*, in contrast to the other two non-product-related PPM types. The prevailing position, however, is that different PPMs do not per se render products ‘unlike’ thus allowing the application of Articles I and III. Moreover, in light of the rulings in *US-Alcoholic Beverages*¹⁷ and *US-Gasoline*,¹⁸ a strong argument can be made that the distinction made by the sustainability criteria on the basis of different PPMs, does not exclude the applicability of GATT Articles I and III.

Likeness

In WTO case law, four criteria have been used in determining whether products are ‘like’: (1) the physical properties of the products; (2) the extent to which the products are capable of serving the same or similar end-uses; (3) the extent to which consumers perceive and treat the products as alternative means of performing particular functions in order to satisfy a particular want or demand; and (4) the international classification of the products for tariff purposes. According to the Appellate Body in *EC-Asbestos*, if products are found to be physically like, a higher burden is placed on the complaining Members to overcome the indication of likeness on the basis of one of the other criteria.¹⁹

One could argue that the physical characteristics differ when biofuels are produced from different raw materials. This is an important point as huge quantities of the EU-produced biofuels (in particular rapeseed oil and bioethanol made from wheat or corn) are based on different raw materials than the majority of foreign-produced biofuels (South East Asian palmoil-based biodiesel and cane-based ethanol from Brazil and elsewhere). However, while these differences would matter if the products were imported as food products (for instance palmoil for cooking), the differences appear to be insignificant when they are used for blending with diesel to serve as biofuel.

This argument is also relevant for the second and third criteria, namely the product’s end-use and consumer tastes and habits, respectively. As the sustainability criteria discussed here relate to biofuels for transportation purposes only, the end-use is the same for all products. Moreover, as all biofuels are equally suitable for blending, it is arguably unlikely that consumers would prefer one particular type of biofuel over another. The analysis of the fourth criteria does not change this conclusion.

Discrimination

If, as suggested above, the products are indeed found to be like, the question arises whether the sustainability criteria discriminate between national and foreign products (national treatment requirement, Article III) or between third country products (MFN treatment, Article I). While Article III defines discrimination as ‘less favourable treatment,’ which is determined according to an *improved aims-and-effects test*, Article I refers to ‘conferring an advantage’. Though the concepts differ slightly, the tests will be addressed together for the purposes of this paper.

Access to the EU market provides a major advantage to biofuel producers that meet the sustainability criteria compared to those that fail to comply with the required standards. Indeed, the Directive establishes a link between the sustainability criteria and the financial support provided as part of the domestic schemes, only allowing sustainable biofuels to benefit.²⁰ The financial support under the Directive mainly consists of tax exemptions, which are considered an advantage under Article I.

However, the question in relation to the non-discrimination principle is whether a distinction regarding the advantage conferred (Article I) or the favourable treatment (Article III) is made on the basis of *origin*. The legal analysis on this might differ for the GHG saving requirements and the land-use requirements.

17 Panel Report, *United States - Measures Affecting Alcoholic and Malt Beverages*, BISD 39 (1992) 206, para. 5.18-5.19.

18 Panel Report, *United States - Standards for Reformulated and Conventional Gasoline*, WT/DS2/R (adopted Jan. 29, 1996).

19 Appellate Body Report, *European Communities - Measures Affecting Asbestos and Asbestos Containing Products*, WT/DS135/AB/R (adopted Apr. 5, 2001).

20 Directive 2009/28/EC, Art. 17(1). Preamble (76) mentions a price premium for sustainable biofuels and bioliquids.

GHG saving requirements

The GHG emissions saving criteria were set to apply to both domestic and imported biofuels irrespective of their origin, without explicitly discriminating against any of these. However, there is a possibility that the GHG emissions saving requirements outlined in the Directive *de facto* discriminate against all or certain foreign producers due to 1) the inclusion of transport emissions in the calculation of GHG emissions savings; 2) the setting of default values for GHG emissions savings; and 3) the methodology used for the establishment of the GHG savings thresholds.

1) Transport Emissions in calculating GHG savings: Overall, the methodology for calculating the GHG emissions savings is done in a rational manner and is, at least in principle, based on international standards. It allows individual producers to provide their own calculation of emissions generated by their biofuel if the default emission values are deemed too high by the producer. However, some elements could be seen as *de facto* discrimination.

For instance, the inclusion of **transport emissions** could lead to *de facto* origin-based discrimination due to the fact that transport emissions for EU biofuels are lower than for imported biofuels, everything else being equal.

Given that most competing biofuels are currently produced in the Americas or in South East Asia and therefore require long distance transport, the potential disadvantage becomes obvious. However, default emissions for transport and distribution provided by the Directive are relatively low for most biofuels, so many types of biofuels will not be

affected by the inclusion of transport emissions.²¹ For example, transport emissions are high for sugar cane ethanol, but the overall default emissions are still well below the threshold related to the 35% savings rate.²² There could however be cases where a product does not fulfil the GHG savings criteria only because of the location (e.g. if the transport emissions reduce the calculated savings from 36% to 34%). This *de facto* discrimination of foreign producers could be seen as being inconsistent with the non-discrimination principle.

The inclusion of transport emissions can even work against EU processors of biomass, for example for soybean biodiesel. Soybean biodiesel does not fulfil the minimum emission savings when using default values, but would so if transport emissions were not included. This is because soybeans are much bulkier than soybean diesel, and the EC has calculated the default value by assuming that soybeans are first shipped to the EU and then processed into biodiesel within the EU. If processed abroad, however, the transport emissions would be significantly lower as only the final - less bulky - product would have to be shipped.²³ The inclusion of transport emissions can therefore be a significant advantage for soybean processors in or close to exporting countries compared to processors in the EU.

2) Default Values: The setting, or not setting, of default values for GHG savings could lead to origin-based discrimination, as using the default value provides a significant advantage. Default values exist for only a limited number of products and production scenarios and could lead to discrimination against some foreign producers. This is particularly true for corn ethanol, as the Directive provides a default value for EC produced corn ethanol only.

²¹ A high share of transport emissions may also occur within the EU, which would also affect EU biofuels.

²² Default emissions for sugar cane ethanol are 15 gCO₂eq/MJ without transport emissions. Transport adds another 9 gCO₂eq/MJ, but the maximum emissions to stay above the 35% emission saving criteria is much higher (54.5 gCO₂eq/MJ).

²³ USDA 2009: 'According to the Directive, biodiesel made from soy oil does not automatically comply with the GHG emission criteria. Omitting any adjustment for indirect land use, the Directive's GHG emission savings default (reference) value for soy diesel is 31 percent, which is below the minimum GHG threshold. On closer examination, this value was calculated using a pathway where soybeans are first shipped from Brazil, then transformed into soy oil and biodiesel in the EU. Using lifecycle analysis, the value for soy-based biodiesel produced in and shipped from the US would be different because it has a different pathway. According to EPA, US soy-based biodiesel has a GHG emission savings value of 80 when it is produced and consumed in the United States. If it is shipped to and consumed in the EU that value falls only slightly. Under the Directive, it is possible to use actual numbers and achieve a GHG emission saving that is above the required 35 percent. It is always possible to claim the default value without any supporting documentation. According to Commission officials it should not be a problem for US soy-based biodiesel to comply with the standards that are currently being implemented, but it could be more difficult in the future, when the GHG emission savings threshold increases to 50 percent by 2017, and if or when indirect land use change (ILUC) is taken into account. The higher GHG emission savings threshold of 50 percent is also a potential difficulty for EU-produced rapeseed biodiesel. The Directive has made it clear that biofuels GHG emission savings values can be reviewed and updated as new information is made available.'

As such, a default value could not be used for US corn ethanol, i.e. unlike US-based producers, EU-based corn ethanol producers would not have to prove that they fulfil the 35% savings requirement as the default value is set at 49%. This could be seen as discriminatory and will be further discussed below.

3) Threshold Values: Arguments have been made that the GHG saving thresholds (35%, 50%, 60%) were set arbitrarily or designed so to discriminate against foreign products. However, a close comparison of the threshold's impact on different products indicates that a rise as well as a reduction in threshold values could either benefit or hurt domestic as well as foreign producers. If the threshold values were set lower, then more foreign as well as Community-produced biofuels would be deemed 'sustainable' (e.g. wheat ethanol in the EC). This would be a disadvantage to both domestic and foreign biofuels that are currently above the initial threshold of 35%. If, on the other hand, the savings rate thresholds were set higher, then some foreign producers would gain because rapeseed biodiesel, the major competing product within the EU, would no longer qualify (which appears to be the case from 2017 on when the threshold will increase to 50%). Yet this could make other Community products more competitive and hurt other foreign products. Therefore, it appears impossible to make the argument that the threshold values were set to specifically discriminate or favour one country over another.

This becomes clear when comparing the expected GHG savings values of different biofuels with the threshold values established by the Directive:

The EU's biofuel's production is currently composed of 80% biodiesel and 20% bioethanol. The EU mainly produces rapeseed biodiesel and to a smaller extent sunflower biodiesel. In 2012, the

EU's ethanol production is expected to be based mostly on wheat (40%) and sugar beet (38%).²⁴ With respect to the 35% threshold, rapeseed and sunflower biodiesel and sugar beet bioethanol are above the threshold; wheat ethanol's eligibility will depend on its category. However, regarding the 50% threshold, rapeseed biodiesel (accounting for the largest part of EU's biofuel's production), will become ineligible.

Brazil is the second largest producer of ethanol, which is based on sugar cane (the Brazilian biodiesel program is still in its infancy).²⁵ However, 'the largest increase in crop area resulting from biofuel expansion would seem to be for soybeans in Brazil'.²⁶ The GHG emission savings of sugar cane ethanol is 71% (default value). Soybean biodiesel has a default rate of only 31%, but may well qualify depending on the location of processing plants, so the savings rate threshold should not pose a particular problem for Brazil.

Malaysia and Indonesia are the world's largest exporters of palm oil. Depending on the production process used, palm oil biodiesel may or may not be eligible under the 35% and 50% thresholds. In a study on the EU's Renewable Energy Directive's implications for Malaysian palm oil trade, the authors clearly stated that with respect to the GHG emission saving criteria, the Directive does not discriminate against biodiesel derived from palm oil compared to other vegetable oil-based biodiesel (for example, derived from soybean oil and rapeseed oil).²⁷

Biofuel production in the **US** consists mainly of corn ethanol, with limited biodiesel production. However, the majority of the EU's biodiesel imports come from the US.²⁸ In Regulation 193/2009, the Commission specifies that US biodiesel is based on, *inter alia*, rapeseed, sunflower and soybean.²⁹ Only soybean biodiesel does not qualify when using default values, but would likely qualify when

24 Jank M.J., Kutas G., Amaral L., Nassar A.M., *EU and US Policies on Biofuels: Potential Impacts on Developing Countries, The German Marshall Fund of the United States*, p. 9.

25 Jank M.J., Kutas G., Amaral L., Nassar A.M., *EU and US Policies on Biofuels: Potential Impacts on Developing Countries, The German Marshall Fund of the United States*, pp. 15-16.

26 De Santi R., *Biofuels in the European Context : Facts and Uncertainties, JRC 44464, 2008*, p.9.

27 Mohd Basri Wahid, Faizah Mohd Shariff, N Balu and Nazlin Ismail, *EU's Renewable Energy Directive: Possible Implications on Malaysian Palm Oil Trade*.

28 USDA Foreign Agricultural Service, *GAIN Report, NL9014, 6/15/2009: 89% of EU biodiesel imports consisted of B99 from the US*.

29 Commission Regulation (EC) No 193/2009 of 11 March 2009 imposing a provisional anti-dumping duty on imports of biodiesel originating in the United States of America, point 19.

using actual values instead (see footnote 24). Rapeseed and sunflower biodiesel, on the other hand, have default values above 35%. Regarding the 50% target by 2017, only sunflower biodiesel qualifies. Concerning corn ethanol from the USA, no default value is provided. The emission savings of US corn ethanol will thus have to be based on actual values. According to the USDA, it will likely qualify under the 35% threshold. On this basis, US biofuels do not seem to be less favourably treated as compared to the EU biofuels with respect to the 35% and 50% GHG emission saving criteria. The fact that no default value is provided could disadvantage some US producers. However, the Commission will likely add additional default values later on, which could include US corn ethanol.

Overall, a strong argument can be made that the GHG saving thresholds do not lead to a *de jure* origin-based discrimination.

Land-use criteria

Article 17 (3) to (5) of the Directive contains three land-use criteria, applying to highly biodiverse land, land with high carbon stock, and peatland. As the highly biodiverse ecosystems that the land-use criteria aim to protect are unevenly distributed across the biofuel producer countries, the criteria could be considered to be directed at specific foreign countries.

In the EU, the expansion of the arable area is limited by present 'Common Agricultural Policy' rules, but if it occurs it would be mostly on permanent grassland³⁰ or agricultural land that is currently not in use. Article 17 (3) (c) of the Directive specifies that biofuels shall not be made from raw material obtained from highly biodiverse grassland.

However, the Commission has to detail the criteria and geographic ranges for biodiverse grassland.³¹

In **Brazil**, the expansion of soybean production could negatively affect rainforests. An expansion of sugar cane production could take place partly on degraded pasture, but largely on the natural *Cerrado* or ranch land bordering it. The *Cerrado* is considered highly biodiverse.³² However, 'it is believed that sugar cane expansion puts relatively low pressure on protected areas because it mainly takes place on former pasture land, but the impact on indirect land-use change is not yet fully understood.'³³ Moreover, areas with a prevalence of pristine native vegetation will be protected and cannot be used for sugar cultivation. Harvesting crops in protected areas, such as the Amazon and the Pantanal,³⁴ is prohibited.³⁵ Therefore, the biofuels produced in Brazil may not be deemed unsustainable under the current Directive.

In **Indonesia**, 27% of palm oil concessions (planned plantations in 2006) are on peat-forest.³⁶ In **Malaysia**, 10% of present plantations are on former peat-forest and a similar figure for concessions as the one of Indonesia is expected. However, there is plenty of scope for expanding palm oil production on degraded forest land and rubber tree plantations, though this is less efficient.³⁷ Therefore, part of Malaysian and Indonesian palm oil biodiesel may not be sustainable pursuant to Article 17 (3) (a) and (5) of the Directive.

South Africa has exceptionally high levels of biodiversity, much of it endemic. This is important when considering land conversion. Of special concern are biodiversity impacts resulting from the conversion of natural land to cropland. Indeed, the grasslands of South Africa are already³⁸ extensively transformed for forestry and

30 De Santi G., *Biofuels in the European Context : Facts and Uncertainties*, JRC 44464, 2008, p.10.

31 Directive 2009/28/EC, Art. 17(3). As is also the case for the definitions of severely degraded land and heavily contaminated land.

32 De Santi G., *Biofuels in the European Context : Facts and Uncertainties*, JRC 44464, 2008, p.11.

33 Eisentraut A., *Sustainable production of second-generation biofuels - Potential and perspectives in major economies and developing countries*, Information Paper, OECD/IEA, 2010, p. 107.

34 Brazil, which possesses 20% of the entire world's biodiversity, has six main biomes, the largest of which is the Amazon biome, covering 49% of the land area, followed by the Cerrado biome (24%), Atlantic Forest (13%), Caatinga biome (10%, and the Pampa and Pantanal biomes.

35 Eisentraut A., *Sustainable production of second-generation biofuels - Potential and perspectives in major economies and developing countries*, Information Paper, OECD/IEA, 2010, p. 107.

36 This figure concerns the year 2006. However, Art. 17 (5) of the Directive concerns land that was peatland in 2008..

37 De Santi G., *Biofuels in the European Context : Facts and Uncertainties*, JRC 44464, 2008, p.10.

38 It has to be mentioned that only grassland in 2008 or after is taken into account by the Directive.

agriculture.³⁹ Therefore, subject to the criteria and geographic ranges for biodiverse grassland established by the Commission, biofuels produced in South Africa may not be deemed sustainable following Article 17 (3) (c) of the Directive.

In conclusion, if assumed that the EU's own production will not be greatly constrained by the land-use criteria, Article 17 (3) to (5) of the Directive (land-use criteria) seems to *de facto* treat Malaysian, Indonesian and South African

biofuel imports less favourably. Indeed, *de facto*, the land-use criteria seem to be directed at specific foreign countries, as the types of ecosystems provided for in Article 17 (3) to (5) are more susceptible to be used for the production process of biofuels in those regions of the world. Table 1 shows some examples of biofuels, giving their origin and indicating whether they would meet both the GHG emissions savings and land-use criteria and be eligible as sustainable biofuels under the EU Directive.

Elibility of Certain Biofuels

| Abbreviation | Type of biofuel | Origin | Emission savings fulfilled? (Theshold: 35%) | Land-use criteria fulfilled? | Eligible? |
|--------------|--------------------|---|---|---|-----------|
| Rapeseed-1 | Rapeseed biodiesel | EU | Yes | Yes | Yes |
| Palmoil-1 | Palmoil biodiesel | Malaysia | Yes (due to methane extraction) | Yes | Yes |
| Palmoil-2 | Palmoil biodiesel | Malaysia | No (due to lack of no methane extraction) | Yes | No |
| Palmoil-3 | Palmoil biodiesel | Indonesia | Yes (due to methane extraction) | No (land was rainforest until 2009) | No |
| Soybean-1 | Soybean biodiesel | Brazil | Yes (low transport emissions because low-weight biodiesel is shipped, rather than bulky soybeans) | Yes | Yes |
| Soybean-2 | Soybean biodiesel | Processed in EU with soybeans from Brazil | No (emissions are too high due to transport emissions of bulky soybeans) | Yes | No |
| Soybean-3 | Soybean biodiesel | Brazil | Yes (low transport emissions because low-weight biodiesel is shipped, rather than soybeans) | No (land that is a designated protection area by the Fed. Govt. and producer cannot provide evidence that planning of soybeans did not interfere with protection purpose) | No |
| Corn-1 | Corn-based ethanol | EU | Yes (default value (49%) used with only applies to EU corn) | Yes | Yes |
| Corn-2 | Corn-based ethanol | USA | No (calculation shows that GHG savings are only 34% and EU default value cannot be applied) | Yes | No |

In summary, regarding the complete non-discrimination test, the GHG emission saving criteria and the land-use criteria contained in Article 17 of the Directive, in part, most probably violate Article I and III GATT due *de*

facto discrimination. This concerns the setting of default GHG emissions saving values (or rather the lack thereof), possibly the inclusion of transport emissions in the GHG emissions savings calculation and in particular the land-use criteria.

³⁹ Eisentraut A., *Sustainable production of second-generation biofuels - Potential and perspectives in major economies and developing countries*, Information Paper, OECD/IEA, 2010, p. 170.

In the alternative, consistency with GATT Article XI: Quantitative Restrictions

Alternatively, in the case that Articles I and III GATT do not apply, Article XI GATT would have to be applied. Article XI GATT contains a general prohibition on quantitative restrictions on importation of any product from any contracting party but does not apply to restrictions or prohibitions imposed by ‘duties, taxes or other charges’.

The financial support established by the Directive, in the form of *inter alia* tax exemptions, reductions or refunds or direct price support is a support for imported or domestic sustainable biofuels. Thus it is *not* a financial charge imposing a prohibition or restriction on unsustainable biofuels. Moreover, the meaning of ‘restriction on importation’ is not necessarily ‘limited to measures which directly relate to the “process of importation”’ and ‘might encompass measures which otherwise relate to other aspects of the importation of the product’. In other words, ‘any form of limitation imposed on, or in relation to importation constitutes a restriction.’⁴⁰ Based on these two considerations, the sustainability criteria generally fall under the scope of Article XI GATT.

The Directive 2009/28/EC does not contain an explicit restriction on the importation of biofuels. However, if a biofuel cannot fulfil the sustainability criteria, this has a significant restrictive impact on its marketability within the EU. Indeed, there is no incentive to use those biofuels unless their price falls below the price of fossil fuel, which is not yet the case.⁴¹ Thus, it amounts to a ‘restriction on importation’ through ‘other measures’. This finding also appears to be supported by the *Brazil-Tyres* case where a panel found that fines on the importation, marketing, transportation, keeping and warehousing of imported tyres constituted a restriction on importation.⁴²

Therefore, in the alternative, the Directive 2009/28/EC could be seen as a restriction on the importation of biofuels and would therefore violate Article XI GATT.

Article XX: Justifying measures otherwise incompatible with WTO law

Article XX provides the possibility to justify trade restrictive measures otherwise incompatible with WTO obligations if these are found to achieve certain greater policy objectives specified in paragraphs (a) to (j). Article XX contains two separate sets of requirements, namely those included in the various paragraphs, and those formulated in the introductory sentence of the provision, the so-called *chapeau*. According to WTO case law, the *chapeau*-test always follows the analysis of the specific paragraph.

Article XX reads in part:

‘Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

- (b) necessary to protect human, animal or plant life or health;*
- (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; ‘*

The various exemption clauses provided in the paragraphs are similar in that they all contain a three-fold necessity test whereby the importance of the value that is meant to be protected, the

40 Panel Report, *India - Measures Affecting the Automotive Sector*, WT/DS146, 175/R (adopted Apr. 5, 2002), para.7.257).

41 Commission Staff Working Document, accompanying document to the Communication from the Commission: *Renewable Energy Road Map: Renewable energies in the 21st century: building a more sustainable future*, Impact Assessment, 10/01/2007.

However, this view is challenged by the tension that exists between the sustainability criteria and the targets relating to share of energy from renewable sources. The Directive entails a necessary increase of EU imports due notably to the 10% biofuel target.

42 Panel Report, *Brazil-Measures Affecting Imports of Retreated Tyres*, WT/DS332/R (adopted Jun. 12, 2007), paras. 7.3 and 7.61

measure's contribution to achieve the value, and its level of trade restrictiveness need to be *weighed and balanced*.⁴³ In the case of Directive 2009/28/EC, paragraphs (b) as well as (g) could be applicable. Case law assumes that the requirements contained in paragraph (g) are considerably easier to meet than those in (b), thus rendering it more likely that the EU would invoke paragraph (g).

This is due to differing *necessity tests*. While paragraph (b) speaks about 'necessary to', paragraph (g) addresses measures 'relating to'. The first has been found to require a 'material contribution' and a 'genuine relationship of ends and means between the objective pursued and measure at issue'.⁴⁴ 'Relating to', on the other hand, has been found to be 'more flexible textually' and refer to 'substantial relationship' or 'reasonably related'.⁴⁵ However, both exemptions clauses provide for interesting arguments which are analysed below.

Provisional justification under paragraph (b)

Article XX (b) addresses measures *designed to protect life or health of humans, animals or plants*. According to the Directive's preamble, the sustainability criteria relating to GHG emissions savings were included with the objective of ensuring the reduction of GHG emissions through the use of biofuels in order to support the Directive's general objective, namely mitigating climate change. The land-use criteria partly overlap with this objective, but also concern the preservation of specific types of land and thus have

the protection of environment and biodiversity as an objective. These objectives clearly relate to the protection of human, animal, or plant life or health as climate change, polluted air and loss in biodiversity, including ecosystems, threaten the life and health of humans, animals and plants.

Also, the requirement that the criteria sufficiently contribute to the realization of these objectives appears to be met.⁴⁶ Renewable energy, including biofuels, is one available tool to reduce GHG emissions and thereby to mitigate climate change. However, this objective could only be partly achieved without the determination of GHG emissions saving criteria, as some biofuels do not actually guarantee emissions savings. This holds true for the general design of the GHG emissions saving criteria, the inclusion of transportation emissions as well as certain land-use criteria. For instance, wetlands, including peatland, have mitigation effects through their ability to store CO₂, and adaptation effects through their ability to store and regulate water. Due to the high carbon stocks of these lands, biofuels produced on them would never fulfil the GHG emissions saving criteria. Moreover, the land-use criteria also contribute to the preservation of specific types of land and thus biodiversity. This necessity of the sustainability criteria in terms of material contribution is also supported by the *Roundtable on Sustainable Biofuels Principles and Criteria for Sustainable Biofuel Production*, which encompass the sustainability criteria provided for in Article 17 of the Directive.

43 Appellate Body Report, *Brazil-Measures Affecting Imports of Retreated Tyres*, WT/DS332/AB/R (adopted Dec. 17, 2007), paras. 139-143.

44 Appellate Body Report, *Brazil-Measures Affecting Imports of Retreated Tyres*, WT/DS332/AB/R (adopted Dec. 17, 2007), paras. 145.

45 Appellate Body Report, *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (adopted Nov. 6, 1998), para. 141

46 *This does not mean that the sustainability criteria can actually ensure that the EU biofuel policy becomes an effective and efficient way to reduce GHG emissions. There are serious doubts, in particular about the cost-effectiveness of reducing GHG emissions through the use of first-generation biofuels (see also "conclusion")*.

Roundtable on Sustainable Biofuels (RSB) Principles and Criteria for Sustainable Biofuel Production

The Roundtable is an international initiative bringing together farmers, private companies, non-governmental organizations, experts, governments, and inter-governmental agencies from different countries, all concerned with ensuring the sustainability of biofuels production and processes. As to the Principles and Criteria, they have a normative value and are effective since 1 January 2010. The content of the RSB Standard will be implemented through a certification system applicable to biofuel operations throughout the world.

Regarding the **land-use criteria**, Principle 7 of the RSB standards addresses the issue of biodiversity as a conservation value in specifying that biofuel operations shall avoid negative impacts on biodiversity. This is in line with the first land-use criterion in Art. 17(3) of the Directive. Second, the RSB Guidance provides as example of conservation values: Peatlands and primary forests, two land-use criteria also used in Directive 2009/28/EC (Art. 17(3) (a), (5)). Third, “wetlands” and peatlands in Art. 17 (4) (a) and (5) of the Directive are covered by Principle 9 of the RSB standards, which specifies that biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources. With respect to the **emissions saving criteria**, the RSB standards include the principle that biofuels shall contribute to climate change mitigation by *significantly* reducing GHG emissions as compared to fossil fuels (Principle 3). It is worth mentioning that Directive 2009/28/EC is provided as an example in the *RSB Guidance* on the Principles and Criteria on GHG emissions reductions. Concerning the share of emissions saving, a pilot test will be done taking into account GHG emission reduction thresholds set at 10%, 40%, 70%, that is to say shares comparable to those under the Directive (35% by 5 December 2010, 50% in 2017, 60% in 2018). Moreover, Principle 10 stipulates that air pollution from biofuel operations shall be minimized along the supply chain.

This high level of contribution is essential for the *weighing and balancing test* as the Directive, though not imposing an import ban, *inter alia*, prevents non-sustainable biofuels from being marketable in the EU due to their ineligibility for the financial support. This rather highly trade restrictive measure needs to show a contribution that is more than marginal in order to be justified.⁴⁷ The contribution outlined above, appears to meet this requirement. Moreover, concerning less trade restrictive alternatives, no such measures seem to be available as the sustainability criteria, as outlined above, are essential for ensuring that the Directive’s objectives are achieved. This is particularly true since any such alternative would have to meet the same level of desired protection with respect to the right pursued and must be reasonably available, that is it must not be unduly burdensome. At this stage it is important to keep in mind that the alternative means are directed at the sustainability criteria

that ensure the effectiveness and sustainability of the Directive but not the Directive as such. *In contrario* the question is not whether GHG emission can be achieved with alternative less trade restrictive measures than the decrease of fossil fuel consumption as a direct consequence of the increase of biofuel consumption.

[Provisional justification under paragraph \(g\)](#)

Alternatively, the measure could also be justified under Article XX paragraph (g) *relating to the conservation of exhaustible natural resources*. In 1998 the Appellate Body found that ‘exhaustible natural resources’ not only relate to non-living resources but also ‘living species, though in principle, capable of reproduction, and in that sense, “renewable”’.⁴⁸ Moreover, in *US-Gasoline* it ruled that ‘clean air’ qualifies as an exhaustible natural resource as it could be exhausted by pollutants such as those emitted through the consumption of gasoline.⁴⁹ The reduction of GHG

⁴⁷ A *contrario* of: Appellate Body Report, *Brazil-Measures Affecting Imports of Retreated Tyres*, WT/DS332/AB/R (adopted Dec. 17, 2007), paras. 150-151

⁴⁸ Appellate Body Report, *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (adopted Nov. 6, 1998), para. 129.

⁴⁹ Panel Report, *United States - Standards for Reformulated and Conventional Gasoline*, WT/DS2/R (adopted Jan. 29, 1996), para. 6.36.

emissions, mitigation of climate change that endangers humans, animals and plants, and the conservation of biodiversity through the protection of highly biodiverse land and other ecosystems, thus clearly fall within the paragraph's substantive scope.

Moreover, as the considerably higher requirement of contribution contained in paragraph (b) is already met, one can assume that the measure also meets the requirement of 'reasonable relationship'.

The measure's extraterritorial effect

As the sustainability criteria have extraterritorial effect, the question arises whether Article XX implicitly contains a jurisdictional limitation. In that case, the possible justification provided for by Article XX would not be available to the sustainability criteria that have effects outside the territory of the EU. An explicit answer to this is thus far missing. In the *US-Shrimp* case, however, the Appellate Body noted a *required nexus* between the object of protection and the territory or jurisdiction of the regulating country. It further found that this was given between the endangered sea turtle species aimed to be protected by the US' measures subject to the case and the US. This was because these species were known to occur in waters over which the US exercises jurisdiction, and, more importantly, these turtles were globally endangered.

Under the Directive 2009/28/EC, the objects of protection are the atmosphere and various natural resources and species. Part of the atmosphere is under the EU Member States' jurisdiction and GHG emissions are a global danger for the atmosphere. Moreover, some natural resources and species protected by the Directive occur in territories over

which the EU Member States have jurisdiction, including certain lands protected by the land-use criteria. Finally, the Convention on Biological Diversity,⁵⁰ to which 157 States are parties, including the EC, has as objective the conservation of biological diversity and the sustainable use of its components.⁵¹ Therefore, applying the *US-Shrimp* criteria to this case, it may be concluded that a *sufficient nexus* exists between the objects of protection occurring in the EU and the EU Member States.

The chapeau of Article XX

The Article XX GATT *chapeau* is designed to prevent the abuse of the exceptions and in that regard addresses the manner in which the measure at issue is 'applied'.⁵² A measure violates the chapeau if the following three conditions are given: (1) There is differential treatment; (2) that differential treatment is arbitrary or unjustifiable or a disguised restriction on international trade,⁵³ and (3) it is differential between countries where the same conditions prevail.⁵⁴

Regarding the Directive, different treatment, i.e. discrimination, occurs between different types of biofuels and/or different producers. But producers in different countries that produce the same biofuels under the same conditions would not be treated differently (apart from possibly with regard to different transport emissions). However, Article XX only concerns *unjustifiable or arbitrary* discrimination which must have been foreseen and is not *inadvertent or unavoidable*. Moreover, the *nature and quality* of this discrimination must be different from the discrimination in the treatment of products which was already found to be inconsistent with one of the substantive obligations of the GATT.⁵⁵

50 For an analysis of the relevance of other rules of international law to the interpretation of the WTO agreements, see Panel Report, *European Communities - Measures Affecting the Approval and Marketing of Biotech products*, WTO/DS291/R, WTO/DS292/R, WTO/DS293/R (adopted Sept. 27, 2006)

51 *Convention on Biological Diversity*, concluded at Rio de Janeiro on 5 June 1992, Art.2.

52 Appellate Body Report, *United States - Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R (adopted May 20, 1996), page 20: *The chapeau by its express terms addresses, not so much the questioned measure or its specific contents as such, but rather the manner in which that measure is applied. It is, accordingly, important to underscore that the purpose and object of the introductory clauses of Article XX is generally the prevention of "abuse of the exceptions of [what was later to become] Article [XX]."*

53 Appellate Body Report, *United States - Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R (adopted May 20, 1996), page 23: *"Arbitrary discrimination", "unjustifiable discrimination" and "disguised restriction" on international trade may, accordingly, be read side-by-side; they impart meaning to one another.*

54 Appellate Body Report, *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (adopted Nov. 6, 1998), para. 150

55 Panel Report, *United States - Standards for Reformulated and Conventional Gasoline*, WT/DS2/R (adopted Jan. 29, 1996), p.29.

In the light of the previous discussions, the inclusion of transportation emissions in the GHG emissions savings calculation as well as the land-use requirements appear to be justified under Article XX. Only the omission of default values for certain biofuels, first and foremost US-produced corn ethanol, cannot possibly be justified by Article XX, as there is no reasonable explanation for this different treatment, thus the distinction appears arbitrary and unjustified.

The latter issue, however, does not render the whole sustainability criteria unjustified - by providing additional default values, the EU could bring its Directive into compliance. In that regard, the Directive appears to be largely WTO compliant.

Conclusion

Overall, the Directive is mostly in line with obligations under the GATT Agreement, though certain elements could likely be considered a violation of the WTO's non-discrimination principle under both Articles I and III. In the alternative, non-sustainable biofuels are subject to a restriction on importation within the European Union, which is a violation of GATT Article XI.

However, most of these measures can be justified under the exception clause provided for by Article XX. We find that the emissions saving criteria and land-use criteria are consistent with both Article XX (b) and (g) and are also in line with the chapeau of Article XX. We only see a minor potential violation of Articles I and III that may not be justified under Article XX, namely the selective provision of default values for only some biofuels, but this is likely to change as soon as the EU provides additional default values. Moreover, it does not render the whole Directive incompatible with WTO law.

Legal arguments set aside, it might be politically speaking illogical for the EU to put in place a policy

that obliges Member States to ensure a significant increase in biofuel use for the purpose - among others - of protecting the environment, without being able to ensure that the policy actually does help the environment. The use of biofuels that may be even more harmful to the environment than fossil fuels obviously makes little sense, and even less so if one considers that consumers pay more for biofuels than for fossil fuels.

Even with the sustainability criteria, there is no guarantee that the EU's biofuel policy is an effective and efficient way to reduce GHG emissions. The so-called 'indirect land-use change' (ILUC) due to the expansion of biofuel use is one possible detrimental effect. Although the land used for biofuel 'made for EU' may be 'sustainable,' the increased biofuel demand from the EU could still lead to more destruction of rainforest elsewhere, with biofuel produced on such land being shipped to other destinations. In addition, ILUC can occur due to global changes in agricultural production as a consequence of the increased cultivation of feedstock for biofuel production in the EU and thus increased demand for imported agricultural food products. Additional sustainability criteria to prevent ILUC may be added to the Directive at a later stage,⁵⁶ but it is doubtful whether, particularly global ILUC (thus not country by country ILUC) can be effectively tackled. Such criteria may also be more difficult to justify under WTO law, depending on how they are defined.

Biofuels have a tremendous potential in the long-run, in particular once more efficient types of biofuels can be produced on a commercial basis. The use of current first-generation biofuels could, however, have little positive or even negative implications for the environment or for food production and is very costly. The EU may be better off rethinking its ambitions with regard to such biofuels, despite the fact that the sustainability criteria do not appear to violate WTO rules.

⁵⁶ According to Art.19(6) of the Directive, the Commission shall submit a report to the European Parliament and to the Council reviewing the impact of ILUC on GHG emissions and addressing ways to minimize that impact. In that respect, the Commission may also submit a proposal.

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