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GREEN PROTECTIONISM IN THE EUROPEAN UNION:
How Europe's Biofuels Policy and the Renewable Energy Directive Violate WTO Commitments

By Fredrik Erixon
Fredrik Erixon (fredrik.erixon@ecipe.org) is a Director and co-founder of ECIPE.

Preface by Roderick Abbott

www.ecipe.org
info@ecipe.org Rue Belliard 4-6, 1040 Brussels, Belgium Phone +32 (0)2 289 1350

EXECUTIVE SUMMARY

- This paper examines the trade-policy consequences of current approaches in the European Union towards biofuels. The EU uses a broad range of measures to subsidise the production of biofuels in Europe and to protect them from foreign competition. It is one of the biggest manifestations of "green protectionism".
- Green protectionism is not about environmental policy itself, but about adding non-environmental objectives that are discriminatory, or overly trade restrictive in intent and/or effect, to environmental policy.
- Tariffs and subsidies have been part of the tool box for some time. Now the EU is also about to adopt a technical regulation in the Renewable Energy Directive that runs the risk of effectively cutting off market access for foreign competitors of European rapeseed oil. Unless it is changed, this measure is also at serious risk of running afoul of Europe's obligations in the agreements of the World Trade Organisation (WTO).
- Europe's tariffs on biofuels vary. Ethanol is protected with tariff equivalents between 39% and 63%. Biodiesel is less protected by tariffs; vegetable oils for biodiesel production have tariffs at 3.2%.
- Biofuels production in Europe is heavily subsidised. Support has also been increasing in the past years and today stand at approximately EUR4 billion. Another way to look at subsidies is that every litre of ethanol consumed in Europe gets 0.74 EUR and every litre of biodiesel 0.5 EUR.
- The *effective* rate of assistance to biofuels (taking account of all measures of support) adds up to more than 250% for ethanol. Biodiesel, and especially rapeseed crops, have lower effective rates of assistance (up to approximately 60 percent).
- There has been a significant increase in biofuel production in Europe. Biodiesel production in Europe grew by a factor of 20 between 1998 and 2008. European producers have also invested heavily in future capacity. Production capacity of biodiesel in 2008 was 7,755,000 tonnes, while the capacity for 2009 has been estimated at 20,909,000 tonnes. There is a significant overcapacity in biodiesel production, in particular, in Europe. Many biodiesel producers have difficulty in making sufficient returns.
- The Renewable Energy Directive recently adopted in the EU sets out a new agenda for shifting away from fossil fuels. It directs the EU to adopt technical regulations and so-called process and production method standards. Producers that do not meet those standards will not qualify for the excise-tax exemption or the national targets that EU member states should comply with. A sustainability criteria used in this technical regulation says that the greenhouse gas saving from a new entity of biofuels entering into the EU market should be at least 35% to qualify for the target and tax preference.
- The Renewable Energy Directive is inconsistent with several core GATT articles. It violates GATT Article I rules on "like products": any advantage given to one product must also be given to like products. The Renewable Energy Directive is also inconsistent with GATT Article III and Article XI on national treatment. The Agreement of Technical Barriers to Trade is likely to present difficulties to the implementation of the Renewable Energy Directive.

- The General Exception provision in GATT – Article XX – is unlikely to provide legal cover for the Renewable Energy Directive in the event it will be used to discriminate between like products. Interpretations of case law suggest the measure would be too trade-restrictive and that it would run afoul of chapeau requirements. The revealing structure of the regulation strongly suggests that criteria have been chosen somewhat arbitrarily and in light of environmental conditions in the EU biofuels sector.
- When there is a direct competitive relationship between domestic and foreign products that might be changed in favour of the domestic product due to a new regulation, it is even more difficult to square a regulation with GATT rules on national treatment and non-discrimination.
- The Renewable Energy Directive will especially hit foreign competitors to Europe's rapeseed oil producers. Such oils are less protected by tariffs than ethanol and are less subsidy-intensive. Producers of rapeseed oil will need other forms of protection to avoid tougher competition from foreign producers. The Renewable Energy Directive, if used to cut off effective market access for foreign producers of foreign vegetable oils, will give them such protection.
- EU policies towards biofuels are costly, protectionist and now at risk of violating EU obligations in the World Trade Organisation. These policies slow down the shifting away from fossil fuels in Europe. EU biofuels policy has become an industrial policy rather than environmental policy.

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PREFACE

We are most of us familiar with Climate Change and Global Warming – that at least was a major achievement of Al Gore's film "An Inconvenient Truth". With the imminent conference in Copenhagen, now elevated to a 'real' Summit meeting, there has been a tidal wave of articles in recent weeks, and we have become more aware of the work of the IPCC over the last twenty years and more. At the same time friends of ECIPE, which is a trade policy think tank, will know about trade policy and the multilateral trading system established within the WTO.

It is the particular merit of this paper that these two themes have been joined together through a study of the EU policy for Biofuels which is increasingly presented as a contribution to the first (reduction in use of fossil fuels and reduced emissions of greenhouse gases) and which will potentially run afoul of the second (the trading system).

"The structure of support and protection [for Biofuels] is not economically sustainable. It is rather close to economic madness to pursue the sort of self-sufficiency or industrial policy ambitions that have guided EU policy towards this sector." With these words the paper's thrust is clear: it is a critique of an agro-industrial policy which was first conceived in the context of CAP reform towards a more market oriented agriculture (and a policy that employs the classical instruments of the CAP – production support to ensure survival in the domestic market and a 'competitive' position vis-à-vis imported products) and which is now increasingly justified as being helpful (desirable, essential) for environmental purposes.

In fact, it is the potential for damaging trade measures in the climate change context that interests me the most. I am not a scientist, capable of dissecting the arguments for and against the global warming proposition, and I therefore accept the consensus view that the world is getting warmer, that man-made emissions of gases are mainly responsible, and the warming process will continue and probably accelerate unless we act now. Equally, I take the arguments that are critical of the EU's support policy for biofuels (as unlikely to be economically sound – and very costly compared with alternatives such as using cheaper imported products) as likely to be valid given the track record of the CAP.

So, the emphasis in the paper, especially in the opening pages and then again in the analysis of whether EU policies would be found to be consistent with the WTO rules, is for me an important contribution to a broader debate. In the biofuels case there are subsidy and standards issues connected to existing policy and to the Renewable Energy Directive; and these are specific to this case. However, the broader field in which across-the-board tariffs or VAT manipulations might appear is relevant to any trade measures that may be taken if a new 'Copenhagen Treaty' is agreed to replace Kyoto and if countries then act to ensure that it is enforced by others in a "fair" way.

The quotation marks on 'fair' are intended to flag that what is fair is in the eye of the beholder. One benchmark would be whether the enforcement is fair and adequate to achieve the aim of the Treaty, that is, to oblige countries to reduce their emissions of greenhouse gases (GHG). As the paper tells us, this aim could be undercut by carbon leakage or by emission credits which are available at too cheap a price. What is fair in this area of action will no doubt be the stuff of controversy; this needs to be the principal benchmark, nonetheless.

Unfortunately, it is only too likely – to judge from the hearings in the USA on House or Senate climate change bills, and indeed from exchanges in the European Parliament – that the benchmark will shift to the question of 'the level playing field' and industrial competitive-

ness. This may well be a legitimate policy concern but one must hope that it will be tackled with an eye to what is consistent with the rules of the trading system and that too many assumptions are not made that 'measures for the good of the planet' are a permissible exception to the rules or perhaps that 'you can get away with anything under the umbrella of Article XX GATT'.

Policy makers would be wise to examine their options in this area carefully. Some trade measures will clearly be illegal and would risk exploding the system: this would happen if additional tariffs were applied ONLY to e.g. China and India (which would be discriminatory and contrary to tariff commitments). Others (indirect tax measures) would equally be very difficult to square with the national treatment principle whereby domestic goods and imported goods should receive equal treatment. And, going further, the whole area of jurisprudence in relation to Article XX – as it has been developed in recent WTO dispute cases by the Appellate Body –should be carefully studied. In very broad terms, as the paper says, the *design* of the measures - which will be the best indication of the intention behind them – will be crucial: if there is a whiff of competitiveness concerns, it will surely be judged illegal, but if it can be credibly defended as an environmental measure and nothing more, then it may pass.

From the point of view of those who would like to see tough commitments on reducing emissions, and tough enforcement of them by all parties, this is bad news. Trade measures have been a strong enforcing element for international commitments. But there is a little good news too: measures designed to achieve environment goals effectively may indeed be persuasive so that the WTO (panels and Appellate Body) could conclude that an exception under Article XX is justified. Given the depth of public concerns on climate change, and the important consequences of real effective policies to cut use of fossil fuels, the WTO will surely be looking for a way to accommodate measures, without compromising basic WTO principles. If measures are strictly motivated for environmental purposes, the door is half open but EU biofuels policies may not be the first candidate to pass through.

Roderick Abbott

Formerly Deputy Director General of the World Trade Organisation and the European Commission

1. INTRODUCTION

Trade and agricultural policy have never been something for soft-skinned men and women. The power of accurate observation, to paraphrase the Irish writer George Bernard Shaw, in the world of trade and agricultural policy has inevitably lead one to cynicism. No more so than in the current debate over trade, climate change, and biofuels. What started as a genuine attempt to substitute fossil fuels with biofuels has now become a grand story of industrial policy, protectionism and political naivety with few, if any, references to the professed environmental goals.

This paper stands at the nexus of trade and climate change policy. At the centre of the current debate is the threat of some form of a punitive and carbon-based trade measure to be introduced against countries who do not sign up to carbon-reduction policies that are acceptable in the eyes of Europe or the United States. Such threats are not productive. Nor are they beneficial to serious efforts to combat climate change. The main economic effect of a trade barrier is that the welfare cost of greening the economy becomes higher. But they have an alluring effect on policy makers that are hesitant to the benefits of modern trade and attach little value to the rules of the World Trade Organisation (WTO). They are also expedient excuses for those who are interested in getting protection from foreign competition and have no moral objections to corrupt environmental policies with protectionist ambitions. However, such a measure would create very strong reactions in other countries, very likely leading to trade wars.

Hidden from the grand debate over trade and climate change are other and more low-intense forms of green protectionism linked to the ambition of reducing carbon emissions. Europe's policy for biofuels is one example. Reducing the use of fossil fuels is a good ambition. Using it as a pretext for industrial policy, however, is something quite different. It inflates the costs of shifting away from fossil fuels. It may also, as with the case of Europe's Renewable Energy Directive, run counter to the trading rights of other countries.

This paper examines the trade-policy consequences of current approaches to biofuels. The paper is not concerned with possible adverse environmental consequences of policy aimed at switching to biofuels. Such consequences have been reported. This paper, however, is addressing possible trade-policy implications of the already established policy.

At the centre of the paper are current measures used by the European Union to stimulate domestic biofuels production and keep foreign competitors away from the European market. These measures are comprised of tariffs and subsidies. A new measure is seriously about to manifest itself in policy: biofuels standards that are discriminatory in intent and effect.

The next chapter offers a broader introduction to the nexus of trade and climate change. Subsequent chapters will examine in detail the EU's policy towards biofuels and how they have developed till now. Then follows a chapter on standards and their effects on trade. The paper ends with conclusions and recommendations for policy makers – in Europe and beyond – that are interested in ensuring Europe's policies are consistent with its WTO obligations.

2. CLIMATE CHANGE, BIOFUELS AND TRADE POLICY – A CONTEXT

Biofuel policy is not a new thing. But as countries are designing policies to shift energy consumption away from fossil fuels, biofuels have taken centre stage. In the context of trade

policy, however, it is a mistake to view current approaches to biofuels as new issues. In many ways they rather resemble issues that have been occupying the trade-policy community for decades.

The basic story is simple. For ages the Western and developed world have subsidised agriculture and protected it from foreign competition by high tariffs. Export of agricultural produce from other countries, especially the developing world, has been artificially low as market access in the rich world has been restricted and as developed-world subsidies have distorted world-market prices. The economics case against agricultural protectionism has been made for ages, too. And policy has improved. But the agricultural sector in Europe and North America remains heavily protected.

Agricultural lobbyists are now attempting to transform the debate by putting environmental concerns, especially over climate change, at the centre. They want the tariff protection and the subsidies to continue, but they are motivating them by a new set of arguments. European and American policymakers have heeded some of their calls – especially in the field of biofuels. Europe in particular has designed biofuel policies with breathtaking ambitions on the use of economic planning, subsidies and protectionism. It is a policy that has failed to reach its economic and environmental ambitions. It has also been tremendously costly to European taxpayers and consumers. Now, however, Europe has decided to usher policy farther in this direction.

In short, Europe wants to develop its own biofuel production. Since it is not competitive on the world market, Europe gives generous subsidies and protects domestic producers with tariffs. It is also about to adopt a so-called "product and processing method" regulation that risks preventing biodiesel from other countries, especially palm oil, from having access to the European market and European tax exemptions for biofuels.

Europe is not alone in attaching industrial-policy purposes to its environmental policy. It is a practice shared by other governments – principally in the developed part of the world. The Global Trade Alert, a group of economists tracking trade measures taken amidst the global economic crisis, recently reported a clear increase in what can be called "green protectionism".[1] Such protectionism is not about environmental policy itself, but about adding non-environmental objectives that are discriminatory, or overly trade restrictive in intent and/or effect, to environmental policy.

Green protectionism often manifests itself in what trade economists call a Technical Barrier to Trade (TBT) – part on the family of Non-Tariff Barriers (NTBs) – or a Sanitary and Phytosanitary measure (SPS). NTBs and SPS measures have been widely used in the past year. Of the newly introduced trade measures, NTBs and SPS measures have been the fifth and sixth most used measures, according to the Global Trade Alert.[2] Notifications to the World Trade Organisation (WTO) suggest there might be more measures that have been adopted or are on the way.[3] The number of concerns reported by members of the WTO has risen steadily in the past year. In 2008, 33 new TBT concerns were raised.[4] Almost a third of the new concerns raised were in reference to measures taken by the European Union.[5] All of them do not concern environmental regulations, but most of them are in one way or the other associated with a technical regulation or a standard with an environmental purpose.

CLIMATE-CHANGE, TRADE-RESTRICTIVE MEASURES AND TRADE LAW

THE REPORTED MEASURES, however, are insignificant in comparison with the potential effects on trade coming from climate change legislation in different parts of the world. Regulations and standards typically affect many countries, but when they have a discriminatory intent or effect, the effect on aggregate trade levels is typically not considerable. Climate-change policies with a negative (restrictive) trade component, however, could have considerable effects on world trade, supply chains and commercial strategies behind current trade and investment flows.

In the European Union process of establishing in 2005 the Greenhouse Gas Emission Trading Scheme (ETS), several Member states and interests called for restrictive trade measures to be built into EU policy. These demands increased in the recent upgrade of the ETS and representatives of the EU and European governments have repeatedly issued threats against other countries that they run the risk of facing a carbon tariff in the EU market unless they take similar measures to reduce the emission of carbon or cap the growth of carbon emissions. The EU has set out to revise its policy in light of other countries' policies in 2011 and beyond. A negative trade component is also integrated in the cap-and-trade bill that was passed by the US House of Representatives in 2009.

Behind such measures, or the call for them, are the fact that some countries have not signed the Kyoto Protocol, or in the Protocol not agreed to any actual reductions of their carbon emissions (only so-called Annex 1 countries have committed themselves to caps and reductions). This has sparked fears that Europe's or other countries' own reduction of carbon emissions may have little effect on global emission as carbon-intensive production could move to other countries with less stringent regulations. Another fear is that producers will be disadvantageously positioned in global competition when a country undertakes efforts to reduce emissions, which inevitably increases costs, while others are not.

The first concern, popularly called "carbon leakage", implies that the environmental effect of domestic efforts will be diluted; a country will pay the cost for carbon reduction but to little environmental use as production will move to another country with less restrictive regulations. The second concern implies that firms will be less competitive, at home as well as abroad; costs for home producers are rising but not for their foreign competitors. Therefore, there will be negative consequences for output and employment in the country that imposes stricter reductions.

The solution, according to some, is to introduce "carbon tariffs" or equivalent measures that increase the cost of products imported from a country with no or a less restrictive carbon-reduction policy. Others, like Nobel laureate Joseph Stiglitz, have proposed using trade defence instruments against import from countries with no policy for carbon reductions. An alternative solution, following the VAT system, is that an exporting company in a country with a cap-and-trade scheme also can deduct the costs for buying a carbon allowance when the company sells the product on a foreign market.

Would such measures be consistent with core WTO rules? It depends on the design of the measure, and it would be a matter for the WTO dispute-settlement system to examine. Any advanced answer can only rely on speculation and interpretation.

One of the alternative and suggested manifestations of a "carbon-tariff scheme" likely to be ruled against is an across-the-board tariff on all imports from all countries that do not sign up to an international agreement to reduce carbon emissions or undertake "acceptable" meas-

ures. Such a policy would probably be considered as punitive and overly trade-restrictive. It is also based on very disturbing environmental-efficiency grounds.

It would run counter to core articles of the GATT, which will be discussed later, and would probably not qualify as an exception under Article XX. GATT Article XX, the General Exception article, provides a basis for exceptions to other GATT articles on the grounds of environmental (and other) concerns. But a review of possible grounds for exceptions (paragraph b and g), the chapeau and decisions in cases when this article has been invoked, suggests clear evidence is needed that measures have a demonstrably environmental effect and that measures are proportionate and not excessively trade restrictive.[6] Clearly, an across-the-board tariff – which would damage trade and trading rights severely – would not pass such a test.

Another alternative unlikely to be authorised by the WTO is the proposal suggesting that anti-dumping or countervailing-measures should be used against countries without an acceptable policy for reducing carbon emissions. A good is considered to be "dumped" when the price is less than the "normal value". Normal value, however, is not defined by the price of a good produced in the importing country, but in the exporting country. Thus, to qualify as dumping it has to be demonstrated that the export price is lower than the domestic price. Such an effect will not occur because a country has not undertaken carbon-reducing efforts.

A countervailing measure, however, is based on the subsidisation of an export good – in this case: the subsidisation of the production that allegedly occurs when a country has not taken efforts to reduce carbon emissions when others have. Yet, also such a measure is unlikely to be authorised by the WTO. The reason is that to demonstrate the presence of a subsidy, the complaining party needs to benchmark the export price (of the non-carbon reducing country) against another price. In such cases, the WTO Appellate Body has interpreted relevant GATT articles in a way that points to the domestic price (in the non-carbon reducing country) of the same good as the benchmark. Since the absence of carbon-reducing efforts will not affect the relation between domestic and export prices, it cannot be evidenced that there is a subsidy involved.

The alternative with the best chance to stand the test of WTO rules is a border mechanism in some form that selectively introduces the equivalent of a tariff against export from another country on the basis of its carbon content. Such a proposal could theoretically be built on GATT Article XX, the outcome of a particular case brought to the GATT, or possibly be tailored in another way that is conducive to basic GATT rules. However, the chances that such a border measure would be authorised remain low. After all, such measures would run counter to the basic GATT principles of "like products" non-discrimination. When practical aspects are taken into account – such as the current motivation for them (fears of falling competitiveness rather than environmental concerns), possible ways to design such a policy to make it administrable, and the desire to make them economically efficient, et cetera – this conclusion is enforced. This is especially the case if such a measure also should be tailored to respond to differences between firms within a country, which is needed if the adoption of carbon-reducing technologies is intended to be stimulated by a carbon-based trade measure. Even scholars that wish to find a way to square carbon-based trade measures with GATT rules have great difficulty in finding the legal basis.

Let us consider this case a bit further as there are principal aspects of interests also to possible measures in the field of trade, climate change and biofuels. What are the core principal aspects?

Firstly, any measure would have to demonstrate that it protects the environment and does it in a least trade-restrictive manner. This means that a measure could probably not be introduced on the grounds of "levelling the playing field" in terms of comparative cost and competitiveness; the environmental intent has to be at the centre. It is also likely that a rational connection or a substantial relationship, to follow previous interpretations of Article XX, between the measure and the environmental effect has to be established. If this is required, any government that has introduced a carbon-based border tariff or equivalent will be at pains to establish such a connection. There are several obstacles. One is that current measures such as cap-and-trade do not introduce equal costs on all domestic production of a particular good. Companies have to obtain allowances for emissions that exceed certain levels. In Europe, these levels vary between countries. Furthermore, defining the size of carbon leakage in sectors that prior to any carbon-reduction measure have experienced increased trade and relocation of production, driven by simple trade economics, is not an easy task. It will be more of an art than a science.

Establishing a rational connection is of even greater concern from the vantage point of policy efficiency: achieving the target of reducing carbon emissions globally. To have a deterring or persuasive effect, tariffs would have to be so high that it would border on economic madness to introduce them. But even in such a scenario there is not much leverage in the tariff. Assuming the EU would introduce a tariff covering sectors that today have to buy extra emission allowances, the tariffs would challenge imported goods for which the EU's share of output (the import of the EU as share of total production of the good in the exporting country) in other countries and sectors of concern (e.g. cement, steel, pulp and paper, et cetera) are not sufficiently high to enable the EU to exercise influence on other countries' choices. Of total iron and steel production in China, for instance, export to Europe only represents ten percent of total production. There is no economic rationale in introducing a carbon emission policy which enables China to export "duty free" to Europe if it simultaneously increases the cost for the 90% of production that is not consumed in Europe.

The EU would also have to take account of the fact that firms within an exporting country have different production technologies and do not emit equal amounts of carbon. For a trade measure to be efficient, the EU must develop a method to *exempt firms which behave in the way it desires*. A key question, therefore, is if a trade measure treating companies from the same country unequally could be squared with the WTO and key GATT articles of non-discrimination? The answer is most likely no.

Secondly, there would have to be established a reliable measure to determine which countries, or which firms within a country, should be faced with a tariff. The absence of carbon-reducing commitments in an international agreement, like the Kyoto agreement, could hardly be squared with WTO rules if it is used as the legal motivation for establishing a tariff. A country that does not sign might still emit much less than the country that imposes the duty. A material basis on which to act upon must be established. What could such a basis be? And how could it be translated into a reliable measure? It is easier said than done to design such a measure. Practical questions would have to be answered: what is the carbon intensity in a product or in a production methodology? Should the source of energy used in the production be accommodated – and how can we distinguish between actual energy sources used in the production?

This is not only a practical matter; it is also of importance when comparing the "likeness" between domestic and foreign goods. Likeness, or "like products", is a central concept to

WTO jurisprudence. It is set out already in GATT Article I and states that "any advantage ... granted by any Member to any product originating in ... any other country shall be accorded immediately and unconditionally to the like product originating ... in all other Members."

What would be necessary to pass this test? Would a country need to determine the carbon "footprint" in other countries' production? And what part of the production should be accounted for – is it only production *methods* or should other parts of the production, like travel to and from work, also be accommodated?

The implications of these choices are substantial: if it is only production methods that should form the basis of a tariff decision, then an analysis could suggest an EU tariff against China or a selection of producers in some of its sectors. However, if all aspects of the production are accounted for, the conclusion could be that China should introduce tariffs against the EU or some firms in the EU.

In summary, carbon-based tariff measures would be costly, difficult to administer, and most likely not consistent with WTO obligations. To be effective and persuade other countries or firms to adopt carbon-reducing policies or practices, a carbon-based trade measure needs to be drastic. Since countries produce more for the home market than for export, countries or firms generally are not likely to respond to weak measures.

The more drastic a measure is, the more it would be costly for the country that imposes the tariff measure. There is a direct relationship between potential impact on the policy choices of other countries, and the cost to the country itself of its measures. It is not only consumers that would be negatively affected by the introduction of a carbon-based trade measure. Producers would also be affected as they import input goods for their production. These inputs comprise a significant portion of the total import in Europe and the United States. Import tariffs would also affect the competitiveness of their firms on international markets.

Furthermore, drastic measures are not likely to be legal in the eyes of the WTO. They would violate basic WTO rules. In the event that such measures are ruled against by the WTO, other countries will be authorised to retaliate. The environmental impact of weak measures also needs to be evidenced in the highly likely event that another country takes a country to the WTO for the introduction of a carbon-based tariff measure. It would be difficult to legally defend such a measure on environmental grounds. Arbitrary assessments will have to form the basis of the coverage as well as the level of a tariff.

STANDARDS AS AN ALTERNATIVE ROUTE TO PROTECTION

Carbon-based tariff measures to correct alleged carbon leakage, or as tools to persuade countries to reduce carbon emissions, are, from the vantage point of trade and economics, ineffective measures. Yet they are appealing to industries that have other motives than the environment in mind when approaching policy. Such measures could be of great benefit to companies that find themselves in stiff competition with foreign firms.

Similar benefits, however, could be achieved by trade-restrictive measures that are less overt and confrontational than tariffs. Any government considering a carbon-based tariff measure knows it runs a significant risk of being taken to the WTO for dispute settlement proceedings. Furthermore, such governments also understand that it would be accused of starting a trade war if it introduces carbon-based tariffs. This will dampen the instincts for a tariff-based option. It has already done so in Europe and the United States. Political leaders also understand

that there is a big industrial community that would be severely damaged by such a policy; hence, there are 'material' factors balancing the protectionist instinct.

Yet there are less overt and confrontational trade restrictions available to governments that are intent on imposing trade barriers to correct for cost disadvantages. Measures such as subsidies and standards can achieve a similar, or even greater, trade-restrictive effect as a tariff. For the protectionist-leaning government, such measures are probably more appealing because there are fewer and weaker disciplines on subsidies and standards (especially in the agri-sector) than there are for tariffs. Hence, by taking such measures you are less likely to be ruled against in dispute settlement. This is not to say that subsidies and standards cannot violate WTO agreements. Clearly, they can. But other governments are less likely to take a country to court for its standards or subsidy policy.

Subsidies and standards are costly for the country that introduces them. They will also have a discernable effect on trade – indeed, often such measures have a greater effect on trade that is covered because tariffs are generally low and exporters can account for them in their pricing strategy. It is often difficult to estimate the full cost of a standard – or the market effect by the introduction of a subsidy.

Europe's biofuels policy is an example of how strategic trade policy has moved away from tariffs towards subsidies and in the direction of standards. The next chapters will examine the design of Europe's policy towards biofuels.

3. EUROPE'S POLICY FOR BIOFUELS

The policy for biofuels in the European Union rests on three key components. Firstly, the European Union and its member states give subsidies to production of biofuels within its jurisdiction. There are several forms of subsidies, ranging from support to research and development (R&D) to direct payments under the Energy Crop Scheme. Another form of subsidy, even if indirectly, is the excise-tax exemption for biofuels. Secondly, EU biofuels producers receive market support in the form of tariffs on import of biofuels from other countries. Thirdly, the EU has imposed regulations that operate as barriers; e.g. prerequisites for a product to be allowed on the EU market or be eligible for the excise-tax exemption, such as fuel quality standards and the recent Renewable Energy Directive.

This policy is based on the political ambition to switch from fossil fuels to biofuels. But this is far from the only motivation for the biofuels policy, let alone its concrete design. There are two other central motivations: preserving the subsidies in the EU's Common Agricultural Policy (CAP) while reforming the system of subsidies in Europe; and protecting European biofuels producers from more efficient producers abroad.

Increasingly, payments under the Common Agricultural Policy have been targeting biofuels – especially subsidies to cereals and rapeseed, the most common crops in Europe's production of biofuels. Production of biofuels has been considered to be a more legitimate target than subsidies to 'normal' agricultural produce under the CAP. While the former is a strategic investment towards reducing carbon emissions and curbing climate change, the latter has been seen as little more than social security for farmers that cannot compete on the global market (especially after the grand 2003 reform when the connection between subsidy and output was "decoupled"). European farmers, then, have been able to move to biofuel crops

and remain as active farmers producing economically measurable output.

The CAP reform in 2003 made this policy more pronounced than it had been before. As the EU in the same year adopted more ambitious targets for the use of renewable energy, especially in transport, 2003 came to be the year when the EU ushered its policy into biofuels. This policy is likely to be enforced at the time of the next CAP reform, which is likely to be shortly before 2013 when the new EU budget needs to be decided. As a new target has been set for the use of renewable energy, the CAP reform is likely to build on a faster move towards biofuel crops and increased volume of biofuel production.

It should not come as a surprise that many farming interests, and governments that traditionally have been on the side of the CAP enthusiasts, have endorsed the shift towards biofuels. Countries that have been the main beneficiaries (in net volume terms) of the CAP – e.g. France, Italy and Spain – belong at the top of biofuel production in the European Union. Germany, however, is the biggest producer. Germany has been a net-payer to the CAP for a long time, but it also a country that has tended to vote in favour of status quo rather than reform as it harbours many politically influential farmers in its southern regions.

Hence, the shift towards the production of biofuels offers a new and fresh way to justify big subsidies to farmers. Structural reforms in Europe's agri-sector can be avoided – or at least delayed. Until European producers can survive on their own – without the support of government – biofuels give a new justification for agricultural subsidies. Already in 2003, in the biofuels directive, the EU made this clear:

> Promoting the use of biofuels in keeping with sustainable farming and forestry practices laid down in the rule governing the common agricultural policy could create new opportunities for sustainable rural development in a more market-oriented common agricultural policy[7]

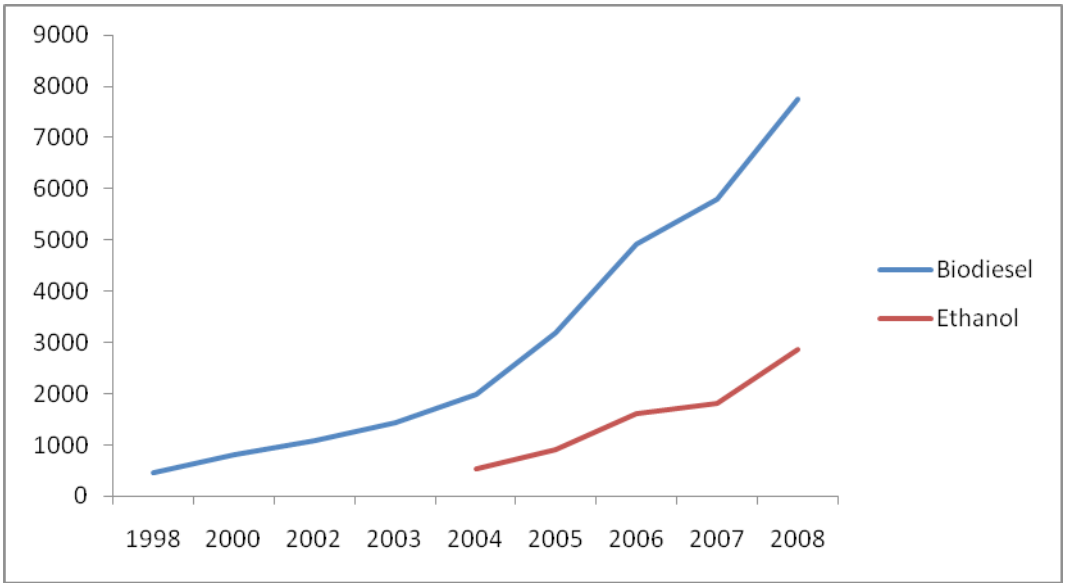
And these subsidies are necessary for European biofuels production to be competitive – despite the rapid rise in demand for biofuels. Imports of ethanol from Brazil or biodiesel from Southeast Asia are cheaper than domestic produce. They are actually cheaper than biofuels produced in Europe even when the subsidies and border tariffs are accounted for. Part of the explanation is higher labour and input costs in Europe. Another part is the comparatively lower productivity of European crops – cereals and rapeseed in particular – compared with the high-yielding crops in other parts of the world. Rapeseed, for instance, yields less output per unit land than palm oil. Yet the European biofuels industry has, for understandable reasons, invested itself into rapeseed and, equally important, *continued dependence* on growth of rapeseed output.

Before looking closer at the structure of subsidies and other protective measures, it would be useful to examine Europe's production and trade in biofuels. As in most sectors that are considerably protected against foreign competition, protectionism in the biofuels sector grows out of the structure of the market, production and policy.

Figure 1 shows the development of European production in biofuels. It has experienced a sharp growth in recent years. Especially production of biodiesel has grown by a remarkable speed. Between 2007 and 2008, production of biodiesel increased by 35.7 percent. The growth of ethanol has not been as sharp as for biodiesel. One explanation for the difference in growth rates is that the EU has been, and remains, a net importer of diesel, while it runs a surplus in gasoline. Hence, past market structures could have been less trusted to cover for

increasing demand in biodiesel. This, however, is about to change.

FIGURE 1. BIOFUELS PRODUCTION IN THE EU ('000 T)

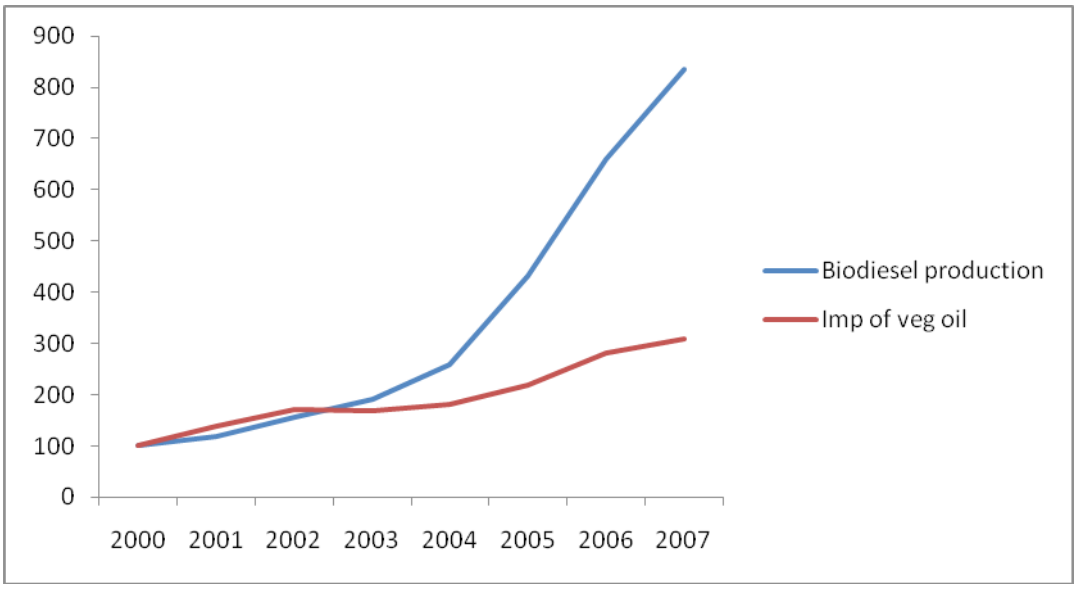


Sources: Data for biodiesel retrieved from the website of the European Biodiesel Board. Data for ethanol retrieved from the website of the European Bioethanol Fuel Association

Trade in biofuels has not increased as fast as domestic production. It is notoriously difficult to get a proper account of trade in biofuels as classifications are imprecise, to say the least, and have changed over time. Figure 2 shows the different growth rates of production and trade in biodiesel. It is a significant difference. And the difference is all the more significant when keeping in mind that imported vegetable oils are cheaper than European biodiesel, which is mainly produced from rapeseed. Furthermore, neither factor-proportions theory nor comparative-advantage analysis suggest Europe to be a relatively more efficient producer of biodiesel. On the contrary, it is tropical and sub-tropical developing countries that have comparative advantage in feedstock suitable for production of biofuels.

The dominant part of Europe's import of vegetable oils is palm oil. It represented close to 60% of all vegetable oil imports in 2007. However, import of sunflower and soybean oils has increased quickly in the past two years. Import of palm oil mainly originates in Indonesia and Malaysia; these two countries represent more than 90 percent of all palm oil import – around 5 million tons in 2007. Import of sunflower oil is predominantly from Ukraine, and Soybean from Brazil. Europe also imports rapeseed oil, mainly from Canada and the United States.

FIGURE 2. EUROPEAN PRODUCTION OF BIODIESEL AND IMPORT OF VEGETABLE OIL (INDEX, 2000=100)



Sources: European Biodiesel Board; European Commission

The European associations for biofuel producers also report a significant increase in production capacity for both ethanol and biodiesel – indeed it is such an increase in capacity that it is warranted to speak of an overcapacity. In 2008, ethanol production in Europe was approximately 2,855 million litres. The growth in previous years has been significant. Ethanol production in 2004 stood at 528 million litres – hence, ethanol production has grown by a factor of five in the past five years. Installed production capacity, however, is considerably higher than actual production. The European Bioethanol Fuel Association estimates production capacity to be 6,362 million litres. Capacity of yet another 2,174 million litres is under construction. Hence, European industry is prepared to service an increasing demand of ethanol. It is also very sensitive to changes in demand patterns – a substitution of domestic production with imported ethanol, for instance.

A similar pattern can be found for biodiesel. Biodiesel production in 2008 stood at 7.7 million tonnes and production capacity in 2009 is almost three times the production in 2008 – 21 million tonnes. The main producers are Germany, France and Italy. The main producers of ethanol are France, Germany and Spain.

TABLE 1. BIODIESEL PRODUCTION AND PRODUCTION CAPACITY IN EU ('000 TONNES)

COUNTRY	PRODUCTION 2008	COUNTRY	CAPACITY 2009
Germany	2819	Austria	707
France	1815	Belgium	705
Italy	595	Bulgaria	435
Belgium	277	Cyprus	20
Poland	275	Czech Republic	325
Portugal	268	Denmark	140
Denmark/Sweden	231	Estonia	135
Austria	213	Finland*	340
Spain	207	France	2505
UK	192	Germany	5200
Slovakia	146	Greece	715
Greece	107	Hungary	186
Hungary	105	Ireland*	80
Czech Rep.	104	Italy*	1910
The Netherlands	101	Latvia	136
Finland	85	Lithuania	147
Lithuania	66	Luxemburg	0
Romania	65	Malta	8
Latvia	30	The Netherlands	1036
Ireland	24	Poland	580
Bulgaria	11	Portugal	468
Cyprus	9	Romania	307
Slovenia	9	Slovakia	247
Malta	1	Slovenia	100
Luxemburg	0	Spain	3656
Estonia	0	Sweden	212
		UK	609
Total	**7 755**	**Total**	**20 909**

Source: European Biodiesel Board

Finally, let us consider the pattern of production and consumption of biofuels in Europe. Table 2 lays out production and consumption data for four selected EU countries. As the table shows, among the top producers of ethanol and biodiesel, there are two countries with significant production in excess of domestic consumption – France and Spain. Hence, these are two countries that have oriented part of their production towards other EU markets. Germany, in contrast, is a big producer of both ethanol and biodiesel, but its consumption exceeds domestic production. Hence, Germany, like Sweden, has to import.

As the European biofuels market is considerably segmented, this is useful information. As a rule of thumb, production of biofuels in Europe is principally oriented towards domestic consumption. Intra-EU trade is not significant. The structure of the market then points to fairly basic implications for the political economy of biofuels: excess consumers should have an interest in increasing foreign (non-European) import competition; excess producers should

have an interest in limiting competition from foreign (non-European) producers.

TABLE 2. PRODUCTION AND CONSUMPTION OF BIOFUELS IN 2006 (MN LITRES)

		PRODUCTION	CONSUMPTION	DIFFERENCE
Ethanol				
Germany		400	608	-208
France		297	297	0
Spain		401	227	174
Sweden		73	322	-249
Biodiesel				
Germany		3 727	3 920	-193
France		1 040	866	174
Spain		139	102	37
Sweden		18	85	-67

Source: Amaral (2008); own calculations

4. TRADE-DISTORTING BIOFUEL MEASURES

The European Union is using several measures with trade-distorting effects to support domestic biofuels production. These measures affect trade and integration in biofuels. Over 90% of biodiesel produced in Europe uses rapeseed that is locally produced. Import of input goods is insignificant; there are no real globalised supply chains in biofuels. This chapter will give a closer examination of what policies the EU are using and how they add up in the aggregate. We will start with subsidies and tariffs, and then move to the use of standards.

SUBSIDIES AND TARIFFS

It is difficult to get a full account of the support to domestic biofuels production from tariffs. Generally, tariffs on biodiesel are low, while tariffs on ethanol are high. The tariff classifications, however, are kept very wide and include various products for different purposes. The EU does not have specific tariff lines either for ethanol or for biodiesel. Ethanol is classified under the headings of "undenatured and denatured alcohol". The main classification for import of biodiesel is "other chemicals".

Table 3 shows the tariff rates for import of biofuels. For import of ethanol, the EU does not use a fixed tariff expressed in percentage. For import of undenatured alcohol, the bound tariff is 19.2 EUR/hl and for denatured alcohol it is 10.2 EUR/hl. The *ad valorem* equivalents of these tariffs are 63% and 39% respectively. Tariffs on biodiesel and vegetable oil are small in comparison. Palm oil is imported duty free, and other vegetable oils are subject to a tariff slightly higher than 3%. It is possible to export to Europe at lower tariffs if a country is part of a trade-preference scheme. Most imports of biofuels, however, do not originate in countries enjoying trade at preferential duty rates.[8]

TABLE 3. MFN AND APPLIED TARIFFS ON BIOFUELS

CATEGORY	MFN BOUND TARIFF	AD VALOREM EQUIVALENT
Ethanol		
Undenatured alcohol	EUR 19.2/hl	63%
Denatured alcohol	EUR 10.2/hl	39%
Biodiesel		
Other chemicals	6.50%	
Vegetable oil for biodiesel production		
Crude soy oil for industrial use	3.20%	
Crude palm oil for industrial use	0	
Crude sunflower oil for industrial use	3.20%	
Crude rape oil for industrial use	3.20%	

Source: TARIC and COMTRADE

The market price support for ethanol has been measured in a recent study by the Global Subsidy Initiative at the International Institute for Sustainable Development (IISD).[9] The average price of ethanol in Europe is nearly twice as high as the ethanol price in Brazil. Total market price support for 2006 has been estimated at EUR306 million.

Subsidies to the biofuels industry come in different forms. There are subsidies for energy crops grown on set-aside land, payments under the Energy Crop Scheme, special payments under rural development initiatives, capital grants, European and national subsidies to feedstock, support for research and development, and special support for consumption.

Table 4 gives an overview of the subsidies – in the aggregate – and how it translates into subsidy per unit of output. Total transfers to ethanol in 2006 amounted to EUR 1.3 billion while transfers to the production of biodiesel were close to EUR 2.5 billion. Measured in terms of support per litre consumed, ethanol received bigger subsidies than biodiesel. The same result holds when measured in terms of petrol or diesel equivalents. The figures, however, have probably grown in the past year. Between 2005 and 2006, the total support estimate of ethanol grew from approximately EUR800 million to EUR 1.3 billion. This increase reflected in particular an increased market support and budgetary support. Total support to biodiesel increased even more in the same period – from EUR 1.6 billion to EUR 2.5 billion. The increase was predominantly caused by an increase in the budgetary support – reductions in or exemptions from fuel-excise tax.[10]

TABLE 4. SUPPORT FOR BIOFUELS IN THE EU (2006)

	UNITS	ETHANOL	BIODIESEL
Total transfers	Mn EUR	1 290	2 436
Support per litre consumed	EUR/litre	0.74	0.5
Support per gigajoule (GJ)	EUR/GJ	35	15
Support per litre of petrol or diesel equivalent	EUR/litre equivalent	1.1	0.55

Source: Kutas et al (2007)

Trade economics also offer another way to review support to production. The concept of *effective* protection, in contrast to nominal protection, was developed a few decades ago and has been helpful by giving a better account of total protection in the aggregate. Effective protection is often higher than nominal protection as the producer receives more protection than the protection offered by one single tariff.

In table 5 below, the effective rates of assistance to biofuels are presented. The results are based on an update of the calculation, and methodology, used by Amaral (2008). The methodology is open to critique – as is the entire concept of effective rate of protection/assistance – but it is one of few possible ways to get an aggregate view of the total extent of protection. The table clearly shows that ethanol is the most assisted part of biofuels production, with a rate of assistance bigger than 250%. Biodiesel has a lower rate of assistance, while the crops have significantly lower effective assistance. However, even for a crop like rapeseed the effective rate of assistance is considerable in comparison with other products.

TABLE 5. EFFECTIVE RATE OF ASSISTANCE (2007)

ETHANOL	BIODIESEL	WHEAT	RAPESEED
France >250%	Sweden >250%	Spain 51%	Rapeseed 58%
Germany >250%	Germany 156%	Sweden 31%	France 56%
Spain >250%	France 98%	France 35%	Germany 26%
Sweden >250%	Spain 72%	Germany 22%	

Sources: Amaral (2008); own calculations

Given the structure of subsidies and protection, the most striking aspect of the European biofuels policy is how expensive it is to achieve the target of reduced emissions of carbon by switching from fossil fuels to *domestically* produced biofuels. The current approach used by the EU, with strong emphasis on domestic production and sourcing of biofuels, is associated with a considerable welfare cost. As table 6 demonstrates, the support per tonne of CO2-equivalent emission avoided by biofuels is in the range of 575-800 EUR (sugarbeets), 2100-4400 (grains), 210-220 (used cooking oil) and 600-800 (rapeseed oil). The world market price of a tonne of palm oil in mid 2009, around 700 US dollars, was approximately the same as the average support given to production of rapeseed oil in Europe. For every tonne of reduction achieved with the help of subsidies in Europe, at least 20 tonnes of CO2-equivalent offsets could be purchased on the European Climate Exchange.

TABLE 6. SUPPORT FOR BIOFUELS PER TONNE OF CO2-EQUIVALENT AVOIDED (2006)

		ETHANOL		BIODIESEL	
	UNITS	From sugarbeets	From grains	From used cooking oil	From rapeseed oil
Support per litre equivalent of fossil fuels displaced	EUR per litre equivalent	1.7-2.2	3.5-5	0.6-0.7	0.9-1.2
Support per tonne of CO2-equivalent emission avoided	EUR per tonne	575-800	2100-4400	210-220	600-800
NB: Market price of a CO2-equivalent offset*	EUR per tonne		3.5-26		

*Lower number corresponds to maximum price on the Chicago Climate Exchange in October 2007 and the highest number corresponds to the maximum price on the European Climate Exchange in October 2007.
Source: Kutas et al (2007).

This structure of support and protection is not economically sustainable. It is rather close to economic madness to pursue the sort of self-sufficiency or industrial policy ambitions that have guided EU policy towards biofuels. The total cost of every unit of biofuel becomes far too high, which slows down the readiness to shift away from fossil fuels. Yet the use of trade-distorting measures does not end with subsidies and market support through border protection. In addition, the EU is using standards with the intention or the effect of closing the European market for some foreign biofuels. The restrictiveness of such standards is at risk of increasing as the recently decided Renewable Energy Directive will be put into practice in the year ahead.

THE USE OF TECHNICAL REGULATIONS AND STANDARDS

The European use of technical regulations and standards is not new. They have been part of the family of biofuels regulation since 2003, e.g. through the fuel quality regulation. Biodiesel made of soybeans and palm oil have been seen as problematic, e.g. far too high iodine value or cloud point. The Renewable Energy Directive is now adding a new dimension to Europe's use and design of standards.

The Renewable Energy Directive sets out that that 20 % of all energy used in the EU by 2020 has to come from "renewable sources".[11] Biofuels will of course be crucial to achieving the ambition of an increased role for renewable energy. A target of a 10% biofuels-share in transport, equal for all countries, has also been set.

In order for biofuels to be accounted for in the national targets for renewable energy obligations and, *nota bene,* to be eligible for financial support for the consumption of biofuels, they must meet the following criteria:

The greenhouse gas emission savings from the use of biofuels should be at least 35%. This target will increase after 2017. From 2017, greenhouse gas reductions should be 50%, and 60% thereafter for refineries beginning operation in 2017 and beyond.

They should <u>not</u> be obtained from land with high biodiversity value, that is:

a. Forest undisturbed by significant human activity.
b. Areas legally designated for nature protection.
c. Highly biodiverse grassland.

They should not be obtained by land classed as having had high carbon stock in January 2008 and that no longer has this status, such as:

a. Wetlands.
b. Continuously forested areas.
a. Undrained peatland.

Biofuels sourced from the EU must meet environmental and agricultural requirements and standards laid down in previous Council Regulations. This is a single pan-European biofuels sustainability scheme based on Article 95 of the treaty. Biofuels that do not meet those standards can still be sold and used, but they are not eligible for excise-tax exemption and cannot be used to achieve the 10% target for biofuels in transport.

The compatibility with the "sustainability standards" will be verified in three different ways:

a. Companies will have to report to EU member states about the sourcing of their biofuels.
b. Bilateral and Multilateral Agreements (the EU aims to conclude bilateral and multilateral agreements with provisions on sustainability criteria with other countries). The use of the directive, however, is not conditioned on a successful conclusion of such agreements.
c. Voluntary national and international certification schemes (the European Commission may decide that those certifications are sufficient to verify compliance with the sustainability criteria and with the requirement of 35% greenhouse gas savings).

The directive also sets out how calculations should be done. The calculation method must take into account the effect of the direct land change use. Therefore, EU member states will submit a list of areas where they state there would be *no carbon emissions from conversion to biofuels*. Foreign biofuels producers need to report on whether there are such emissions unless there is a bilateral or multilateral agreement covering this aspect.

In case there are emissions from land use change and if there is no bilateral or multilateral agreement in situ, companies need to calculate the greenhouse gas emissions associated with biofuels production. The annexes to the Renewable Energy Directive provide a calculation methodology and also a list of default values for the attribution of greenhouse gas savings to different types of biofuels, on which companies can rely for their calculations. However, the Commission is expected to improve its methodology and to update the "default values" over time. In particular, by the end of 2010 the European Commission will submit a report about the greenhouse gas impact of indirect land use change.

The criteria in the Renewable Energy Directive apply to both EU and imported production. They are, according to the directive, defined in order to avoid any de facto discrimination; definitions have been made on the basis of the international scientific evidence available.

It is an understatement to say that the directive is controversial. It has been subject to intense debate – before and after it was adopted. Some NGOs are questioning the greenhouse gas savings calculation methodology used by the European Commission or the lack of other

criteria, e.g. criteria based on human rights and the social effects of biofuels production in third-world countries. Doubts also remain on whether the Renewable Energy Directive imposes a too heavy administrative burden on biofuels producers.

One of the concerns that has been conspicuously absent from the debate is the trade effect of this new standard. Yet the effect of the Renewable Energy Directive on trade and trading rights are very distinct elements of the directive. If a foreign exporter cannot document that it meets the established criteria, it will not be eligible for the tax exemption and the use of the imported biofuel cannot be part of the national obligations to increase the share of renewable energy in a country's energy mix. This is a clear and drastic cut-off point for effective access to the EU market which one can expect to have serious implications for exporters of particular crops and biofuels.

The European Union has argued that this standard is not biased in favour of locally produced biofuels. The same regulation applies to domestic and foreign producers; hence, there is no discrimination and no hidden protectionism in the introduction of this standard.

However, this is not a reassuring proposition. Nor is it an honest account of the intent or the effect of the new technical regulation embedded in the Renewable Energy Directive. There are several obvious concerns which may have drastic implications for trade and international exchange in biofuels. A comprehensive analysis would have covered those concerns and considered them in a proper analysis of current and potential trade. The EU has so far failed to do so. Furthermore, given the design of the legislation, it might also run counter to EU obligations in the World Trade Organisation (WTO). Still, the EU has failed to deliver an analysis of possible WTO concerns. There are several reasons why such aspects need to be examined in greater detail.

Firstly, measuring the effect on carbon reductions from switching to a biofuel, or the carbon emissions in the production of biofuels, is not an exact science. In fact, in many ways it is more an art than a science. Where there is room for flexibility, there is also room for manipulation. For such a proposal, which effectively can cut off access to the EU market for exporters, it would have been comforting if the EU had provided an analysis on how possible adverse effects could be addressed. That would have demonstrated that the EU has considered those concerns and acknowledged that its own policy approach can be suspected of manipulation. Hence, the question is: has the actual standard been designed only in accordance with the professed environmental ambition – or is there hidden industrial-policy activism embedded in the new legislation?

Secondly, the effects on trade will become severe if the standards are applied in the manner proposed by the Renewable Energy Directive. Some of the current import of biofuels might no longer be exempted from tax or be part of the national obligation. The import potential of ethanol and palm oil will be drastically cut, forcing Europe to move even further in the direction of self-sufficiency policy, with implications for consumer prices and welfare. Less dependence on foreign imports of biofuels translates into a higher welfare cost for Europe for shifting to renewable energy. Is such an effect just an unintended consequence of the EU standard – or is it possibly one of its intentions?

Thirdly, there are obvious WTO concerns that remain unexamined or covered only in a sketchy manner in official documents. Why have these concerns not been acknowledged and analysed in greater detail?

TECHNICAL REGULATIONS AND STANDARDS: SOUND ENVIRONMENTAL POLICY OR TRADE-DISTORTING INDUSTRIAL POLICY?

The use of standards and other technical barriers to trade has increased in the past decades. As other barriers have declined, it has also become more obvious how standards can dampen trade and greater efficiency in the use of resources. Economist Robert Baldwin famously said that "the lowering of tariffs has, in effect, been like draining a swamp. The lower water level has revealed all the snags and stumps of non-tariff barriers that still have to be cleared away."[12] Economist Richard Baldwin later added: "The intervening thirty years have witnessed completion of the swamp draining, but the stumps have started to grow; three decades of ever tighter regulation of goods – most of which was adopted for purely domestic policy aims – have escalated regulatory protection."[13]

Unilateral adoption of standards has, in other words, a dampening effect on trade unless other countries immediately introduce a similar standard. Hence, one of the costs of standards is associated with producers having to comply with different regulations. These costs are sometimes punitively high and simply have the effect of preventing, or closing, actual trade.

Groups of countries sometimes partner together to adopt standards. The European Union is an example. There are also other international agreements – between countries as well as for sectors.

The problem with the current approach to biofuels standards in Europe is not the idea of a standard itself. The problem is the unilateral approach and the lack of a serious attempt to first establish an international agreement between countries of relevance to trade in biofuels. Regardless of the merits of the EU standard, it will be associated with costs for traders as the standard in the EU differs from the approach taken, or likely to be taken, in other jurisdictions. It is impossible to estimate the size of the cost that arises from regulatory discrepancies.

It should be clear that the EU is in no position to establish a global standard that others will adopt. That, however, is an implicit understanding in the EU legislation: other countries will adopt a similar standard as the EU, or in other ways comply with the EU standard to avoid being dismembered from the EU market. Hence, Europe can use its market power to incentivise other countries to behave in what the EU believes to be an acceptable manner. This understanding, however, is not self-evident. If the cost of abiding by Europe's standard is too high, exporters might just switch its export to Europe to other destinations with less stringent standards. In a sector with rapidly growing demand, shuffling export to another market is a plausible option. In other words, there are no prima facie arguments in favour of the proposition that others will follow or abide. Hence, one needs to put serious doubt on the proposition that the standard adopted by the EU will become a global standard.

This proposition is amplified by the fact that Europe's standard is intimately connected to market and environmental conditions in Europe. Conditions in Africa, Asia, Latin America and the United States (from whom Europe imports biofuels) are different. Furthermore, some countries are not likely to be able at all to meet the requirements stated in the established standard. Developing countries are the group that is at serious risk of defaulting on the standard as their regulations are weaker than Europe's and as compliance with the EU's new regulation is likely to be associated with significantly increasing costs.

The taxonomy of the EU standard is typical for the introduction of such policy tools. They are initiated by developed countries and are based on the development profile, and technical

capacity, of a rich country. Only other developed countries can theoretically comply with the standards without having to imperil their own economic development. Developing countries are often not in the position to change their policy as standards such as the Renewable Energy Directive can be too costly and damage economic development for poor people. There will be individual exporters with the capacity and resources to change practices to comply with a standard. But that is only an option if the standard does not significantly introduce a horizontal friction. If it does, such exporters, along with other exporters that cannot comply with standards, are likely to shift their export to destinations with less-restrictive standards. The effect is an increase in the price of the particular good in the market which adopted the standard, and a decline in price in the new export market.

IS THE RENEWABLE ENERGY DIRECTIVE CONSISTENT WITH WTO LAW?

Declarations from European officials assert that the Renewable Energy Directive is WTO consistent as the regulation itself does not discriminate between domestic and foreign producers. If there are concerns, it has been alleged that Article XX of the GATT, which gives signatories the right to violate other GATT articles if a measure has demonstrable good consequences for the environment, gives sufficient cover. Hence, a possible WTO dispute would authorise the EU to maintain its policy.

This view is based on a selective reading of GATT agreements. As the previous section on carbon-based trade measures discussed, an exemption based on Article XX is not a free pass for any sort of environmental policy with implications for trade. Apart from the Article itself, there is also a fairly significant body of case law which has set precedents on the application of so-called General Exception Article (Article XX). Examining the consistency of the EU standard with this jurisprudence is a test the EU should have done before it adopted the directive. But it is a test that will be cumbersome for the EU as it will be difficult to prove positive environmental result if exports just shift to other destinations, possibly (even likely) to destinations with less (if any) stringent standard regulations. Furthermore, it will also be difficult to demonstrate that this method is appropriate in comparison with other available methods to curb carbon emissions in biofuels production.

Let us consider in greater detail the relevant Articles in the GATT that the Renewable Energy Directive is at risk of violating.[14] There are three core GATT articles of relevance: Articles I, III and XI.

GATT Article I. GATT Article I concerns treatment of like products. It sets out one of the core principles of the GATT/WTO system: like products should be treated equally. In the words of the Article:

> "With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation or imposed on the international transfer of payments for imports or exports, and with respect to the method of levying such duties and charges, and with respect to all rules and formalities in connection with importation and exportation, and with respect to all matters referred to in paragraphs 2 and 4 of Article III, *any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties.*" [emphasis added]

"Likeness" is not defined in the GATT. Case law, however, offers interpretations. Two unadopted Panel reports have ruled that products are not unlike just because there are differences in *production methods*, which is what the EU has set out, when these differences do not affect the physical characteristics of the final product.[15] Even if these reports were unadopted, they can, as later cases have shown, be a "useful guidance"[16], especially as they have not been opposed in subsequent cases.

In rulings from the Appellate Body (AB), four criteria have consistently been used to define likeness. These criteria derive from the GATT Working Party in 1970:[17]

- The properties, nature and quality of the products; that is, the extent to which they have similar physical characteristics.
- The end-use of the products; that is, the extent to which they are substitutes in their function.
- The tariff classification of the products; that is, whether they are treated as similar for customs purposes.
- The tastes and habits of consumers; that is, the extent to which consumers use the products as substitutes – determined by the magnitude of their cross elasticity of demand.

None of these criteria provide legal cover for EU discrimination in granting access to its market for biofuels. In fact, the Renewable Energy Directive is principally inconsistent with this Article as it is based on discrimination of products that are like. The argument provided by the EU is that some biofuels will not have been produced in a way that is acceptable from an environmental point of view. This may be true, but it has no bearing on the physical characteristics of biofuels. It has been suggested that a recent case provides the legal legitimacy to distinguish products on the basis of the environmental impact of production methods.[18] The Appellate Body ruled that consumer perceptions are relevant when considering "likeness". But they ruled on the basis of the use of chemical components with physical characteristics and hence established a link between the production process and physical properties of the end product. This link is not likely to hold for the Renewable Energy Directive as long as there is no evidence suggesting that the biofuels discriminated against are physically different from the favoured biofuels.

GATT Article III and Article XI. Paragraph 4 of GATT Article III says that "the products of the territory of any Member imported into the territory of any other Member shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use." The law, and the application of it, is straightforward and sets out the core principle of national treatment. Clearly, the Renewable Energy Directive fails the test of consistency as it clearly will affect sales of foreign producers discriminated by the directive. The discriminatory aspect of likeness discussed under GATT Article I applies equally to GATT Article III.

One can, however, discuss the applicability of this Article in the case of the directive. There are good reasons to suggest the directive be covered by Article III. Hesitations, however, can be raised on the basis that the directive itself does not concern a product but a production process. As Article III refers to products, a strict interpretation of the Article may suggest

that the directive is of a different nature[19] Yet if GATT Article III is not applicable, GATT Article XI will cover relevant aspects. And GATT Article XI sets out a clear limit on the use of trade-restrictive measures when it says, "no prohibitions and restrictions other than duties, taxes, or other charges". As the directive is a de facto restriction it is likely that it will not be considered consistent with Article XI.

It is clear that the directive runs counter to some of the core GATT articles. There is, however, a possibility that the directive could be consistent with the GATT if it can be established that the directive qualifies to be treated under the General Exception – Article XX. This article justifies exceptions if it can be established that an otherwise GATT-inconsistent regulation is necessary to – in this case – "protect human, animal or plant life and health" or if it relates to "the conservation of exhaustible natural resources". This article, however, is not providing an open-ended excuse to adopt any sort of trade-restrictive measure. As described neatly by two legal scholars:

> "To date, only one environmental measure has been upheld under GATT Article XX. Nevertheless, it is clear that the Directive is not rendered inconsistent with GATT Article XX simply because the land-related sustainability criteria are directed to production methods that do not affect the physical characteristics of the final product. Whether the Directive is otherwise consistent with GATT Article XX will depend on the extent of scientific evidence supporting the environmental effectiveness of the land-related sustainability criteria, and whether the EC's environmental objective in excluding products that do not meet those criteria could be met in a less trade-restrictive manner."[20]

The problem is that it is difficult for the EU to justify violations of GATT articles on the basis of effectiveness of the measure and scientific evidence in favour of the particular land-based sustainability criteria chosen by the EU. What also causes concern is that the directive itself suggests other and less-trade restrictive methods to the restriction implied by the directive.

Yet the most difficult part will be to square the Renewable Energy Directive with the chapeau requirements of Article XX. The chapeau of Article XX disciplines the potential misuse of the Article – the use of the Article for other purposes than those stated in the particular paragraphs. To that end, the Appellate Body has clarified in rulings, e.g. Brazil-Retreaded Tyres, that there must be a rational connection between the measure and the environmental goal in order to avoid 'arbitrary and unjustifiable discrimination'. Panel reports have opined that the way to test this is to examine whether 'the design, architecture and revealing structures' indicate an intention to 'conceal the pursuit of trade-restrictive objectives'.[21] This will be a difficult test for the Renewable Energy Directive if it is implemented in a fashion that imposes trade restrictions of the kind envisioned in the directive. The directive is fairly straightforward in its intention to pursue trade-restrictive measures based on criteria that are somewhat arbitrarily chosen.

The Agreement on Technical Barriers to Trade might also present difficulties for the EU in the event that it is taken to the WTO for dispute settlement. In the absence of an international agreement, members are asked to show restraint when imposing standards and technical regulations. WTO members are, in different ways, encouraged to seek cooperative methods rather than going the unilateral route. The WTO has agreed on a set of guidelines, a Code of Good Practice, for the use of regulations. Overall, they are not posing great obstacles to a

country that wishes to impose a standard or technical regulation. There is one area where WTO recommendations are stronger, however, and where there are legal precedents: the use of process and production method standards (PPM).

Most existing standards do not concern how a specific good has been produced. They concern the properties and the functional capacity of a good. But there has been a shift towards PPM standards in the past decade. This shift is highly controversial as it ventures into areas that are difficult to discipline. There is plenty of room for manoeuvre and flexibility in the use of PPMs. Where there is room for flexibility, there is also room for manipulation.

As noted above, PPMs also present difficulties for protecting the integrity of one of the basic principles of the WTO: "like product". The criteria for determining what constitute like products do not easily integrate with PPMs. Hence, PPMs remain an "unregulated" phenomenon. Some case law has clearly established that countries can introduce PPMs if they do it in an orderly fashion and can scientifically demonstrate the merits of the standard. Some case law – and some case rulings that have not been adopted – points to the boundaries of the use of PPMs. But these boundaries remain unclear.

One can discuss the applicability of the TBT agreement in the case of the Renewable Energy Directive. The principal area for dispute concerns the coverage of PPMs in this agreement. There is no proper case law to draw on in the principal matter; cases of relevance have not dealt explicitly with a PPM that has not been associated with other technical regulations, such as a labelling requirement. Some have suggested that only PPMs that affect the physical characteristics of a good should be covered by the TBT agreement. However, there are also references in the annex of the TBT agreement that specifies that processes and production methods are of relevance in articles referring to technical regulation. Annex I:1 says:

> "Document which lays down product characteristics *or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory*. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method." [Emphasis added]

This annex is of importance. Not only does it contain a specific reference to PPMs, it also contains a reference to applicable and mandatory administrative provisions. The Renewable Energy Directive clearly requires such administrative provisions from exporters that wish to sell their biofuels on the EU market. The integrity of the regulations itself hinges upon the granting of favourable treatment (excise-tax exemption and coverage in the fulfilment of the national targets) upon documentation proving the exported biofuel complies with the EU standard, or technical regulation. This de facto implies that the exporter is required to supply such information if it should be entitled to be covered by the favourable treatment.

Consistency with the TBT agreement is likely to pose even greater difficulties to the EU. Firstly, the TBT agreement does not have a General Exception as Article XX in the GATT, which presents tougher conditions on parties that want to argue in favour of differentiation between like products. Secondly, the TBT agreement has provisions on special treatment for developing countries. Clearly, many of the countries that are likely to be dismembered from the EU market due to the introduction of the standard are developing countries.

The EU also has another general hurdle to surmount. In the case of the EU's biofuels policy – especially relating to biodiesel and palm oil – there is one particular problem. The problem can be described as follows: If a government wants to use a regulation that is applied to both domestic and imported non-qualifying products, GATT rules for national treatment states that imported goods should be no less favourably treated than the like domestic product. If regulations are based on PPMs there is less favourable treatment of imports if the PPM and the non-PPM product are *in a direct competitive relationship and the design has the effect that imported products (both PPM and non-PPM) are treated less favourably than like domestic products*. This is particularly problematic in view of criteria used for calculating greenhouse gas impact used in EU biofuels policy[22] as they arguably have been selected as much on the basis of the EU's domestic performance as on scientific criteria. From a legal point of view, the 35% criterion is chosen arbitrarily. There is no specific scientific consensus saying it should be 35% rather than 30% or 40%. The 35% threshold, however, ensures that domestic rapeseed oil will qualify with a small margin but that the default greenhouse gas saving of palm oil biodiesel and soybean biodiesel – the main foreign competitors to domestic rapeseed biodiesel – will not. This is one principal effect of the directive: it effectively closes future market expansion for the main biodiesel competitors.

This is also another illustration of the arbitrary and protective design of the biofuels standard: it targets foreign competitors more than domestic producers and, if unrestricted, it will effectively close the European market for the biofuels that really could compete with domestic produce. Furthermore, it particularly targets the biodiesel competitors that other measures – subsidies and tariffs – do not protect to the same extent as other biofuels. There are no tariffs on palm oil and thus no market support. The support to biodiesel, while substantial in aggregate, is smaller than to ethanol when decomposed on production volumes.

A cynic would say that the standard adopted in the Renewable Energy Directive could, if not changed, be called an anti-palm oil standard. Palm oil is predominantly the imported biodiesel in Europe. It is also the biodiesel with greatest export potential. Biodiesel made of palm oil could become a serious competitor to domestically produced biodiesel based on rapeseed production that today operates with considerable overcapacity and a capital structure that needs to be utilised to a greater extent in future. Subsidies and tariffs do not give sufficient protection to the domestic industry; it is also difficult to increase subsidies and tariffs. Hence, a standard could address the competitiveness problem for European biodiesel production that subsidies and tariffs cannot master.

There are reported concerns over carbon emissions in land-use change and the animal habitat (especially the orang-utan) in Indonesia and Malaysia. However, it should be noted that these countries and the palm oil sector itself are taking steps to address them. A cooperative strategy would seek to enforce these efforts. A non-cooperative strategy would effectively close the EU market for additional palm oil, with export shifting elsewhere, predominantly China.

5. CONCLUSIONS AND RECOMMENDATIONS

This paper has examined the biofuels policy in the European Union. As an area of policy, it is a classic example of "green protectionism" – protectionism that is not motivated for the benefit of the environment, but which uses environmental concerns to pursue non-environmental objectives. The European Union runs an extensive policy for subsidies to biofuel production. Border protection increases the level of subsidy by giving a market support from

consumers to producers. Standards are used to favour domestically produced biofuels. It is difficult to escape the picture of a policy driven by industrial ambitions rather than environmental concerns. The intention and/or the effect of Europe's policy is associated with beliefs of self-sufficiency. Obviously, trade is not considered to be an integral part of an environmental ambition to shift from fossil fuels to biofuels.

The Renewable Energy Directive is the latest contribution to the EU's biofuels policy. One of its main trade effects is that it will impose a new standard that will effectively restrict access to the EU market for foreign exporters. It clearly violates WTO principles and rules. Furthermore, it appears unlikely that GATT Article XX will give legal cover. If Europe is determined to pursue the policy set out by the Renewable Energy Directive, and effectively block market access for some crops from some countries, it is likely to make itself the target of a WTO complaint.

A serious policy to move towards an increased share of biofuels in Europe's energy mix needs to reconsider the role of trade in achieving this ambition. A shift dependent on domestic production would increase the welfare cost: expensive local biofuels are favoured; cheaper foreign biofuels are restricted. Such a policy borders on economic madness; Europe simply does not have the resources to finance all the domestic production needed. Nor does it have comparative or competitive advantages in producing biofuels.

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7. FOOTNOTES

1. Evenett, ed, 2009. See also Evenett & Whalley, 2009, for a discussion about "green protectionism" and what they call "murky protectionism".
2. Evenett, ed, 2009, p. 22. They represent, respectively, five percent of the total measures taken since November last year.
3. http://www.wto.org/english/news_e/news09_e/tbt_25jun09_e.htm
4. Just because a concern is raised does not equal the existence of a discriminatory regulation or standard.
5. WTO, 2009.
6. A detailed analysis of GATT article XX is provided in later sections of the paper.
7. European Union, 2003.
8. A list of countries with preferential access to the EU market can be retrieved at http://ec.europa.eu/trade/issues/global/gsp/index_en.htm
9. Kutas et al (2007).
10. Kutas et al (2007), p.68-69.
11. European Union (2009)
12. Baldwin (1970), p. 2.
13. Baldwin (2000), pp. 238-9.
14. Mitchell & Tran (2009) provides a full analysis of the WTO consistency of the Renewable Energy Directive.
15. GPR, US-Tuna (Mexico); GPR, *US-Tuna (EEC)*
16. ABR, *Japan-Alcoholic Beverages*
17. GATT (1970).
18. ABR, *EC-Asbestos*
19. Mitchell & Tran (2009), p.7.
20. Mitchell & Trans (2009), p. 9.
21. PR, *EC-Asbestos*; PR, *US-Shrimp*; PR, *Brazil-Retreaded Tyres*.
22. European Union (2009), Annex V.