Is your biofuel affixed with an approved seal?: A Comparative Analysis of the European Union Biofuels Certification Regime and the Clean Development Mechanism

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Abstract

As a key actor behind the emerging global biofuels market, the European Union has introduced environmental regulations governing biofuels. This article analyses the biofuels 'meta-standard' certification scheme which creates a transnational governance regime involving a regional bloc, States, non-governmental organisations and businesses in a hybrid regulatory model combining elements of private certification and public authority. A comparison between the role of Designated Operational Entities in the Kyoto Protocol's Clean Development Mechanism (CDM) and the certification schemes in the EU sustainability regulatory regime demonstrates that the problems that threaten the environmental integrity of the CDM are less likely to emerge in the EU biofuels context.

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Key words: Biofuels, European Union, Non-state Actors, Law, Regulation, Kyoto Protocol, Clean Development Mechanism

Introduction

In the global quest for climate change mitigation solutions, biofuels have been celebrated for their potential to reduce the carbon footprint of transportation. As a fossil fuel substitute that is derived from agricultural products such as corn and sugar cane, biofuels also respond to energy security concerns and rural development policy agendas.[1] Perceived as a 'triple-win' solution that can help lower greenhouse gas (GHG) emissions, enhance energy security and boost rural development, many governments have introduced domestic incentive programmes to boost biofuel production and use.[2] At the same time, a global biofuels system has begun to emerge, featuring global trade, global investments and global standards.[3]

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[1] See discussion in James Smith, *Biofuels and the Globalization of Risk: The biggest change in North-South relationships since colonialism?* (London: Zed Books, 2010) at pages 5-7 where the author suggests (at page 6) that "Biofuels fire the imagination of policy-makers, entrepreneurs, researchers and governments because of the possibility of being all things to all people."

[2] OECD, Trade and Agriculture Directorate, Committee for Agriculture, Working Party on Agricultural Policies and Markets, "A Review of Policy Measures Supporting Production and Use of Bioenergy", Document Number: TAD/CA/APM/WP(2007)24/FINAL (July 2008), available online: http://www.oecd.org/dataoecd/37/43/41037609.pdf (accessed on 23 March 2011).

[3] Mol, Arthur P. J. (2010) Vol. 19(1) "Environmental authorities and biofuel controversies"', Environmental Politics, 61- 7 at 63; see M. Kojima et al, "Considering Trade Policies for Liquid Biofuels", World Bank, Renewable Energy Special Report 004/07, May 2007, available online: http://siteresources.worldbank.org/INTOGMC/Resources/Considering_trade_policies_for_liquid_biofuels.pdf (accessed on 20 March 2011), for discussion on how liberalizing trade in liquid biofuels might affect biofuel production and consumption.

There are, however, growing concerns about how increased biofuel production can assert upward pressure on food prices, increase GHG emissions, and exacerbate degradation of land, forest, and water sources. The production and consumption of biofuels is therefore one of the key environmental and sustainability concerns of the day and there is a widely perceived need for the environmental regulation of biofuels. As the development of a global biofuels trading system is at an early stage, the challenge for biofuels governance and regulation is to point developments in the direction of what Mol terms as 'fair fuels'. Fair fuels are "fuels that fulfil social and environmental conditionalities throughout the production chain. Hence, fair fuels refer not to a particular source of energy but to the fulfilment of legitimate social and environmental criteria".[4]

If one considers that biofuels is a politically instituted market and will not exist if not for extensive policy intervention such as mandatory blending targets, the European Union (EU) is the main driver behind the creation of the global biofuels market through its climate change and renewable energy policies.[5] It can be argued that the EU biofuels sustainability regulatory regime is a quest for 'fair fuels' as it seeks to ensure that biofuels that are produced in or imported into the internal market indeed result in reduced GHG emissions (in comparison to conventional motor fuel) and do not cause various adverse environmental consequences such as biodiversity

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[4] Mol, ibid., Page 66.

[5] The term "politically instituted market" refers to "…the political construction of specified products or services to be provided by market actors for consumers through the market organisation of exchange". The carbon market is another example of a politically instituted market; it only exists by virtue of a politically constructed product (the carbon credit) to be exchanged under the Kyoto Protocol or the European Union Emissions Trading Scheme; Sarah Pilgrim and Mark Harvey, "Battles over Biofuels in Europe: NGOs and the Politics of Markets", Sociological Research Online 15(3)(4), August 2010, section 2.2.

loss.

This article critically examines the EU sustainability regime and analyses the following issues. First, while there are obvious advantages to the 'meta-standard' approach adopted by the European regulators, the heavy reliance on private certification schemes along a complex supply chain is a cause of concern. The close resemblance between the role of Designated Operational Entities (DOEs) in the Kyoto Protocol's Clean Development Mechanism (CDM) and the private certification schemes in the EU sustainability regime allows for a useful comparison to be drawn in order to gain insight into the performance of the certification schemes which will ultimately determine whether the EU sustainability regime will have any positive effect on managing the environmental and social externalities of global biofuels production. Using the principal-agent framework developed in delegation theory, this article argues that the potential for rent-seeking behaviour by the biofuels certification scheme operators is determined by several related factors. These factors include the need for certification schemes to maintain their legitimacy, the oversight role and enforcement capabilities of the Commission, and the involvement of other actors such as environmental non-governmental organisations (NGOs) and international organisations in monitoring the certification schemes. This article argues that, taking these factors into account, the certification schemes are less likely to engage in rent-seeking behaviour than DOEs in the CDM context.

Part I provides a brief background on biofuels and the sustainability concerns associated with their production. **Part II** examines the EU sustainability regime which creates a transnational governance framework involving a regional bloc, States, non-governmental organisations (NGOs) and businesses in a hybrid regulatory model

combining elements of private certification and public authority. Following an analysis of the meta-standard approach, the role of the DOEs and the certification schemes in their respective regulatory contexts will be examined. It will be argued that the comparison between the DOEs and the certification schemes is valid because the institutional structures in which they are embedded possess a high degree of similarity. However, there are also significant differences that point towards the conclusion that the problems that threaten the environmental integrity of the CDM are less likely to emerge in the EU biofuels context. **Part III** concludes.

At this juncture, it will probably be helpful to clarify some of the nomenclature adopted in this article. This article's analysis of biofuels governance centres on the study of the implementing regime: the social institution that consists of agreed-upon principles, norms, rules, decision-making procedures and programs that govern the interactions of actors in this specific issue area.[6] Thus, the term 'sustainability regulatory regime' is a broad reference to the rules, practices and actors that constitute the EU biofuels governance system. The formal rules or legislation that implement the EU biofuels policy are known as the 'Sustainability Criteria', adopting the term used in the Renewable Energy Directive, and will be discussed in detail in Part II of this article. Thirdly, the 'certification schemes' are the equivalent of eco-labelling schemes that put the Sustainability Criteria into practice through certification. These schemes must be formally recognised by the Commission for their certification to bear meaning under the EU biofuels regulatory regime. Finally, the parties that create and implement a biofuels certification scheme are referred to as a collective 'certification scheme operator'. Again, these intricacies will be analysed in Part II of this article.

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[6] Oran R. Young, "Rights, Rules and Resources in World Affairs" in *Global Governance: Drawing Insights from the Environmental Experience*, Oran R Young (ed.) (MIT Press, 1997), page 6.

Part I: The Environmental Concerns Surrounding Increased Biofuels Production

Biofuels are derived from plants, animals, organic wastes, and micro-organisms (collectively referred to as biomass). Bioethanol and biodiesel are the dominant types of biofuels for transport.[7] The United States (US), Brazil and the EU dominate world production of transport biofuels.[8] The two leading ethanol producers are the United States and Brazil, which produced 26.8 million tones and 21.3 million tonnes respectively in 2008, comprising 91% of global ethanol production.[9] The US is the largest consumer at 28.4 million tonnes (4.6% is imported), while the EU consumes about 2.6 million tonnes.[10] The EU is responsible for two-thirds of global biodiesel production. In 2008, it produced 7.8 million tonnes while consuming 9.2 million tonnes.[11] The other main biodiesel producers include Argentina, the US and Brazil, and international trade in biodiesel has been increasing steadily since 2005. In 2009, the export of biodiesel from Argentina to the EU increased from 70,000 tonnes in 2008 to approximately 1 million tonnes.[12] Essentially, the production of biofuels for transport involves the conversion of various plant crops into products that can replace petrol and diesel to power vehicles. Thus, the US is the main producer of ethanol from

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[7] *Towards Sustainable Production and Use of Resources: Assessing Biofuels*, United Nations Environment Programme (UNEP), 2009, page 34.

[8] Ibid.

[9] Kees Kwant et al, "Overview of World Bioenergy Trade: IEA Task 40", presented at "Developing Sustainable Trade in Bioenergy" workshop held alongside International Energy Agency Bioenergy Exco65, Nara, Japan, 12-14 May 2010, available online: http://www.ieabioenergy.com/DocSet.aspx?id=6568 (accessed on 20 March 2011), slide 12.

[10] Ibid. It should be noted that data related to bioethanol trade is imprecise because there are various potential end-uses for ethanol such as industrial applications and the lack of proper codes for biofuels.

[11] Kees Kwant et al, supra note 9, slide 13.

[12] Ibid.

corn, Brazil produces ethanol mainly from sugar cane, while the EU produces biodiesel primarily from rapeseed.[13] In the jargon, these plant crops are referred to as feedstock and the environmental concerns arise from the feedstock production process.

As concerns about climate change and energy security dovetailed in the past decade, governments encouraged the production and use of biofuels as a fossil fuel alternative, leading to the development of an industry worth some five billion euros annually.[14] Policies including blending quotas or targets and price support mechanisms were introduced to stimulate demand in many jurisdictions. By 2006, at least thirty-six provinces/municipalities and seventeen countries had introduced mandates for blending biofuels into vehicle fuels.[15] For example, in 2005, Congress adopted the United States' first federal Renewable Fuel Standard which required gasoline importers, blenders and refiners to blend up to 4 billion gallons of biofuels into gasoline in 2005 and to increase the amount up to 7.5 billion gallons by 2012.[16] The success of the Renewable Fuel Standard led to the introduction of more ambitious blending requirements in the Energy Independence and Security Act of 2007.[17] The

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[13] UNEP, supra note 7. "The development of the biodiesel industry in Europe is an important reason why rapeseed production in Europe has been maintained at current levels despite the reduced support levels for oilseeds under Common Agricultural Policy (CAP) reforms"; see US Department of Agriculture (Foreign Agricultural Service, Production Estimates and Crop Assessment Division), "Rapeseed Production May Benefit from New EU Directive", 4 November 2003, available online: http://www.fas.usda.gov/pecad2/highlights/2003/11/biodieseldirective/ (accessed on 20 March 2011).

[14] "EU draft reveals biofuels' 'environmental damage'", Pete Harrison, Reuters, 4 March 2010.

[15] Most mandates require blending 10%-15% ethanol with gasoline, or blending 2%-5% biodiesel with petroleum diesel; UNEP, supra note 7. page 35.

[16] Energy Policy Act of 2005, 42 U.S.C. Section 7545(o) (2006).

[17] The petroleum industry is required to blend at least 36 billion gallons of biofuels into gasoline by 2022; Energy Independence and Security Act of 2007, Pub. L. No. 110-140, Section 202.

Malaysian Biofuel Industry Act 2007 aims to facilitate development of the domestic biodiesel industry, specifically palm biodiesel, and biodiesel projects are eligible for tax incentives under the Promotion of Investments Act 1986.[18] In the UK, supply of biofuels is encouraged by the Renewable Transport Fuels Obligation (RTFO). The RTFO requires 3.25% (by volume) of transport fuels to be delivered from renewable sources by 2009/10.[19]

Carbon versus non-Carbon Sustainability Concerns

There is increasing evidence that the production of biofuels can come at high environmental and social costs. A distinction can be drawn between "carbon" and "non-carbon" sustainability concerns. Carbon concerns centre on the question of whether biofuels achieve net GHG savings compared with traditional fossil fuel usage. The amount of GHG emissions associated with biofuels production and consumption depends on the feedstock and the technology that is used to convert the feedstock into fuel. When land used for purposes such as food production is converted to biofuel feedstock production, negative GHG savings (ie: increased GHG emissions) may result. In short, when such "direct land use change" is taken into account when calculating the emissions savings throughout the production life cycle of biofuels, it may be observed that the production and consumption of biofuels is more carbon-intensive than that of conventional fossil fuels. Similarly, this phenomenon

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[18] Malaysian Biofuel Industry Act 2007, Act 666, Laws of Malaysia. See "Biofuels at what cost? Government support for biodiesel in Malaysia", Gregore Pio Lopez and Tara Laan, September 2008, an excellent analysis of the Malaysian biofuels industry, online: http://www.globalsubsidies.org/files/assets/Final_Malaysia_2.pdf (accessed on 20 September 2010).

[19] The Renewable Transport Fuel Obligation (Amendment) Order 2009, pursuant to the Energy Act 2004, "Amendment of article 4 (the renewable transport fuel obligation)".

can be observed in the case of "indirect land use change" which refers to changes in land use that take place elsewhere as a result of the biofuels project.[20] For example, food producers who have been displaced by the biofuel feedstock project may re-establish their operations elsewhere to make up for the shortfall in their production. Such indirect land use change, if it involves the destruction of carbon stocks in ecosystems such as grassland, peatland or wetlands, results in the release of significant GHG emissions. The problem is that the calculation of GHG emissions associated with land use change is complex and fraught with uncertainty. A number of scientific studies show very different results and thus are not conclusive on whether biofuels overall produce more GHG emissions than fossil fuels.[21]

Currently, less than one percent (1%) of global agricultural land is used for cultivating biofuels feedstock crops and land use change associated with bioenergy represents a very small percentage of overall changes in land use.[22] However, growing concern about the impact of large-scale biofuels production on issues including environmental sustainability, food security and human rights has prompted policymakers to examine these issues more closely. The European Commission, for example, has commissioned studies to better understand the phenomenon of indirect land use change.[23]

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[20] Goran Berndes et al., "Bioenergy, Land Use Change and Climate Mitigation", International Energy Agency Bioenergy and Swedish Energy Agency, January 2011, available online: http://www.task39.org/LinkClick.aspx?fileticket=DXFvMlp43Yk%3D&tabid=4426&language=en-US (accessed on 20 March 2011) at page 4.

[21] See discussion at pages 32-33 of the Nuffield Council on Bioethics report, "Biofuels: ethical issues" (April 2011), available online: www.nuffieldbioethics.org (accessed on 9 June 2011).

[22] Ibid.

[23] These studies are available online at: http://ec.europa.eu/energy/renewables/studies/land_use_change_en.htm (accessed on 20 March 2011).

Apart from the issue of GHG emissions, the production of biofuels raises other environmental and social concerns (referred to as "non-carbon concerns"). As corporations and States respond to the upsurge in demand for biofuels by increasing supply, this has intensified environmental stress and given rise to deleterious effects on biological diversity, soil, air, and water resources. For example, the clearing of land in the Amazon region and Southeast Asia to plant soy and palm (two major biofuels feedstocks) has destroyed natural habitats and plant species. Further, labour exploitation, the use of child labour, the loss of land rights for indigenous peoples where new plantations to produce biofuels feedstock are established have been documented.[24] Finally, the production of biofuels has been blamed for causing increases in the price of corn and other food staples by increasing competition for finite vital resources. [25] In 2008, when food prices were soaring, the United Nations Special Rapporteur on the Right to Food Jean Ziegler labelled biofuels a 'crime against humanity' and demanded an international five-year ban on biofuels production.[26] The consequences of biofuels production for food security are a matter of fierce debate which must be addressed in the quest for fair fuels.

In the United Kingdom, concerns about the sustainability of biofuel productions led to the commission of a review by the UK Renewable Fuels Agency. The

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[24] This list of direct effects is reproduced from "The Gallagher Review of the indirect effects of biofuels production" (Renewable Fuels Agency, United Kingdom, July 2008), page 18. Also see the case study on Brazil at pages 36-37 of the Nuffield Council on Bioethics report, "Biofuels: ethical issues" (April 2011), available online: www.nuffieldbioethics.org (accessed on 9 June 2011).

[25] Ibid., page 19.

[26] See Jean Ziegler, Report of the Special Rapporteur on the Right to Food, UN Human Rights Council, GE.08-10098 (E) 180108.

Gallagher Review of the indirect effects of biofuels production was published in July 2008.[27] Amongst its recommendations was that "[t]he introduction of biofuels should be significantly slowed until adequate controls to address displacement effects are implemented and are demonstrated to be effective".[28] The review concludes that "it should be possible to establish a genuinely sustainable industry provided that *robust, comprehensive and mandatory sustainability standards* are developed and implemented"[29] (my emphasis) and "[t]he immediate focus for policy should be on implementing the necessary controls and conditions that will enable the industry to develop sustainably".[30] As we will see in Part II below, the EU has proceeded along with this approach in a broad manner with its sustainability scheme.

Part II: The EU Biofuels Sustainability Regulatory Regime

Part II begins by setting out the Sustainability Criteria applicable to biofuels sold in the EU. It then proceeds to examine the regulatory regime that has been developed to monitor and certify compliance with the Sustainability Criteria.[31] A comparison will then be drawn between the sustainability regulatory regime and the CDM. In both cases, a public actor (the principal) has delegated certain regulatory tasks to a private

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[27] "The Gallagher Review of the indirect effects of biofuels production", supra note 24.

[28] Ibid, page 8.

[29] Ibid, page 9.

[30] Ibid, page 10.

[31] A broad definition of "regulation" is used in this article. Regulation, as defined by Scott, refers to "any process or set of processes by which norms are established, the behavior of those subject to the norms monitored or fed back into the regime, and for which there are mechanisms for holding the behavior of regulated actors within acceptable limits of the regime."; Collin Scott, "Analysing Regulatory Space: Fragmented Resources and Institutional Design", Public Law (Summer 2001) 329 at 329.

actor (the agent) on the international level. The regulatory tasks involve monitoring and verifying complex and highly technical processes. More importantly, there are some fundamental structural issues in both the EU biofuels and CDM regulatory regimes that may contribute to the agents acting in rent-seeking ways, ultimately to the detriment of the environment.

Based on insights drawn from the literature on delegation theory, this Part argues that there are in fact two levels of delegation in the EU biofuels context which limits the comparison that can be drawn with the CDM. Further, biofuels certification schemes are usually the result of collaboration amongst NGOs, businesses, government, and intergovernmental organisations concerned with sustainability in biofuels production. The parties that create and implement a biofuels certification scheme, *i.e.* the 'certification scheme operator', do not all share the profit-seeking motive, unlike DOEs, and have to maintain a level of environmental rigour or at least be seen to do so in order to maintain their legitimacy. Certification schemes, however, face other pressures such as the risk that members will exit a scheme when it no longer serves its purposes such as guaranteeing access to markets.[32] As such, while a valid comparison can be drawn between DOEs and the certification scheme operators and the same problems that have threatened the integrity of the CDM may arise in the EU biofuels regulatory regime, this article argues that the extent to which the activities of the certification schemes will diverge from the aims of the European Commission will be smaller than the case of the DOEs in relation to the CDM Executive Board. The certification scheme operators are less able to engage in rent-seeking behaviour because they operate in a less monopolistic environment than

[32] Donald H. Schepers, "Challenges to Legitimacy at the Forest Stewardship Council" (2010) 92 Journal of Business Ethics 279-290 at 282-3.

DOEs currently do, for example. Further, the Commission is better placed than the CDM Executive Board to control the agent's behaviour because it has a wider enforcement toolkit, more experience and legitimacy.

The Article 17 Sustainability Criteria

The Renewable Energy Directive (RED) forms part of a 'far-reaching package of proposals that will deliver on the European Union's ambitious commitments to fight climate change and promote renewable energy up to 2020 and beyond'.[33] What is relevant for present purposes is the ten percent (10%) target laid down in Article 3(4): "Each Member State shall ensure that the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State".

Article 17 sets out the sustainability standards for biofuels, both imported and domestically produced within the EU.[34] It should be noted that a type of biofuel can be imported into the EU even if it does not meet the sustainability standards but compliance is required in order for the biofuel in question to count towards attainment of EU or national renewable energy obligations or to be eligible for financial support.[35] As the Sustainability Criteria were adopted under Article 95 of the EC

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[33] Directive 2009/28/EC on the promotion of energy from renewable sources OJ [2009] L145/16. See http://ec.europa.eu/environment/climat/climate_action.htm for details of the European Union's climate and renewable energy policy package (accessed on 20 December 2010) (hereinafter referred to as the Renewable Energy Directive).

[34] The criteria is also set out in the Fuel Quality Directive (Article 7(b) of Directive 98/70/EC as amended by Directive 2009/30/EC) for consistency.

[35] Directive 2009/28, Article 17(1).

Treaty, Member States are not permitted to adopt additional criteria or exclude biofuels on sustainability grounds other than those set out in the RED.[36]

The Sustainability Criteria are as follows:

1. Sustainably produced biofuels must achieve GHG emissions savings of at least 35%, rising to 50% from 2017. From 1 January 2018, GHG savings must be at least 60% for biofuels produced in installations which started production after 1 January 2017;[37]

2. Sustainably produced biofuels must not derive from raw materials obtained from land enjoying high biodiversity value (such status as determined in January 2008), for example, primary forest and highly biodiverse grassland;[38]

3. Sustainably produced biofuels must not be made from raw materials obtained from land with high carbon stock which refers to, for example, land which was considered wetlands and continuously forested areas in January 2008 and no longer has that status;[39]

4. Sustainably produced biofuels must not be produced from crops grown on land that was peatland in January 2008, unless it is shown that cultivation of the crops did not involve draining previously undrained soil.[40]

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[36] Paragraph 94 of the preamble to the directive.

[37] Ibid, Article 17(2).

[38] Ibid, Article 17(3).

[39] Ibid, Article 17(4).

[40] Ibid, Article 17(5).

The Commission is required to report to the European Parliament and the Council every two years on the implementation of measures taken to fulfill these Sustainability Criteria as well as the impact of the European Community's biofuels policy on a range of concerns such as food prices in developing countries and land-use rights.[41] The first reports are due in 2012.[42]

Much debate surrounded these criteria during the legislative passage of the RED.[43] The European Parliament's Committee on Industry, Research and Energy took the lead in progressing the Commission's proposed RED through Parliament and adopted a particularly strong stance on the Sustainability Criteria. The Committee would have added a 'food policy constraint' (that is, that the use of land for the production of biofuels should not be allowed to compete with the use of land for food production) and conditions relating to labour rights.[44] However, after much debate about whether these proposed conditions could be implemented in practice and whether they would comply with World Trade Organization (WTO) rules, they were eventually removed from the final text.

Thus, the EU has created a set of standards to guide the development of 'fair biofuels' but they are not mandatory and whether they can be considered robust and comprehensive is an open question. From the outset, the EU's policy is laudable given that no other state or regional bloc has introduced similar sustainability standards. The

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[41] Ibid, Article 17(7).

[42] Ibid.

[43] A. Swinbank, 'EU Support for Biofuels and Bioenergy: "Environmental Sustainability" Criteria and Trade Policy' (ICTSD Issue Paper No. 17, 2009) 6-8.

[44] Ibid.

WTO concerns are valid and the scientific complexity of the sustainability issues raised by biofuels production renders it appropriate to approach the issue incrementally and in a cautious manner. However, the issues raised by the Committee on Industry, Research and Energy are critical and cannot be ignored simply because they raise complex policy-making conundrums. As a result, the Commission has had to undertake further (on-going) research to evaluate the most appropriate way to address indirect land use change, for example.[45]

The Meta-Standard Approach

The Commission does not directly test biofuels for compliance with the Sustainability Criteria. It relies on a number of certification schemes to do so. Certification schemes can be developed by industry, business alliances, environmental NGOs and inter-governmental organisations. The implementation of the Renewable Transport Fuels Obligation (RTFO) in the UK is also based on the meta-standard approach to sustainability. The list of certification schemes that have been approved by the Renewable Fuels Agency, known as qualifying standards, gives us a fairly good idea of the type of certification schemes that will be put forward for recognition by the Commission.[46] The best known example will probably be the Forestry Stewardship Council or FSC as it is one of the earliest global sustainability standards

[45] "Report from the Commission on Indirect land-use change related to biofuels and bioliquids", 22 December 2010, COM(2010) 811 final.

[46] The list of qualifying standards can be found at http://www.renewablefuelsagency.gov.uk/page/qualifying-standards-summary (accessed on 15 February 2011).

to be developed.[47] Another is the Roundtable on Sustainable Palm Oil which counts banks, investors, industry, and NGOs amongst its members and was set up to address the "urgent and pressing global call for sustainably produced palm oil".[48]

The use of the term "certification scheme"

According to the guidance issued by the Commission (hereinafter "Commission's Guidance"), economic operators can demonstrate compliance with the Sustainability Criteria through the use of any 'voluntary scheme' that is recognised by the Commission for this purpose.[49] It should be clarified at this juncture that the term 'voluntary scheme' is used in the Commission Guidelines and the Renewable Energy Directive to refer to certification schemes that "[set] standards for the production of biomass products". These schemes can be distinguished from the bilateral or multilateral agreements containing provisions on sustainability that the European Community is committed to reaching with other jurisdictions.[50]

The reference to the 'voluntary' nature of these certification schemes alludes to the fact that most certification schemes for biofuels and related sectors such as agriculture and forestry are market-driven (by consumer demand and the rise of the corporate social responsibility ethos) and participation by companies is usually

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[47] For an excellent discussion of the FSC, see Steven Bernstein and Benjamin Cashore, "Nonstate Global Governance: Is Forest Certification a Legitimate Alternative to a Global Forest Convention?" in John Kirton and Michael J. Trebilcock (eds), *Hard Choices, Soft Law: Voluntary Standards In Global Trade, Environment And Social Governance* (Ashgate Publishing, 2004).

[48] See www.rspo.org for more information.

[49] Paragraph 2.2. of the Communication from the Commission on voluntary schemes and default values in the EU biofuels and bioliquids sustainability scheme (OJ 2010/C 160/01).

[50] Directive 2009/28, Article 18(4).

voluntary rather than mandated by law.[51] For the sake of clarity, however, this article consistently refers to certification schemes as such rather than adopt the term 'voluntary scheme'.

Benchmarking

Presently, the certification schemes can broadly be broken down into two groups – those developed with biofuels in mind, often focusing on a particular feedstock, and those designed with a broader agricultural remit but that still meet the requirements of the Sustainability Criteria. The schemes are at different stages of development. While most of them have been in operation for some time, some are still being developed.

Only certification schemes recognised by the Commission (through the process of 'benchmarking') will be qualified to certify biofuels for their compliance with the Sustainability Criteria. The 'benchmarking' process considers both the criteria covered by the certification scheme and robustness of the checks that are in place. When the Sustainability Criteria and its indicators are sufficiently met by a benchmarked certification scheme, an economic operator that is certified by this scheme will be able to demonstrate full compliance with the Sustainability Criteria. When the Sustainability Criteria and its indicators are insufficiently or partially met by a benchmarked certification scheme, the Commission can still confer recognition on the scheme but an economic operator that relies on this certification scheme will be

[51] Tim Bartley, "Certification as a Mode of Social Regulation", Jerusalem Papers in Regulation & Governance, Working Paper No. 8, May 2010, available online: http://regulation.huji.ac.il (accessed on 20 December 2010).

required to carry out supplementary checks on the compliance gaps. For example, the FSC's criteria mainly refer to forests and not to grasslands.[52] There are also no references to wetlands and peatlands in the FSC's criteria.[53] Therefore, FSC certification has been recognised by the UK Renewable Fuels Agency as a qualifying standard, but a biofuels producer that is FSC-certified will have to carry out supplementary checks to address the compliance gaps pertaining to peatlands and wetlands. Another example is the Roundtable on Sustainable Biofuels (RSB). With its tight focus on developing standards for sustainable biofuels production, the RSB fully meets all the Sustainability Criteria and its indicators.[54] An economic operator certified by RSB will therefore demonstrate full compliance with the Sustainability Criteria.

This system of benchmarking reflects the on-going efforts to develop appropriate certification schemes at this relatively early stage by drawing on the technical expertise and experience of earlier certification schemes such as the FSC (which was developed mainly to address illegal timber logging), encouraging such schemes to improve compliance with the Sustainability Criteria, and promoting the development of biofuels-specific certification schemes. Commonsense assumes that an economic operator will look for the most comprehensive standard to avoid the hassle of supplementary checks. In turn, certification standards will seek full compliance with the Sustainability Criteria to be more competitive. However, as biofuels certification is an emerging practice, it will take time for such efficiency to be achieved. A few

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[52] Renewable Fuels Agency (RFA), "RFA benchmarks of sustainability assurance schemes against the RED", available online: http://www.renewablefuelsagency.gov.uk/sites/rfa/files/RTFO_vs_EU_RED_Benchmark_-_RFA_version_150710.pdf (accessed on 16 June 2011).

[53] Ibid.

[54] Ibid.

factors hinder the realization of this ideal scenario. For one, a company may have to maintain certification by a sustainable forestry standard to continue selling to companies that demand such certification but will also have to seek additional certification by another standard to cater to the EU biofuels sector. The company is better off being certified only by the forestry scheme and carrying out supplementary checks for EU market access rather than face the costly and time-consuming prospect of multiple certification. For the forestry standard, it specializes in forestry practices and may want to continue to build on this comparative advantage rather than improve its biofuel benchmark rating at the risk of spreading its resources too thinly. Certification schemes that only partially meet the Sustainability Criteria will therefore continue to exist.

To demonstrate independence and transparency, certification schemes, in turn, require auditing by third-party entities such as consultants before it affixes its "approved" seal on the biofuel product. Dehue at al have described this mode of regulation as one based on a 'meta-standard': "Instead of requiring producers to be certified to the Meta-Standard directly, compliance with the Meta-Standard can be achieved through certification to existing standards which have proven to provide a sufficient guarantee that (most of) the…criteria of the Meta-Standard are complied with". [55] In short, the architecture of this regime rests on meta-standard certification by the European Commission of certification schemes that can be private, public or both in nature. The responsibility of monitoring and verification is divided amongst myriad actors, some of which will have to possess highly technical expertise and local knowledge in order to certify compliance 'on the ground'. The following sub-sections

[55] Dehue et al, "Towards a Harmonised Sustainable Biomass Certification Scheme", Ecofys 2007, online: http://www.globalbioenergy.org/bioenergyinfo/sort-by-date/detail/en/news/1191/icode/30/ (accessed on 1 March 2011), page 4.

elaborate on this meta-standard regime.

The role of the Commission

When the Commission receives a request for recognition of a certification scheme, it will assess whether the scheme fulfils the sustainability criteria and the assessment and recognition requirements set out in the Commission's Guidance. According to paragraph 2(1) of the Commission's Guidance, the Commission will assess a scheme regardless of its origin (i.e., whether developed by government or private organisations, and regardless of whether another recognised scheme already covers the same type of feedstock or geographical area. The Commission is clearly keen to recognise a broad range of standards so that economic operators will be able to seek certification from scheme(s) that suit their specific needs thereby reducing the administrative burden upon them. While the Sustainability Criteria do not include concerns such as food security, the Commission has to address these sustainability issues through its reports to the Council and Parliament. In this regard, the Commission intends to assess whether a scheme seeking recognition can also serve as a source of accurate data on these sustainability issues.

After the assessment process is completed, the Commission will formally adopt a decision which will be published in the Official Journal and referred to on the Commission's transparency platform. The decision will specify the part(s) of the Sustainability Criteria covered by a certification scheme and if the scheme provides any additional information on the other sustainability issues. The Guidance states that as a general rule, a certification scheme will be recognised for the maximum permitted period of five years. In the event that a certification scheme does not meet

the requirements, the Commission will inform the submitting organisation accordingly. Finally, the Commission should be informed of any changes that may affect the basis for initial recognition of the certification scheme so that the Commission is able to evaluate if the initial recognition is still valid.

It should be noted that the Commission will not be conducting the assessment process on its own. The Commission is required to seek the opinion of the Committee on the Sustainability of Biofuels and Bioliquids established pursuant to Article 25(2) of the Renewable Energy Directive.[56] This Committee comprises of representatives of the Member States and is chaired by a representative of the Commission.[57] A draft of any measures to be taken must be submitted by the Commission to this Committee which will deliver its opinion (by voting, if necessary).[58] The Commission is required to 'take the utmost account of the opinion delivered by the committee… [and] shall inform the committee of the manner in which the opinion has been taken into account.[59] The Commission is also required to inform the Parliament of committee proceedings on a regular basis.[60] The Committee held its first meeting on 7 October

[56] Article 18(6) of the Renewable Energy Directive. It should be noted that new rules governing the 'comitology' procedure entered into force on 1 March 2011. Regulation (EU) No. 182/2011, Official Journal of the European Union L55/14 (28 February 2011) repeals Decision 1999/468/EC. These new rules are not likely to affect the biofuels decision-making procedure outlined above. I am grateful to Joanne Scott for bringing this to my attention.

[57] Articles 18(6) and 25(3) of the Renewable Energy Directive; Articles 3 and 7 of Council Decision of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (Decision 1999/468/EC).

[58] Article 3(3), Decision 1999/468/EC.

[59] Article 3(4), Decision 1999/468/EC.

[60] Article 7(3) of Decision 1999/468/EC states that the Parliament shall receive agendas for committee meetings, draft measures submitted to the committee, the results of voting and summary records of the meetings and lists of the authorities and organisations to which the persons designated by the Member States to represent them belong.

2010 to adopt its rules of procedure and to consider a draft Commission decision on the types of information to be submitted by economic operators to Member States.[61] Most of the organisations present at the meeting were ministries of transport, energy, environment and industry.[62]

The Role of the Certification Schemes

In the biofuels meta-standard regulatory architecture, the Commission has outsourced verification responsibilities to certification schemes which qualify for the job by meeting, in part or whole, the Sustainability Criteria. The importance of the auditing processes being carried out with the highest degree of professional integrity cannot be overstated. Borrowing the language used in the official press release announcing the contents of the Commission Guidance, "[o]ne of the main criteria is that [the certification schemes] have independent auditors which check the whole production chain, from the farmer and the mill, via the trader, to the fuel supplier who delivers petrol or diesel to the filling station. The Communication sets standards requiring this auditing to be *reliable* and *fraud-resistant*" (my emphasis).[63]

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[61] Summary Report, Meeting of the Committee on the Sustainability of biofuels and bioliquids held in Brussels on 7 October 2010, available online: http://ec.europa.eu/transparency/regcomitology/index.cfm?do=search.dossierdetail&B0tG0VPBRDrNnaKqX3jhE8IeGQ7wtS13vL8dQm/aGo9sgRhLJX/HPj4gwIuGyS1X (accessed on 1 January 2011).

[62] See Annex I, Summary Report, ibid.

[63] "Commission sets up system for certifying sustainable biofuels", http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/711&format=HTML&aged=0&language=en&guiLanguage=en (accessed on 3 January 2011).

From the outset, a certification scheme is expected to ensure that economic operators are audited before they are permitted to join the scheme.[64] Subsequently, economic operators should be audited at least annually and the Commission permits the auditing process to be limited to a sample group, with different economic operators forming the sample size each time. The auditor should be external (ie: the audit is not performed by the economic operator or the certification scheme itself), independent (ie: the auditor is independent of the activity being audited and free from conflict of interest), and possesses the requisite skills to carry out such audits. An example of how an auditor can demonstrate that it possesses the requisite skills is that it is accredited to carry out audits in accordance with *ISO (International Organisation for Standardisation) 19011 establishing guidelines for quality and/or environmental management systems auditing*.[65] An auditor must also be capable of carrying out a risk analysis, propose a verification plan and seek the requisite evidence from the economic operator before issuing verification conclusions. The onus is on an economic operator that is seeking certification to maintain operating systems that are auditable and to prepare the information for auditing purposes.[66]

Benefits of the Meta-Standard Approach

There are some clear advantages to the meta-standard approach. Many certification schemes (the FSC, the Sustainable Agriculture Network/Rainforest Alliance (SAN), the Basel Criteria for Responsible Soy Production, just to name a few) developed by civil society organisations and business alliances to promote

[64] Paragraph 2.2.2. of the Commission's Guidance.

[65] Example drawn from Table 2, Commission's Guidance.

[66] Paragraph 2.2.1 of the Commission's Guidance.

sustainable practices in feedstock production already exist. The use of a meta-standard essentially avoids reinventing the wheel, and in turn, saves time and costs. Developing a certification scheme through a multi-stakeholder process can take several years of bargaining and scientific testing. It also takes a long time for certification schemes to gain legitimacy and producer acceptance. Existing sustainability certification schemes already have that. Voluntary certification as a business practice does not normally fall foul of international trade rules. As such, the use of a meta-standard for biofuels certification also reduces the likelihood of falling foul of World Trade Organization rules which prohibit the use of technical regulations as non-tariff trade barriers and discriminatory treatment of imported products.[67] Finally, the promulgation of a meta-standard by a major market like the EU will contribute to the harmonization of standards and reduce the problems created by a proliferation of certification schemes. The existence of a plethora of certification schemes has caused producers and operators concern about the prohibitive costs associated with multiple certification (which will have a disproportionate effect on small-scale producers in developing countries) and how voluntary standards fit into regulatory regimes.[68] The creation of meta-standards which act as benchmarking systems provides some consolidation of the voluntary standards market.[69]

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[67] See discussion in Jody M. Endres, "Clearing the Air: the Meta-standard approach to ensuring biofuels environmental and social sustainability" 28(2010) Virginia Environmental Law Journal, pages 108-111.

[68] Kira Matus, *Assessing Challenges for Implementation of Biofuels Sustainability Criteria, 25-26 January 2010, Inter-American Development Bank, Washington DC, Workshop Report*, page 5, online: http://www.unep.fr/energy/activities/sustainabilitycert/pdf/Report_workshop_IDB-UNEP_KMFinal.pdf (accessed on 20 September 2010).

[69] An interesting analogy can be drawn with similar harmonization efforts in the voluntary carbon market; see Michelle Passero, "The Voluntary Carbon Market: Its Contributions and Potential Legal and Policy Issues" in David Freestone & Charlotte Streck (eds.) *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*, pages 525-527.

Comparing the EU Biofuels Sustainability Scheme and the Clean Development Mechanism

The close resemblance between the role of DOEs in the Kyoto Protocol's CDM and the certification schemes in the EU sustainability scheme allows for a useful comparison to be drawn. The aim is to establish the likelihood that problems similar to the DOE- related issues that have threatened the environmental integrity of the CDM system will emerge in the biofuels context and to explore the ramifications of such findings. The delegation theory offers a framework for this discussion. This section begins with a succinct account of the key aspects of the delegation theory. This is followed by a brief account of the principal-agent relationship engendered by the delegation of power from the CDM Executive Board to the DOEs. We then compare the DOEs and the certification schemes in their respective regulatory contexts. The central argument is that the potential for rent-seeking behaviour by the biofuels certification scheme operators is restricted by the need for certification schemes to maintain their legitimacy and the Commission's ability to monitor the behaviour of these schemes.

Delegation

Delegation theory was originally developed in new institutional economics in the 1970s, and has only recently been used to explain the principal-agent relationship between states and international organisations.[70] Hawkins et al define delegation as 'a

[70] See, for example, Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney, *Delegation and Agency in International Organizations* (Cambridge: Cambridge University Press,

conditional grant of authority from a principal to an agent that empowers the latter to act on behalf of the former. This grant of authority is limited in time or scope and must be revocable by the principal'.[71]

Why delegate?

Efficiency arguments constitute the main explanation for why a principal would choose to delegate powers to an agent at the international level. First, the principal may gain benefits from the division of labour and consequent specialization. The principal might wish to utilize the expertise that an agent possesses and not incur the costs of developing the expertise itself. Secondly, the principal may simply lack the economic or technical capacity to perform the task and therefore has to delegate it to an agent. Thirdly, private actors may be more efficient than public actors in carrying out governance because they are less bureaucratic and must work more efficiently in order to survive in a competitive environment. Finally, delegation can lower the costs of cooperation by facilitating collective decision-making and locking in certain common practices. However, it is salient to note that delegation does not necessarily enhance efficiency in all instances. As Donnelly puts it, "a mistake often made is to assume that private delegation *will* enhance efficiency, rather than realizing that private delegation *may* enhance efficiency and effectiveness when it is

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2006); Jonas Tallberg, *Leadership and Negotiation in the European Union* (Cambridge: Cambridge University Press, 2006); Daniel L. Nielson & Michael J. Tierney, "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform" (2003) 57:3 International Organizations 241.

[71] Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney, 'Delegation under anarchy: states, international organizations, and principal–agent theory', in *Delegation and Agency in International Organizations*, page 7 of 3–38

accompanied by a complex array of favorable conditions, such as a strong supervisory framework and satisfactory market conditions" (italics original).[72]

Drawbacks

There are two main disadvantages of delegating to an agent. First, there is the obvious reduction in the principal's autonomy when decision-making authority is delegated to the agent. Secondly, agents often have their own agenda and it is hard for the principal to determine whether the agent is pursuing its own interests at the principal's expense because the principal can never have a better understanding of the agent's interests and actions than the agent itself. Epstein and O'Halloran argue, for example, that 'principals can usually mitigate conflicts of interest through the careful design of incentive contracts but can rarely control agents perfectly'.[73] This information asymmetry between the principal and agent has two consequences. First, central to the concept of delegation is that the principal can withdraw the grant of authority anytime when it perceives the costs of delegation to outweigh the benefits. However, with insufficient information vis-à-vis the agent, the principal will find it difficult to know when to exercise this power of withdrawing the delegated authority. Secondly, the combination of information asymmetry and divergence between the interests of the principal and the agent (for example, profit maximization) increases the risk of 'slack' or undesired behavior on the part of the agent.[74] According to this line of logic, the agent will act in accordance with the principal's preferences only if it

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[72] Catherine M. Donnelly, *Delegation of Governmental Power to Private Parties* (Oxford University Press, 2007), page 78.

[73] David Epstein & Sharyn O'Halloran, *Delegating Powers: A Transaction Cost Politics Approach to Policy Making under Separate Powers* (Cambridge: Cambridge University Press, 1999) at 28.

[74] Hawkins et al, above.

is advantageous for it to do so. As such, the incentive structure of the principal-agent relationship requires careful design to align the preferences of the two actors.

Detailed Rules versus Broad Principles

There are two ways in which the principal-agent relationship can be structured to minimize the risk of slack. The principal can set out detailed rules that prescribe the agent's course of action in various factual contexts (rule-based delegation).[75] Alternatively, the principal can lay down broad principles and allow the agent discretion to decide how best to carry out the task at hand.[76] The disadvantage of rule-based delegation is that the principal must develop the necessary expertise to write the rules, thereby incurring costs and reducing the specialization gains of delegation. Rule-based delegation also introduces a degree of inflexibility into the regulatory system and restricts the agent's ability to respond effectively to change. The proliferation of rules can lead to uncertain and inconsistent application, thereby frustrating regulatory goals.[77] On the other hand, when broad principles are used to guide the exercise of delegated authority, accountability mechanisms are required to perform checks and balances on the agent's exercise of its discretionary powers. Specific rules can also be beneficial in terms of bolstering the agent's ability to maintain independence. In the financial auditing context, it has been observed that auditors may prefer specific standards as they provide better support when the auditor chooses to take a position that is contrary to the interests of its client but is in the

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[75] Kathleen M. Sullivan, The Supreme Court, 1991 Term – Foreword: The Justices of Rules and Standards, 106 Harvard Law Review 22, 57 (1992).

[76] Adrian Vermeule, "Interpretive Choice", 75 New York University Law Review 74, 92 (2000).

[77] Kenneth A. Bamberger, "Regulation as Delegation: Private Firms, Decisionmaking, and Accountability in the Administrative State" (2006) 56 Duke Law Journal 377, at 387-388.

interests of its principal, the corporate shareholders.[78]

Police Patrols and Fire Alarms

The principal can monitor the agent's activities by 'police patrols' which refers to direct monitoring to identify malfeasance or by implementing a system of 'fire alarms' which relies on affected third parties to bring evidence of slack to the principal's attention. A dispute settlement mechanism that gives affected third parties the right to bring proceedings is an example of a 'fire alarm'. 'Fire alarms' are more effective and efficient to the extent that the principal does not have to spend resources searching for slack when none exists.[79] However, they are an effective check on the agent's behavior only if affected third parties have sufficient incentive to draw attention to the problem. Further, affected third parties must have sufficient information or knowledge to identify slack in the first place. 'Police patrols' and 'fire alarms' are not mutually exclusive monitoring techniques, and most regulators will use both to varying degrees.[80] Finally, even in what appear to be self-regulatory systems, where rules and standards are not enforceable by a governmental authority, private firms may encounter internal policies, market pressures, reputational pressures, and informal norms that hold those firms accountable to their principals.[81]

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[78] J.C. Coffee Jr., *Gatekeepers: The Professions and Corporate Governance* (Oxford University Press, 2006), page 137.

[79] Hawkins et al, Page 28.

[80] Bawn, K., 1997, 'Choosing strategies to control the bureaucracy: statutory constraints, oversight, and the committee system', Journal of Law, Economics, and Organization 13, 101–126 at 104.

[81] Jody Freeman, "Private Parties, Public Functions and the New Administrative Law", in David Dyzenhaus, ed., *Recrafting the Rule of Law: The Limits of Legal Order* (Hart Publishing, 1999) 331 at 335.

Designated Operational Entities in the CDM world

This section gives a succinct overview of the role of the DOE in the CDM regulatory structure. It will become clear that the DOE and the certification scheme are similarly situated in their respective regulatory contexts to justify comparison: the DOE/certification scheme acts as the agent for the CDM Executive Board/European Commission and it is in the very nature of principal-agent relationships, as the above account of the delegation theory informs us, that there always exists the potential for the agent to engage in rent-seeking behaviour (hence diverging from the principal's preferences, which in the CDM and biofuel contexts, are assumed to be good regulatory performance and ultimately environmental integrity).

Established as one of the three market mechanisms of the Kyoto Protocol to help industrialized countries meet their emission reduction commitments in a cost-effective manner, the Clean Development Mechanism allows an Annex I Party to receive carbon credits (Certified Emission Reductions or CERs) for an investment in an emission reducing project in a developing country.[82] One of the most innovative features of the CDM is the direct involvement of private entities in the compliance framework of the Kyoto Protocol. The CDM allows countries to authorize private sector entities to sell and acquire emission reductions from projects in developing countries. The CDM also outsources regulatory functions to private entities.

[82] Annex I refers to the Annex to the UN Framework Convention on Climate Change and the Kyoto Protocol which lists the countries which agreed to assume binding emission limitation and reduction targets. Such targets are set in Annex B of the Kyoto Protocol (hereinafter 'KP'), 37 ILM (1998) 22, which came into force on 16 Feb. 2005.

While the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol or the COP/MOP is the ultimate authority of the CDM, the day-to-day supervisory work is undertaken by the Executive Board.[83] The Executive Board is composed of ten members and ten alternate members from Parties to the Kyoto Protocol who are nominated by the COP/MOP. The Executive Board is assisted by a number of panels and working groups as well as the DOEs. The DOEs have been described as the "so-called extended arm of the CDM's supervisory executive board".[84] These third-party auditors are involved in two stages of the CDM project cycle: (1) the validation stage and (2) verification.[85] At the validation stage, the responsibility of a DOE is to validate a CDM project by independently evaluating the project design against the CDM requirements, including a substantive review of the baseline and monitoring methodology, and assuring that an adequate monitoring plan is in place to safeguard against the overstatement of emissions reductions.[86] At the verification stage, another DOE is supposed to verify the amount of emissions reductions before it submits a report to the CDM Executive Board accompanied by a request for the issuance of CERs. DOEs are only permitted to validate or verify projects within the "sectoral scopes" for which they are accredited. For example, a DOE accredited to evaluate waste handling projects is not permitted to evaluate

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[83] Art. 12(4) of Kyoto Protocol: "The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism".

[84] Tyson W. Dyck, "Enforcing Environmental Integrity: Emissions Auditing and the Extended Arm of the Clean Development Mechanism", draft manuscript, page 2 (final edition of the article will appear in (2011) 36 Columbia Journal of Environmental Law) (hereinafter "Dyck").

[85] See Charlotte Streck and Jolene Lin, "Making Markets Work: A Review of CDM Performance and the Need for Reform" 19 (2008) European Journal of International Law 409-442, pages 414-5 for description of the CDM project cycle.

[86] The DOE's scope of work is set out in Section E of Decision 3/CP. 7/CMP.1. The criteria that a Project Design Document must meet are set out in Appendix B, Decision 3/CP.7/CMP.1.

energy projects unless it is accredited to do so.

The DOE as agent of the CDM Executive Board

Green theorises that there are two levels of delegation in the CDM context. The first is the delegation of authority from the COP/MOP to the CDM Executive Board, and the second is the delegation of monitoring and verification functions from the CDM Executive Board to the DOEs. However, the principal-agent relationship is really the latter one as the MOP and CDM Executive Board may be said to be a collective principal sharing similar preferences.[87] We adopt Green's argument in this article, therefore 'principal' refers to the Executive Board and 'agent' refers to the DOE.

There is a growing body of literature on the problematic nature of the CDM, and relevant to present purposes, the regulatory performance of the DOEs.[88] Green, for example, argues that even though the CDM was designed in a way to maximize the Executive Board's control over the DOEs and many of the oversight procedures in place appear to be functioning well, there are some fundamental structural issues that may contribute to the DOEs acting in rent-seeking ways (e.g., signing off on projects

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[87] Jessica F. Green, "Delegation and Accountability in the Clean Development Mechanism: The New Authority of Non-State Actors" (2008) 4 Journal of International Law & International Relations 21 at pages 29-31 (hereinafter "Green").

[88] On reform of the CDM generally, see for example, Lambert Schneider, "Is the CDM fulfilling its environmental and sustainable development objectives? An evaluation of the CDM and options for improvement (2007), online: http://www.oeko.de/oekodoc/622/2007-162-en.pdf (accessed on 1 February 2011) and Maosheng Duan, "Reform of the Clean Development Mechanism: Where Should We Head For?" forthcoming in (2011) Vol. 5(2) Carbon and Climate Law Review (on file with author). On the DOEs, see Green, supra note 90 and Dyck, supra note 87.

that may not abate GHG emissions or do not abate at the level stated in the project's documentation).[89] The monopolistic nature of the DOE market is one such structural issue. For example, while the CDM rules require different DOEs to validate and verify each project to avoid potential conflict of interest, the small number of accredited DOEs has meant that it has sometimes been impossible to find two different DOEs to abide by this rule. There is a provision in the CDM rules that allows for exceptions, and Green's analysis shows that it is invoked quite frequently. 27% of all projects for which credits have been issued were validated and verified by the same DOE.[90] Her study also shows that the three most active DOEs often validate or verify each others' projects. This increases the potential payoff of reciprocity. Since it is very likely that one of two firms will be verifying the work of the third, there is a benefit to approving their projects, as well as a potential cost to not doing so.[91]

Dyck's research on the DOEs' implementation of their mandate has yielded interesting findings. He identified a number of factors that affect the accountability of DOEs. First, there is the potential conflict of interest created by the profit-making motive. While the DOEs owe a duty to the Executive Board and some do perceive themselves as an extension of the Executive Board (that is, as playing a quasi-regulatory rule), they are susceptible to coercion in their business relationships with project developers.[92] Dyck notes that there are rumours that project developers have refused to pay DOEs for their services because of negative validations. DOEs are also concerned that stringent verification will lead to the loss of future business

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[89] Green, supra note 90 at page 21.

[90] Ibid, page 49.

[91] Ibid, page 50.

[92] Dyck, pages 68-9.

opportunities. Overall, Dyck did not find widespread evidence of overt manipulation, but considerable implicit economic pressure, especially on issues where the validation and verification standards are unclear. In such cases, depending on the type and size of the project developer, it may try to influence the assessor/auditors's opinion and is able to do so as it wields power such as the implicit threat to withdraw the project or future ones from that DOE.[93] Dyck also suggests that repeat relationships between a DOE and a project developer raise independence concerns. Given that many DOEs receive the bulk of their business from a few large project developers, there may be pressure on the DOEs to issue positive valuations in order to retain those limited clients.[94]

The Certification Scheme Operator as Agent of the Commission

At first glance, many of the issues raised above in relation to the DOEs will appear to parallel similar concerns about the biofuel certification scheme operators. This is not surprising given the clearly established principal-agent relationship in both contexts and the reliance on private agents which potentially face conflicts of interest in carrying out their quasi-regulatory functions because of their profit-making motive. In the case of the EU sustainability scheme, one could argue that the European Parliament has delegated biofuels regulation to the Commission, but this article will focus on the relationship between the regulatory, rather than legislative, bodies and private recipients of delegated regulatory functions. The Commission has delegated authority to certification scheme operators because of the large amount of resources that would be required to verify each biofuel operator. The Commission will also be

[93] Dyck, Page 71.

[94] Dyck, Page 74.

better off tapping the expertise of environmental consultants and certification schemes that will be more familiar with the local conditions in biofuel producer countries outside the EU.

Comparing the DOEs and the Certification Scheme Operators

A salient distinction between the CDM and the biofuels regulatory structures lies in the levels of delegation. In the EU biofuels regulatory regime, there are two levels of delegation which must be considered. There is one level of delegation from the European Commission to the operators of recognised certification schemes, and another level of delegation from the certification scheme operators to independent third-party auditing firms.

For the second level of delegation, some of the problems that beset the DOEs may also apply to the environmental consultancies that audit the performance of the biofuels producers. These problems include the incentive for environmental consultancies to apply less stringent standards because of their forward-looking concern to retain business, the relatively small number of environmental auditing firms in the market which increases the potential for collusion and other monopolistic tendencies, and the wide latitude for advocacy by the biofuels producer to influence the auditor's assessment given the fluidity of the standards applied by certification schemes and ultimately, the EU Sustainability Criteria. It can also be argued that

auditing firms can never be independent if their services are paid for by the auditee.[95] As a federal judge noted in a U.S. Securities and Exchange Commission roundtable discussion on financial auditing reform, the idea of a company hiring and paying its own watchdogs is as if an author hired his book reviewers or a slaughterhouse hired its meat inspectors.[96] In the biofuels certification context, the economic operator seeking certification hires the auditing firm. The certification schemes have procedures and regulations that seek to ensure that auditing firms are independent and free from conflicts of interest.[97] For example, the Roundtable on Sustainable Palm Oil (RSPO) has a detailed set of auditing firm requirements and conducts training workshops for auditors to familiarise themselves with the RSPO certification requirements. Auditing firms for RSPO are themselves required to undergo third-party assessment by Accreditation Services International (ASI) and these assessment reports are made available on the RSPO website with an open invitation for feedback on the auditing firm in question.[98] It is arguable that these mechanisms do not completely remove the perverse incentives created by the economic operator seeking certification hiring its auditing firm, and it is preferable that certification schemes pay for the auditing services instead. The key idea is that the certification scheme could be the proper principal for the auditing firm. This idea may take root eventually, but the

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[95] This issue of the independence of auditors also arises in financial regulation. For discussion, see e.g., Amy Shapiro, "Who Pays the Auditor Calls the Tune?: Auditing Regulation and Clients' Incentives" (2005) Vol. 35 Seton Hall Law Review 1029.

[96] Securities and Exchange Commission, Roundtable Discussion on Financial Disclosure and Auditor Oversight (6 March, 2002), online: http://www.sec.gov/spotlight/roundtables/accountround030602.htm (accessed on 28 June 2011).

[97] See, for example, the RSPO Certification Systems Document, online: http://www.rspo.org/files/resource_centre/RSPO%20certification%20systems_1.pdf (accessed on 28 June 2011).

[98] Information on RSPO website, online: http://www.rspo.org/ (accessed on 28 June 2011).

current practice in voluntary certification is that the company seeking certification hires the auditing firm. This leads us back to the point that at this second level of delegation of monitoring authority from the certification scheme operators to auditing firms, some of the problems that beset the DOEs due to potential conflicts of interest may also arise in the biofuels certification context.

At the first level of delegation, however, the principal-agent dynamics involving the Commission and the certification scheme operator are different. It can be argued that two key factors will serve to reduce the divergence in the preferences of the principal and agent: (1) the need for the certification scheme to maintain legitimacy and (2) the Commission's greater capacity to monitor its agents in comparison to that of the CDM Executive Board.

Legitimacy

Certification schemes are usually privately organized and supported by coalitions of non-governmental organisations, firms, foundations. In fact, biofuels certification schemes belong to the fourth generation of business and NGO-defined sector-specific codes and labelling programmes as identified by Nadvi and Waltring.[99] Fourth generation certification schemes share the characteristics of being formulated and implemented mainly through collaboration between NGOs and businesses. They feature third-party monitoring through auditors and, in general, are widely employed in highly globalised industries which involve substantive environmental risks such as chemicals, mining and forestry. Scholars have argued that risk and learning provide

[99] Nadvi and Waltring, "Five Generations of Codes and Labels" reproduced in Doris Fuchs, "Understanding Business Power in Global Governance" (Nomos, 2005), page 134.

the main sources of momentum behind the rise of certification schemes. Risk refers to both the economic risk of consumer boycott and the political risk of public regulation.[100] Certification schemes and codes of conduct manage these risks by allowing businesses and industry sectors to convey information about environmental matters to governments and the public to demonstrate willingness to improve their behaviour.[101] Further, it has been argued that learning has fostered the development of certification schemes as transnational epistemological communities of managers, consultants and certifiers have developed which foster awareness and the transfer of business practices.

It can be argued that operators face two key incentives to promote the legitimacy of their certification schemes. Firstly, certification schemes must compete with each other for credibility and recognition, their raison d'etre.[102] Companies depend on a certification scheme's credibility to communicate a positive message about their environmental performance and recognition is vital for creating consumer demand for certified products. As these transnational governance regimes are neither elected nor representative (that is, in the same way that a government can only exist by democratic basis at the national level), the authority or credibility of certification schemes rests entirely on its moral legitimacy. Moral legitimacy would depend on the evaluation of outcomes, procedures, organisational structures, and fair representation of stakeholders.[103]

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[100] Ibid, page 135.

[101] Ibid.

[102] Bartley, supra note 51, at page 4.

[103] J.G.S. Koppell, "Global Governance Organizations: Legitimacy and Authority in Conflict" (2008) 18 Journal of Public Administration Research and Theory 177-203.

In relation to outcomes, a certification scheme that is recognised by the EU will be expected to promote and achieve compliance with the Sustainability Criteria. This expectation will be held by its members, environmental NGOs and the Commission. NGOs that participate in the formulation and implementation of certification schemes play an important role of "question[ing], [probing] and act[ing] as the green lobby" and in this way, "they lend the certification scheme legitimacy".[104] In other words, the NGOs defend the sustainability objective *within* the certification scheme and in this manner, reduce the likelihood of the certification scheme diverging from the Commission's regulatory objective.

As briefly mentioned earlier, industry members themselves have an interest in ensuring that a certification scheme is deemed credible and able to deliver premium prices on the goods certified by the scheme or secure access to certain markets. Highly visible public campaigns against prominent brands and major multinational corporations for their indirect involvement in environmentally destructive activities such as deforestation have also increased the stakes involved: industry, particularly in highly controversial sectors like palm oil, have an incentive to support credible certification schemes whose logos they can affix to their products to manage the pressures exerted by NGOs and consumers.[105] Industry members are more likely to exit a scheme when the benefits of certification no longer outweigh the costs, for example, when certification does not guarantee a price premium because there is insufficient market demand for certified products.[106]

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[104] Interview with a sustainability manager of a major biofuels processor, on file with author.

[105] "The other oil spill: the campaign against palm oil", The Economist, 24 June 2010.

[106] See Donald H. Schepers, "Challenges to Legitimacy at the Forest Stewardship Council" (2010) 92 Journal of Business Ethics 279-290 at 286 for discussion of this issue in the context of the Forest Stewardship Council.

Thus, the need for certification schemes to maintain credibility in order to remain in the 'marketplace' leads to behaviour that enhances legitimacy. Such behaviour includes the operator pursuing or at least being seen to pursue environmental sustainability, which is an objective shared by the Commission. Using the delegation theory framework, the agent's quest for legitimacy acts as a countervailing incentive against slack and, in fact, serves to align the preferences of the agent and the principal. This is in contrast with the DOEs in the CDM context. One can assume that DOEs, as third-party independent verifiers, should be concerned to maintain their legitimacy and reputational capital.[107] It seems that the Executive Board's relatively frequent resort to suspensions to sanction DOEs has reduced the reputations of all DOEs to the lowest common denominator. As such, while the DOEs recognise the importance of maintaining their reputation for independence and that suspension can adversely affect business, the reputational loss is somewhat less of a concern given the entire industry's tainted reputation.[108] The maintenance of reputational capital is a less effective countervailing incentive against rent-seeking behaviour than it could otherwise be.[109]

The Commission's Monitoring Capabilities

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[107] See Kevin T. Jackson, *Building Reputational Capital: Strategies for Integrity and Fair Play That Improve the Bottom Line*, Oxford University Press, 2004 for discussion of reputational capital which Jackson defines as "a firm's intangible long-term strategic assets calculated to generate profits" which is part of a new global business ethic that features growing expectations of corporate social responsibility (page 3).

[108] Many market participants also believe that the suspensions lack legitimacy, for example, because the suspensions concern actions that do not materially affect the emissions reductions of the project in question; Dyck, page 80.

[109] Dyck, page 76-77.

From the outset, the process of benchmarking and evaluation that is undertaken before the Commission recognises a certification scheme is perhaps the most carefully monitored component of the biofuels regulatory framework. This makes sense as careful screening of potential agents can help reduce the likelihood of the principal delegating to an agent with wide preference divergence.[110] Depending on how stringent the Commission and its advisory committee are with their selection process, this stage could serve an effective gate-keeping function and ensure that certification schemes that share the Commission's preference for the environmental integrity of biofuels production are recognised.

As discussed above, a principal can monitor its agent's activities through 'fire alarms' which rely on third parties to bring evidence of slack to the principal's attention. In Europe, a consortium of NGOs has been actively involved in shaping biofuels policy.[111] This consortium includes two influential critics of biofuels, Friends of the Earth and Greenpeace, which have been putting pressure on governments to drop biofuels targets and suggesting that biofuels cause more problems than they solve. Heavy lobbying by this consortium has had considerable influence on EU biofuels policy and we can expect that these NGOs will continue to monitor the implementation of the Sustainability Criteria with a critical and vigilant eye. They are the most likely entities to trigger 'fire alarms' and alert the Commission of any slack on the part of the certification schemes. Further, a noteworthy feature of

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[110] Daniel L. Nielson & Michael J. Tierney, "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform", 57(3) International Organization (2003), 241.

[111] Sarah Pilgrim and Mark Harvey, "Battles over Biofuels in Europe: NGOs and the Politics of Markets", Sociological Research Online 15(3)(4), August 2010.

the Commission is the extent to which it is open to external influences. A study has shown that Commission officials spend almost forty percent (40%) of their time on policy-related matters with people outside the Commission.[112] Chalmers and Tomkins suggest that '[t]he problem is frequently not that [the Commission] does not listen, but rather to whom it listens'.[113] For present purposes, the salient point is that NGOs are likely to play an important monitoring role in the EU biofuels regulatory regime. In comparison, NGOs have played a more muted role in the CDM context, an issue to which we shall turn our attention.

The environmental NGOs that engage in the institutionalized global politics of climate change fall into a few broad categories. There are the transnational coalitions linking many local NGOs under an 'umbrella' organisation to optimise on economies of scale. The network acts as a collective voice for the environmental community at international treaty negotiations. It also provides a forum for sharing ideas, debating issues and developing strategies to influence the process and outcome of treaty negotiations; the Climate Action Network is a good example of this type of transnational network actor.[114] There are the NGOs with an established presence in many jurisdictions and their headquarters or most well-resourced office in Europe or

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[112] L. Hooghe, "The European Commission and the Integration of Europe" (Cambridge: Cambridge University Press, 2001), page 41, cited in D. Chalmers and A. Tomkins, "European Union Public Law: Texts and Materials" (Cambridge: Cambridge University Press, 2007), page 92.

[113] D. Chalmers and A. Tomkins, "European Union Public Law: Texts and Materials" (Cambridge: Cambridge University Press, 2007), page 92.

[114] Michele M. Betsill, "Transnational Actors in International Environmental Politics" in Michele M. Betsill, Kathryn Hochstetler and Dimitris Stevis (eds.), "International Environmental Politics" (Palgrave Macmillan, 2006), page 189.

America, such as Greenpeace and World Wildlife Fund (WWF).[115] There are the many local and regional NGOs that lobby for developing country concerns such as funding for climate change mitigation and adaptation. Finally, there are the specialised NGOs which focus on specific issue areas in climate politics such as CDM Watch which was established in 2009 at the initiative of international NGOs to act as "a unique watchdog in the carbon market". CDM Watch declares itself as operating on three levels: "(1) Exposing flaws in international fora including UNFCCC conferences and CDM Executive Board meetings where CDM rules and the future of the CDM is being decided; (2) Closely watching credit buyers and the European decision making process around carbon offsets at European level; and (3) Empowering local communities and NGOs in the vicinities of projects, to understand the international carbon market and the enshrined public participation rights".[116] Sandbag is a UK-based NGO that tracks the development of emissions trading, specifically the European Union Emissions Trading Scheme (EU ETS) and the CDM. Again, the organisation seeks '..to act as a watchdog to ensure the schemes have integrity'.[117]

NGOs like CDM Watch and Sandbag address the problematic that the CDM decision-making processes lack transparency despite formal legal provisions for

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[115] These NGOs are central players in Brussels because they cover a wide range of EU environmental issues, including climate change and have a large number of supporters/members; Rudiger K.W. Wurzel and James Connelly, "Environmental NGOs: Taking a Lead?" in Rudiger K.W. Wurzel and James Connelly (eds.), "The European Union as a Leader in International Climate Change Politics" (Routledge, 2011), page 214.

[116] The CDM Watch website homepage, online: http://www.cdm-watch.org/?page_id=14 (accessed on 14 June 2011).

[117] Sandbag website, page "Why we are here", online: http://www.sandbag.org.uk/whywearehere/ (accessed on 14 June 2011).

public participation, and the need to make emissions trading understandable and the decisions that affect how it works much more visible.[118] The effectiveness of NGOs as monitoring watchdogs of the CDM is less a function of the number of NGOs operating in this specialised arena or the difficulties of deciphering the technicalities of CDM decision-making, but more the function of the receptiveness of the CDM Executive Board to external influence. While reforms of the CDM to foster greater transparency and accountability are on the agenda, the current state of international climate treaty negotiations has prevented much progress on this front.[119] It is fair to say that the Commission is more receptive to NGO involvement in biofuels policy than the CDM Executive Board is to NGO involvement. In involving NGOs in the implementation of its sustainability regulatory regime, the Commission thereby enjoys greater monitoring capacity though this should not be overstated as environmental NGOs have limited human resources.

The Commission has more experience than the CDM Executive Board in environmental regulation, broadly speaking, and a more clearly defined role as a regulator.[120] The original intention behind the CDM was to make a concession and create a role for developing countries to play in a market-based mechanism that could theoretically deliver some sustainable development benefits. The scale of its development and the consequent development of a market was unexpected. The CDM

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[118] Jolene Lin and Charlotte Streck, "Mobilising Finance for Climate Change Mitigation: Private Sector Involvement in International Carbon Finance Mechanisms" (2009) Vol. 10 Melbourne Journal of International Law, pages 87-89.

[119] Maosheng Duan, "Reform of the Clean Development Mechanism: Where Should We Head For?", forthcoming in (2011) Vol. 5(2) Carbon and Climate Law Review (on file with author).

[120] See Martin Hedemann-Robinson, *Enforcement of European Union Environmental Law*, (London: Routledge Cavendish, 2007), Part I which is dedicated to the role of the European Commission in enforcing EU environmental law.

Executive Board was therefore not prepared to play a regulatory role and did not see itself as a market regulator – no effort was made to develop a working relationship with the DOEs, which led to a high level of mistrust, and the casual use of suspension to discipline the DOEs has only bred sentiments of injustice and loss of the stigmatizing influence that gives suspension its effectiveness as an enforcement tool.[121]

Finally, it should be recalled that it is central to the concept of delegation that the principal can withdraw the grant of authority anytime. The Commission has the power to withdraw its recognition of a certification scheme whenever it is of the view that the scheme is no longer eligible though as the above discussion shows, this power should be used sparingly and as a matter of last resort. Certification schemes are also recognised only for a maximum period of five years, which gives the Commission the opportunity to review the eligibility of the certification schemes.

Part III: Conclusion

The use of biofuels and the emergence of a global biofuels market as domestic demand exceed production in jurisdictions such as the EU and the US will continue to raise important questions - questions about science and technology, the environment, North-South relations, global trade, and governance. This article has narrowly focused on the attempt by the EU to promote 'fair fuels' through the creation of a regulatory regime governing the sustainability of biofuels produced both within the EU and

[121] See Charlotte Streck and Jolene Lin, "Making Markets Work: A Review of CDM Performance and the Need for Reform" 19 (2008) European Journal of International Law 409-442, page 421 for conceptualization of the Executive Board as a market regulator.

elsewhere. The sustainability regulatory regime was discussed in the language of meta-regulation and delegation theory provided a theoretical framework for analysing the potential for rent-seeking behaviour by the quasi-regulators, that is, the certification schemes. Following a comparative analysis of the role of DOEs in the CDM and the certification schemes in the EU sustainability scheme, the conclusion was drawn that the latter were more unlikely to behave in rent-seeking ways than the former because of the need to maintain legitimacy and the enforcement role of the Commission.

The environmental regulation of biofuels is also an example of the EU using market access to drive improvements in global environmental governance through raising the environmental standards in their trading partners. Any attempt by a powerful developed country or regional bloc to use trade-related measures to advance environmental objectives always raises the difficult issues of economic protectionism and 'eco-imperialism'. These important issues which bear great impact on global trade, the environment, and the livelihoods of millions who depend on agriculture for their survival, will have to be left for another day.