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LOW-CARBON-EMISSIONS STANDARDS AND THE WTO: DO CALIFORNIAN MEASURES TARGETING GREENHOUSE GAS EMISSIONS DISCRIMINATE AGAINST CANADIAN OIL?

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I. INTRODUCTION

The movement to halt global warming and achieve ecologically sustainable growth has in recent years gained momentum and entrenched itself in the public consciousness. Most notably, international efforts focused on stabilizing and reducing greenhouse gas (GHG)[1] concentrations in the

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1 The Intergovernmental Panel on Climate Change (IPCC) defines GHGs as follows:

> Greenhouse gases are those gaseous constituents of the *atmosphere*, both natural and *anthropogenic*, that absorb and emit radiation at specific wavelengths within the spectrum of *thermal infrared radiation* emitted by the Earth's surface, the atmosphere itself, and by clouds. This property causes the *greenhouse effect*. Water vapour (H_2O), *carbon dioxide* (CO_2), *nitrous oxide* (N_2O), *methane* (CH_4), and *ozone* (O_3) are the primary greenhouse gases in the Earth's atmosphere. Moreover, there are a number of entirely human made greenhouse gases in the atmosphere, such as the *halocarbons* and other chlorine and bromine containing substances, dealt with under the Montreal Protocol. Beside CO_2, N_2O, and CH_4, the *Kyoto Protocol* deals with the greenhouse gases *sulphur hexafluoride* (SF_6), *hydrofluorocarbons* (HFCs) and *perfluorocarbons* (PFCs).

atmosphere resulted in the successful conclusion in 1997 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC).[2] More recently, delegates at the 15th session of the Conference of Parties to UNFCCC drafted and agreed to "take note of" the *Copenhagen Accord*, a document which endorses the continuation of the Kyoto Protocol and otherwise addresses global emissions.[3] While environmentalists and others would have hoped for more progress than has been achieved, the issue is firmly on the international agenda and will remain so for the foreseeable future. In the absence of a meaningful global agreement, however, the movement is shifting its attention to the domestic level. An increasing number of nations, and states or territories of nations, are considering implementing laws and regulations pressing for lower carbon emissions.[4] Some jurisdictions have already introduced such measures, including the

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See IPCC, *Climate Change 2007: Synthesis Report, Annex II: Glossary* at 82, online: <http://www.ipcc.ch> [emphasis in original].

2 See generally United Nations Framework Convention on Climate Change, *Kyoto Protocol*, online: <http://unfccc.int>. See also Michael Grubb, Christiaan Vrolijk & Duncan Brack, *The Kyoto Protocol: A Guide and Assessment* (Washington, DC: Brookings Institution, 1999); David G Victor, *The Collapse of the Kyoto Protocol and the Struggle to Slow Global Warming* (Princeton, NJ: Princeton University Press, 2004); Matthew J Hoffmann, *Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto* (Oxford, UK: Oxford University Press, 2011).

3 For information and analysis on the Copenhagen Conference and its perceived failure to deliver meaningful results, see Michael Levi, "Beyond Copenhagen: Why Less May Be More in Global Climate Talks", *Foreign Affairs* (22 February 2010), online: <http://www.foreignaffairs.com>; Daniel Bodansky, "The Copenhagen Climate Change Conference: A Postmortem" (2010) 104:2 AJIL 230.

4 The IPCC defined carbon dioxide as the following:

> A naturally occurring gas, also a by-product of burning fossil fuels from fossil carbon deposits, such as oil, gas and coal, of burning biomass and of land use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured.

See IPCC, supra note 1 at 77 [emphasis in original].

State of California, which introduced the Low Carbon Fuel Standard (LCFS) in January 2010.[5]

Given that the oil and gas industry accounts for a large percentage of carbon emissions, it has naturally become a target of both environmentalists and regulations aimed at reducing such emissions. This is particularly true of oil-sands (also referred to as "tar sands") projects, which due to their location and composition are viewed as "dirtier" than conventional oil.[6] Correspondingly, measures that aim to reduce carbon emissions will have a disproportionate impact on oil-sands projects and the countries where such deposits are concentrated.

This article will analyze the consistency of measures aimed at reducing carbon emissions that, by design or impact, restrict the importation and sale of oil sands with the commitments and obligations of the World Trade Organization (WTO). More specifically, this article will evaluate the impact of California's LCFS on Canadian oil sands with a view to determining whether the measure is consistent with the non-discriminatory provisions contained in the WTO's General Agreement on Tariffs and Trade (GATT) and/or whether it could be justified as an exception to the GATT. The issue is of the utmost importance to Canada, which not only is the leading oil exporter to the United States (averaging approximately 2,157,000 barrels of crude oil a day between January and September 2011),[7] but also holds the

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5 See State of California Office of Administrative Law, "Notice of Approval of Regulatory Action Adopting Title 17, California Code of Regulations Sections: 95480, 95480.1, 95481, 95482, 95483, 95484, 95485, 95486, 95487, 95489, 95490" (1 December 2010), online: California Environmental Protection Agency: Air Resources Board (CEPAARB) <http://www.arb.ca.gov> [California, "Adopting Title 17"]. For more on the approval process, see California Environmental Protection Agency: Air Resources Board, *Low Carbon Fuel Standard*, online: CEPA ARB <http://www.arb.ca.gov>.

6 "Unconventional oil" refers to oil that cannot be extracted in the traditional way (i.e., using oil wells) and typically requires additional processing prior to sale. See Canadian Association of Petroleum Producers (CAPP), "Oil Sands", online: CAPP <http://www.capp.ca>.

7 United States Energy Information Administration, "Crude Oil and Total Petroleum Imports Top 15 Countries" (29 November 2011), online: U.S. Energy Information Administration <http://www.eia.doe.gov>. In 2011, Saudi Arabia has overtaken Mexico as the second ranked country, exporting an average of 1,180,000 barrels per day to the

largest reserves of oil sands in the world (with the vast majority located in the province of Alberta).[8] This is not to suggest that a WTO dispute is imminent or even being contemplated; the broader point is to demonstrate that regulations targeting GHG emissions (i.e., cap-and-trade or carbon taxes) must be carefully crafted to avoid inconsistencies with WTO commitments.

Part II will provide a brief overview of the Canadian oil-sand industry and consider the environmental impact of its operations. Part III will review existing United States measures that affect the use of oil sand, with a particular focus on California's recently enacted LCFS. Part IV will analyze the consistency of the Californian measures with U.S. commitments under the WTO. Thus, while the U.S. measures ostensibly seek to protect the environment, Part IV will discuss whether they restrict the importation of Canadian oil in a manner that is inconsistent with the non-discriminatory provisions in the GATT requiring national treatment and/or most-favoured-nation status.[9] After finding potential inconsistencies with both Articles I and III of the GATT, Part IV will also consider and reject the possibility of the U.S. relying on one of the enumerated exceptions, namely Article XX(g) of the GATT, as a measure relating to an exhaustible natural resource.[10] Part V concludes by recommending that Members seeking to combat GHG be more mindful of WTO commitments when crafting legislation so as to maintain conditions of equality of opportunity while at the same time refraining from inadvertently discriminating against certain Members.

U.S. between January and September 2011. Mexico ranks a close third, averaging 1,113,000 barrels per day to the U.S. over the same period.

8 Government of Alberta, *Alberta's Oil Sands: Opportunity. Balance* (2008) at 2, online: Government of Alberta Environment and Water <http://www.environment.alberta.ca>.

9 See especially Articles I and II of the *General Agreement on Tariffs and Trade*, LT/UR/A-1A/1/GATT/2 (signed 30 October 1947), as incorporated in *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1A [*GATT*].

10 Other potential claims, including those relating to the *Agreement on Technical Barriers to Trade* (*TBT Agreement*) will not be discussed in this article. See *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1A.

II. AN OVERVIEW OF CANADIAN OIL SANDS

Oil sands are an unconventional oil source, consisting of a mixture of sand, water, clay, and bitumen (a type of oil that is too heavy or thick to flow without being heated or diluted).[11] Due to the location of bitumen in Canada, engineers have developed two methodologies for mining oil sands depending upon whether the bitumen is located above or beneath the earth's crust. If the bitumen is located above the surface, it may be mined in an "open pit" style with heavy machinery scooping and hauling the oil for processing.[12] If the bitumen is beneath the earth's crust, then an *in situ* method of mining must be utilized. In the latter method, called "steam-assisted gravity drainage",[13] oil producers must drill into the earth's crust and pump steam into the well as the bitumen mixture is too thick and heavy to flow naturally out of the ground. The *in situ* method loosens the mixture and in turn allows the mixture to be pumped by a well to the surface for further processing.[14] This method provides access to the vast reserves of oil sands located beneath the earth's crust; in fact, approximately 80 percent of the oil sands are beneath the surface and must be mined *in situ*.[15]

Once extracted from the ground, bitumen is separated from the rest of the mixture (sand, water, and clay) using a combination of hot water and

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11 Canadian Association of Petroleum Producers, *The Facts on Oil Sands* at 5, online: CAPP <http://www.capp.ca> [CAPP, *The Facts*]; Adam R Brandt, "Variability and Uncertainty in Life Cycle Assessment Models for Greenhouse Gas Emissions from Canadian Oil Sands Production" (2012) 46:2 Environmental Science & Technology 1253 at 1253 [Brandt, "Variability and Uncertainty"].

12 CAPP, *The Facts*, *supra* note 11 at 5–7.

13 Anthony Swift et al, "Pipeline and Tanker Trouble: The Impact to British Columbia's Communities, Rivers, and Pacific Coastline from Tar Sands Oil Transport", Pembina Institute (November 2011) at 5, online: Pembina Institute <http://www.pembina.org>. See also Brandt, "Variability and Uncertainty", *supra* note 11 at 1253.

14 Swift et al, *supra* note 13. See also Brandt, "Variability and Uncertainty", *supra* note 11 at 1253–55.

15 Swift et al, *supra* note 13.

agitation.[16] The addition of hot water loosens the bitumen from the rest of the mixture and results in what is referred to as "slurry". The slurry is sent to an extraction plant, where it is "agitated" (stirred) until the bitumen flows to the top of the mixture, where it can be skimmed off.[17] Other processes and filters are then used to remove the remaining water and solids from the bitumen mixture.[18] The pure bitumen is then upgraded into synthetic crude oil. Upgrading involves heating the bitumen to such high temperatures that it evaporates. When cooled, it separates into heavy gas oils, light gas oils, and kerosene, which are re-blended to make synthetic crude oil.[19] The synthetic crude oil, the final product in the Canadian system, is then piped to the U.S.[20]

The negative environmental hazards of mining and processing oil sands are well known, and even the Canadian Association of Petroleum Producers (CAPP) acknowledges four broad categories of potential hazards: GHG

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16 Oil, Shale and Tar Sands Programmatic EIS, "Tar Sands Guide", online: Oil, Shale and Tar Sands Programmatic Information Centre <http://ostseis.anl.gov>.

17 *Ibid.*

18 *Ibid.*

19 Government of Alberta, *Oil Sands Discovery Centre*, online: Government of Alberta <http://www.history.alberta.ca>.

20 Piping of Albertan oil to the U.S. is also facing political tension. Recently, the Obama administration decided against expanding the current Keystone pipeline that runs from Alberta to Illinois and Oklahoma. The proposed expansion, Keystone XL, would have extended the pipeline to Texas, but it has raised many environmental concerns. See "Still in the Pipeline", *The Economist* (18 January 2012), online: The Economist <http://www.economist.com>; "Keystone cop-out: Once again, Barack Obama seems to have found a way to annoy everyone", *The Economist* (11 November 2011), online: The Economist <http://www.economist.com>. Republican Presidential nominee Mitt Romney has promised to approve the project if elected. See Holly Bailey, "Romney: I'll build Keystone pipeline even 'if I have to do it myself'", *Yahoo! News* (20 April 2012), online: Yahoo! News <http://news.yahoo.com>. Even if the project is resurrected, California's environmental concerns make it unlikely that the pipeline will ever be extended to that state. See e.g. U.S. Department of State, *Keystone XL Pipeline Project*, online: U.S. Department of State <http://www.keystonepipeline-xl.state.gov>; Timothy Gardner, "Canada–U.S. Pipe would cut Mideast oil imports: study", *Reuters* (1 February 2011), online: Reuters <http://www.reuters.com>.

emissions, land use, water use, and tailings ponds.[21] Of those, tailings ponds—a residual waste of sand, bitumen, water, clay particles, and contaminants produced as a result of open-pit mining—have received heightened media attention.[22] There has even been a criminal conviction relating to the death of more than 1600 ducks due to the presence of hazardous substances in a tailings pond,[23] with the conviction resulting in a $3 million fine to the mine operator.[24] Indeed, many third-party sources have conducted research into the negative environmental impacts of both the production and transport of Canadian oil sands, raising concerns in relation to the four CAPP-identified categories of environmental impacts. For example, in highlighting the environmental impact of *in situ* mining of oil sands, the Pembina Institute points out that between 1.1. and 2.2 barrels of fresh water are required for each barrel of bitumen produced.[25]

Being a major producer of oil and gas, Canada accounts for a disproportionate share of GHG emissions. For instance, despite representing only 0.005% of the world's population,[26] Canada produces approximately two percent of the world's energy emissions.[27] Furthermore, the oil and gas industry make up 23 percent of Canada's total GHG emissions, with oil sands accounting for five percent of Canada's total emissions.[28] For this reason, Canadian (or, more accurately, Albertan) oil-sand operations are

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21 CAPP, *The Facts, supra* note 11.

22 See e.g. "Canada's tar sands: Muck and brass", *The Economist* (20 January 2011), online: The Economist <http://www.economist.com>.

23 *R v Syncrude Canada*, 2010 ABPC 229, 30 Alta LR (5th) 97. For a brief analysis of this case, see Kimberly J Howard, "*R. v. Syncrude Canada Ltd.* 2010 ABPC 229—A Case of Overstated Significance?" (16 July 2010), online: McCarthy Tétrault <http://www.mccarthy.ca>.

24 National Energy Board, *Canada's Top Energy Stories of 2010: Energy Facts*, online: National Energy Board <http://www.neb-one.gc.ca>.

25 Swift et al, *supra* note 13 at 5.

26 The World Bank, *Data by Country: Canada*, online: The World Bank <http://data.worldbank.org>.

27 CAPP, "Greenhouse Gas Emissions", online: CAPP <http://www.capp.ca>.

28 *Ibid.*

frequently criticized for their harsh environmental impact.[29] Importantly, much of the opposition to the tar-sands oil comes from the U.S., the world's largest importer of oil and Canada's largest trading partner and export market for oil.

American opposition to oil sands, coupled with such legislation as California's LCFS, which attempts to curb GHGs across the state by reducing GHG emissions at the *supply* level (the producer level),[30] necessarily poses a threat to the development of the Canadian oil-sand industry and to thousands of jobs directly and indirectly related to the industry on both sides of the border.[31]

III. CALIFORNIA'S LOW CARBON FUEL STANDARDS

On 12 January 2010, the California Office of Administrative Law formally approved and implemented the LCFS,[32] and in so doing imposed what could amount to discriminatory measures against carbon-fuel suppliers in Canada.

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29 On a well-to-wheel basis, however, oil sands have been estimated to release only 10% to 15% more emissions than conventional oil. See Alberta Energy Research Institute, News Release, "Emissions from oil sands comparable to other crude oils" (23 July 2009), online: Alberta Energy Research Institute <http://eipa.alberta.ca>. These figures, it should be noted, are controversial and disputed. See e.g. Memorandum from Joule Bergerson, David Keith & Heather L MacLean (16 July 2009) in Life Cycle Analysis of North American and Imported Crude Oils: Post-Workshop Stakeholder Input, online: Alberta Energy Research Institute <http://eipa.alberta.ca>; National Energy Technology Laboratory, Consideration of Crude Oil Source in Evaluating Transportation Fuel GHG Emissions (20 March 2009) at 6, online: National Energy Technology Laboratory <http://www.netl.doe.gov> ("Unconventional crude oil sources including Canadian oil sands and Venezuela's ultra heavy crude bitumen require energy intensive extraction processes and pre-processing that result in GHG emissions several times greater than that for extraction of conventional crude oil"). See also Swift et al, *supra* note 13 at 5.

30 Suncor Energy, "2010 Report on Sustainability: Low Carbon Fuel Standards" (2011), online: Suncor Energy <http://sustainability.suncor.com>.

31 The Government of Alberta estimates that the total effect on employment from developing the oil sands from 2000–2020 will be 174,000 full-time positions earning an estimated $187 billion. Government of Alberta, *Talk about oil sands* (April 2011) at 2, online: Government of Alberta <http://www.energy.gov.ab.ca>.

32 California, "Adopting Title 17", *supra* note 5.

The LCFS seeks to reduce GHG emissions at the supplier level by requiring, *inter alia*, importers and suppliers of carbon-intensive fuels in California to register with the Californian Air Resources Board (ARB), the body in charge of administering the LCFS, and to report their carbon emissions over a reporting period of twelve months (1 January to 31 December).[33] Moreover, the LCFS requires suppliers to calculate their carbon intensity based on grams of carbon dioxide per megajoule of energy released (gCO_2/MJ). It uses a modified version of the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) model to determine a supplier's carbon-intensity values.[34] These intensity levels are determined either through a life-cycle analysis or on a "well-to-wheel" basis,[35] taking into account the carbon dioxide released into the atmosphere during the production and processing of the fuel.[36] In essence, each supplier calculates the amount of carbon dioxide it released into the atmosphere during production, and this figure is considered against the standard set by the LCFS. In 2010, suppliers had only been required to report the carbon-intensity levels. However, since 1 January 2011, suppliers have been required to report and meet the carbon-intensity levels outlined in the standard.[37]

To elaborate, California now sets a standard ratio of CO_2 level per megajoule of energy produced (CO_2/MJ) for each type of fuel, which all producers of carbon-intensive fuel must meet.[38] For instance, the standard set for gasoline under the LCFS regulation for 2011 was 95.61 gCO_2/MJ.[39] All

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33 Cal Code Regs tit 17, § 95484(b) (2010) [Regs § 95484(b)]. See also Sustainable Energy Partnership for the Americas, "California's Low Carbon Fuel Standard Hit the Energy Sector" (2009), online: <http://cigienergyblueprint.wordpress.com>.

34 Cal Code Regs tit 17, § 95486(b)(1) (2010).

35 A well-to-wheel basis considers the entire energy cycle for a given mode of transport, rather than simply calculating the emissions coming out of a motor vehicle. Thus a well-to-wheel approach takes into account the entire fuel cycle, including the impact on feedstock production, processing, fuel production, and fuel delivery.

36 Regs § 95484(b), *supra* note 33.

37 Cal Code Regs tit 17, § 95482 (2010).

38 Regs § 95484(b), *supra* note 33.

39 Cal Code Regs tit 17, § 95482(b) (2010).

oil producers are required to register with the ARB and report on their respective carbon-intensity levels. The regulatory body then monitors whether suppliers' production levels are above or below the standard. Suppliers whose emissions fall below the standard are given a "credit" balance, while producers whose emissions are above the standard are given a "deficit" balance.[40] These credits create a market in emissions and thus may be bought and sold between suppliers of oil;[41] in other words, credits can be traded like a commodity.[42] Suppliers in deficit balance are given up to one year to reconcile their balance, either by running a credit in the next year or by purchasing credits from producers in credit.[43]

While the LCFS is built on a system of self-reporting and monitoring from the ARB, it does allow some producers to use an "average" standard without having to calculate their own carbon-intensity levels. More specifically, the standard obliges gasoline producers whose fuel is either included in the 2006 California baseline crude mix or is not a high-carbon-intensity crude oil to use the "average carbon intensity value" shown in an attached carbon-intensity table.[44] The baseline mix is made up of a variety of different crudes and is formulated from the percentage of oil imports in 2006 (as shown at Table I),[45] while the carbon-intensity table simply takes a mix of crude oils and calculates the carbon-intensity level of this mix for gasoline.[46] The resulting figure (called CARBOB) in the look-up table for gasoline is 95.86 gCO_2/MJ.[47] This figure is only slightly higher than the required

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40 Regs § 95484(b), *supra* note 33.

41 Cal Code Regs tit 17, § 95484(b)(4)(B) (2010).

42 It should be noted, however, that the regulation explicitly states that credits are not securities, instruments, or any other forms of property. See Cal Code Regs tit 17, § 95485(d) (2010).

43 Cal Code Regs tit 17, § 95484(b)(3) (2010).

44 Cal Code Regs tit 17, § 95486(b)(2)(A) (2010).

45 California Environmental Protection Agency: Air Resources Board, *Low Carbon Fuel Standard Crude Oil Screening Workgroup* (6 May 2010) at slide 5, online: CEPA ARB <http://www.arb.ca.gov>.

46 Cal Code Regs tit 17, § 95486 (2010) [Regs § 95486].

47 *Ibid.*

standard of 95.61 gCO_2/MJ. In many instances it will be more desirable for producers to use this figure, as opposed to the (higher) actual figure.

TABLE I: CRUDE-OIL SUPPLIERS TO CALIFORNIA BY YEAR AND PERCENTAGE[48]

	2006	2007	2008	2009	2010
California	38.83	39.34	38.12	39.51	38.11
Alaska	16.12	15.79	13.41	15.06	14.23
Saudi Arabia	13.27	11.31	12.65	11.32	11.28
Ecuador	10.86	8.68	9.53	7.8	10
Iraq	8.57	9.04	11.62	8.49	9.62
Brazil	2.74	3.51	3.98	4.2	3.68
Mexico	2.36	1.44	Neg	0	Neg
Angola	2.29	3.51	1.19	2.28	1.17
Columbia	1.43	1.85	3.03	2.61	2.63
Oman	0.97	Neg	0.61	1.58	0.67
Venezuela	0.63	0.74	0.58	0.9	Neg
Argentina	0.53	Neg	Neg	Neg	Neg
Canada	Neg	0.83	1.43	2.31	3.21
Peru	Neg	Neg	Neg	0.95	0.71
Russia	Neg	Neg	Neg	Neg	2.99
Nigeria	Neg	0.85	Neg	Neg	Neg
Kuwait	Neg	Neg	0.47	Neg	Neg
Others	1.42	3.33	3.37	2.98	1.69

Note: "Neg" indicates negligible amounts falling below the lowest amount in a particular year.

[48] California Energy Commission, *California Energy Almanac: Oil Supply Sources to California Refineries*, online: <http://energyalmanac.ca.gov>.

IV. THE POTENTIAL WTO CHALLENGE

Given the potential impact of the LCFS on the oil and gas industry, the regulation has unsurprisingly been subject to intense lobbying and domestic legal challenges by various stakeholder groups.[49] International legal action remains a possibility. Thus, at the same time that California is defending the LCFS in domestic courts, the US could be forced to defend the consistency of the measure with its WTO commitments.[50] This part reviews three potential claims that Canada could make against the LCFS: inconsistencies with the principle of national treatment as embodied in Articles III.4 and III.2 and with the most-favoured-nation (MFN) principle as embodied in Article I.[51] It will also evaluate whether the LCFS would meet the requirements of an exception under Article XX.

A. NATIONAL TREATMENT

1. ARTICLE III.4

Article III.4 of the GATT states:

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[49] Suncor Energy, *supra* note 30. See e.g. Stephen Power, "Ethanol Groups Sue California Over Low-Carbon Rule", *The Wall Street Journal* (24 December 2009), online: The Wall Street Journal <http://online.wsj.com>.

[50] It is worth noting that it is clear that a country is responsible for all actions of its states and territories; therefore, it is not in dispute that Canada could bring a claim against the U.S. in the WTO despite the fact that the measure is applied only in California. See the holding that "other than central bodies" fall within the responsibility of the country allegedly in breach, with respect to SPS agreements: *Australia—Measures Affecting the Importation of Salmon—Recourse to Article 21.5 by Canada (Complaint by Canada)* (2000), WTO Doc WT/DS18/RW at para 7.13 (Panel Report). [Editor's note: All of the WTO documents referenced in this article are available online: WTO <http://docsonline.wto.org>.]

[51] The LCFS is an internal rule that also applies to domestic products rather than a condition of importation, and therefore falls under an Article I or III breach rather than Article XI. See also Chang-fa Lo, "Making Border Measures for Climate Change Compatible with the WTO" (Paper delivered at the Conference on The Challenging Issues under WTO, Koh Samui, Thailand, 13–14 October 2009), [unpublished; manuscript on file with lead author].

> The products of the territory of any contracting party imported into the territory of any other contracting party 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[.][52]

Canada could argue that the LCFS is inconsistent with the principle of national treatment contained in Article III.4 in that it affords less favourable treatment to imported oils from Canada than to the oil produced domestically in the U.S. In order to be successful, Canada would need to prove that each of the four elements of Article III.4 is met.

The first two required elements—which require (1) a law, regulation, or requirement (2) that affects the internal sale, offering for sale, purchase, transportation, distribution, or use of imported products—should not prove difficult to establish. The LCFS is a measure with binding legal effect in the State of California and thus clearly falls within the definition of a "regulation" in Article III.4 of the GATT. Moreover, the regulation has a "broad scope of application".[53] It was adopted with the purpose of affecting the distribution of imported and domestic carbon-intensive fuels, and in practice, it will actually affect the sale of these fuels in California by forcing certain producers to either purchase credits or amend production methods in order to comply with the regulation. Thus, the U.S. would be unlikely to challenge the fact that the regulation affects the sale of and indeed the "conditions of competition"[54] of imported oils in California.

By contrast, the third and fourth elements under Article III.4, namely, "less favourable treatment" of a "like" domestic product, are potentially more difficult to establish and warrant further discussion. In terms of analyzing

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[52] *GATT, supra* note 9.

[53] For contextual background, see United States—Tax Treatment for "Foreign Sales Corporations": *Recourse to Article 21.5 of the DSU by the European Communities (Complaint by the European Communities)* (2002), WTO Doc WT/DS108/AB/RW at paras 207–10 (Appellate Body Report).

[54] *Korea—Measures Affecting Imports of Fresh, Chilled and Frozen Beef (Complaint by the United States)* (2000), WTO Doc WT/DS161, 169/AB/R at para 144 (Appellate Body Report) [*Korea—Beef*].

whether two products are "like", it is often stated that "[n]o one approach ... will be appropriate for all cases" and that "an assessment utilizing 'an unavoidable element of individual, discretionary judgement' has to be made on a case-by-case basis."[55] That being the case, the *Report of the Working Party on Border Tax Adjustments* adopted a methodological approach for interpreting "likeness" by identifying certain characteristics that the products involved might share.[56] This approach, which has been consistently followed by WTO's Appellate Body, includes:

> (i) [T]he physical properties of the products; (ii) the extent to which the products are capable of serving the same or similar end-uses; (iii) the extent to which consumers perceive and treat the products as alternative means of performing particular functions in order to satisfy a particular want or demand; and (iv) the international classification of the products for tariff purposes.[57]

At the outset, it should be emphasized that with respect to "likeness" under Article III.4, the WTO Appellate Body in *EC—Asbestos* established that the test for determining "likeness" is broader than that used in Article III.2 and is

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[55] *Japan—Taxes on Alcoholic Beverages (Complaint by the European Communities)* (1996), WTO Doc WT/DS8, 10, 11/AB/R at paras 113–114 (Appellate Body Report) [*Japan—Alcohol*], cited in *European Communities—Measures Affecting Asbestos and Asbestos-Containing Products (Complaint by Canada)* (2001), WTO Doc WT/DS135/AB/R at para 101 (Appellate Body Report) [*EC—Asbestos*].

[56] *Border Tax Adjustments* (1970), GATT Doc L/3464, 18th Supp BISD (1970-71) 97 at para 16 [*Border Tax Adjustments*].

[57] *EC—Asbestos, supra* note 55. The Appellate Body in *EC—Asbestos* also noted that the criteria are "simply tools to assist in the task of sorting and examining the relevant evidence. They are neither treaty mandated nor a closed list of criteria that will determine the legal characterization of products" (*ibid* at para 102). It should be noted that the fourth characteristic was not identified by the Working Party in *Border Tax Adjustments, supra* note 56, but added by subsequent GATT panels. See e.g. *EEC Measures on Animal Feed Proteins (Complaint by the United States)* (1977), GATT Doc L/4599, 25th Supp BISD (1978) 49 at para 4.2; *Japan—Customs Duties, Taxes and Labelling Practices on Imported Wines and Alcoholic Beverages (Complaint by the European Communities)* (1987), GATT Doc L/6216, 34th Supp BISD (1987) 83 at para 5.6.

essentially a "determination about the nature and extent of a competitive relationship between and among products."[58]

In a potential claim, Canada would likely submit that its exports of crude oil to the U.S. and crude oil produced in California are "like" in physical characteristics, end use, consumer tastes, preferences, and tariff classification.[59] The U.S. would likely argue that the products are not "like". In so doing, the U.S. would emphasize the differing physical characteristics of various types of oil as well as claiming that consumers view the products differently or at least would prefer a more environmentally friendly oil.

In analyzing whether two products are "like", the WTO Appellate Body in *EC—Asbestos* made clear that a panel must weigh "*all* of that evidence, along with any other relevant evidence in making an *overall* determination of whether the products at issue could be characterized as 'like'".[60] In other words, a panel cannot make a determination as to the likeness of two products based upon an evaluation of only one of the factors identified in the *Report of the Working Party on Border Tax Adjustments*.[61] Moreover, the WTO Appellate Body found physical characteristics to be the most significant of the four relevant factors. It also found that although it would not be impossible for "like" products to have differing physical characteristics, there would indeed be a higher burden on the complainant to show that the products are, in fact, in a competitive relationship. The WTO Appellate Body stated:

> [E]vidence about the extent to which products can serve the same end-uses, and the extent to which consumers are—or would be—willing to choose one product instead of another to perform those end-uses, is highly relevant

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58 *EC—Asbestos*, *supra* note 55 at para 99. See also *Korea—Beef*, *supra* note 54 at para 135; *United States—Certain Country of Origin Labelling (COOL) Requirements (Complaint by Canada and Mexico)* (2011), WTO Doc WT/DS384, 386/R at paras 7.275–76 (Panel Report).

59 *Japan—Alcohol*, *supra* note 55 at paras 20–22.

60 *EC—Asbestos*, *supra* note 55 at para 109 [emphasis in original].

61 In *EC—Asbestos*, *supra* note 55, the WTO Appellate Body overruled the panel in deciding that certain products containing chrysotile asbestos fibres are not "like" products containing PCG fibres (see *ibid* at paras 103–32).

> evidence in assessing the "likeness" of those products under Article III.4 of the GATT 1994.

We consider this to be especially so in cases where the evidence relating to properties establishes that the products at issue are physically quite different. In such cases, in order to overcome this indication that products are *not* "like", a higher burden is placed on complaining Members to establish that, despite the pronounced physical differences, there is a competitive relationship between the products such that *all* of the evidence, taken together, demonstrates that the products are "like" under Article III:4 of the GATT.[62]

At first instance, it could appear that oil sands and conventional oils do not share physical characteristics. Thus, Canada would face a higher burden to prove a competitive relationship and demonstrate that the differing types of oil are indeed "like", as the various types of crude-oil reserves each have a different chemical composition (i.e., oil sands will have a different chemical composition than a conventional oil). As a result of the differing chemical composition, Canadian oil sands require more upgrading and refining than conventional crude oil due to being "carbon-rich, hydrogen-deficient, and contain[ing] a larger fraction of asphaltenes compared to conventional crude oils".[63] It is indeed this added refining component that makes oil from tar sands a substantial contributor to GHGs.[64]

With oil, however, chemical composition may be a misleading comparator. A significant characteristic considered in classifying crude oils is not chemical composition, but rather the weight, or specific gravity, measured in degrees of the oil; it is the weight of the oil—not its chemical composition—that determines how the oil is to be processed.[65] Oil is thus

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62 *Ibid* at paras 117–18 [emphasis in original].

63 Adam Brandt, "Upstream Greenhouse Gas (GHG) Emissions from Canadian Oil Sands as a Feedstock for European Refineries" (2011) Report for the European Commission, online: CIRCABC <https://circabc.europa.eu> [Brandt, "Upstream Greenhouse Gas"]. See also Brandt, "Variability and Uncertainty", *supra* note 11 at 1254–55.

64 Brandt, "Upstream Greenhouse Gas", *supra* note 63.

65 United States, California Energy Commission, Fossil Fuels Office, Fuels and Transportation Division, *California Crude Oil Production and Imports* (CEC-600-2006-

classified as heavy, intermediate, or light[66] depending upon a standard issued by the American Petroleum Institute (API). The standard measures the weights of oil in degrees: the higher the degree, the lighter the oil.[67] According to the classifications, the specific gravities of upgraded tar-sand oil (or synthetic crude oil) produced in Canada by such large-scale producers as Albian Sands Energy, Syncrude Canada, and Canadian Natural Resourced Ltd (CNRL), fall into the same category as 48 percent of oil produced in California (intermediate or medium weights with an API of 18 to 36 degrees).[68] Thus, after processing Canadian tar-sand oil, the API weight of the finished product is substantially similar and comparable to that of oil produced in California.

Furthermore, both GATT and WTO jurisprudence generally instructs that when evaluating the "likeness" of products, it is the characteristics of products that are to be determined, not the process that is used in manufacturing/obtaining the product.[69] This is an extremely controversial

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006) (2006), online: California Energy Commission <http://energy.ca.gov> California Energy Commission Fossil Fuels Office, Fuels and Transportation Division Staff Paper CEC-600-2006-006, at 2.

66 *Ibid.*

67 *Ibid.*

68 *Ibid*; Brandt, "Upstream Greenhouse Gas", *supra* note 63 at 5, 13 (listing APIs of crude-oil products from the Canadian tar sands and demonstrating comparable rates to those produced in California per Sheridan).

69 See e.g. *United States—Restrictions on Imports of Tuna (Complaint by Mexico)* (1991), GATT Doc DS21/R (not adopted) at paras 5.10-5.15 [*US—Tuna I*]; *United States—Restrictions on Imports of Tuna (Complaint by the European Economic Community and the Netherlands)* (1994), GATT Doc DS29/R (not adopted) at para 5.8 [*US—Tuna II*]; *United States—Import Prohibition of Certain Shrimp and Shrimp Products (Complaint by India, Malaysia, Pakistan, and Thailand)* (1998), WTO Doc WT/DS58/AB/R/DSR 1998:VII, 2755 (Appellate Body Report) [*US—Shrimp*]. For discussion, see Robert Hudec, "The Product-Process Doctrine in GATT/WTO Jurisprudence" in Marco Bronckers & Reinhard Quick, eds, *New Directions in International Economic Law: Essays in Honour of John H Jackson* (The Hague: Kluwer Law International, 2000). See also *Border Tax Adjustments*, *supra* note 56, which established the approach for establishing 'likeness' that has been followed in every subsequent WTO panel/Appellate Body report.

issue,[70] and it is beyond the scope of this article to evaluate the merits of the debate on the distinction between products and production methods (PPMs, also referred to as "process and production methods"). It should be noted, however, that Members seeking to differentiate between products based upon production method are often cautious to narrow the concept down to end-use or disposal characteristics, rather than seeking to impose environmental and socials standards on the actual imported products. Furthermore, while the WTO Appellate Body in *EC—Asbestos* shifted the interpretation of "likeness" by including the health risk of the products at issue (asbestos-based as opposed to what is commonly refereed to as PCG fibres (polyvinyl alcohol fibres (PVA), cellulose, and glass fibres) as a factor to consider in determining "likeness",[71] and the U.S. may seek to extend such reasoning to environmental concerns, the situations are not analogous. In *EC—Asbestos*, the *finished products* were compared, and one (asbestos) was found to contain an unacceptable level of carcinogenic risk. In the current hypothetical case, the finished oil products provide the same environmental

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[70] See e.g. Robert Howse & Donald Regan, "The Product/Process Distinction—An Illusory Basis for Disciplining 'Unilateralism' in Trade Policy" (2000) 11:2 EJIL 249; John H Jackson, "Comments on *Shrimp/Turtle* and the Product/Process Distinction" (2000) 11:2 EJIL 303; Sanford E Gaines, "Processes and Production Methods: How to Produce Sound Policy for Environmental PPM-Based Trade Measures?" (2002) 27:2 Colum J Envtl L 383 at 416. Condon provides a middle ground, suggesting:

> It may be more appropriate to address the PPM issue under GATT Article XX, rather than GATT Article I or III, in order to avoid addressing the issue of whether PPMs should be used to determine likeness through judicial interpretation, which might be viewed as exceeding the role assigned to panels under DSU Article 3.2.

See Bradly J Condon, "Climate Change and Unresolved Issues in WTO Law" (2009) 12:4 J Int'l Econ L 895 at 908 [Condon, "Climate Change"].

[71] *EC—Asbestos*, *supra* note 55 at 113. See also paras 109–16. The Appellate Body stated:

> Under Article III:4, evidence relating to health risks may be relevant in assessing the competitive relationship in the marketplace between allegedly 'like' products. The same, or similar, evidence serves a different purpose under Article XX(b), namely, that of assessing whether a Member has a sufficient basis for 'adopting or enforcing' a WTO-inconsistent measure on the grounds of human health.

(See *ibid* at para 115). See also Robert Howse, "The Appellate Body Rulings in the *Shrimp/Turtle* Case: A New Legal Baseline for the Trade and Environment Debate" (2002) 27:2 Colum J Envtl L 491 at 515.

risk, namely, carbon emissions from combustion. In this regard, the environmental risk and GHG emissions from U.S. and Canadian oils are identical. Thus, even assuming *arguendo* that the extraction and processing of Canadian oil sands (i.e., the production methods) pose higher environmental risk, this is irrelevant for determining a "likeness" that compares the "competitive relationship" of two finished products.

Indeed, in moving beyond physical characteristics to all other relevant determining factors, it becomes fairly obvious that unconventional oil (such as oil sands) and conventional oil are in a competitive relationship. Thus, the two would nevertheless be likely to meet the higher burden of establishing that the products are indeed "like" under Article III.4. For instance, end use of oil sands is the exact same as conventional oils—combustion primarily to meet transportation needs (i.e., petroleum).[72] Consumer tastes and preferences are difficult to determine without serious enquiry, but it is perhaps significant that once in the U.S., all crude oil is mixed together for production, meaning it would be impossible for consumers to differentiate between oil sands and conventional oil products. Accordingly, it seems clear that a competitive relationship exists between imported Canadian oil and oil produced domestically in the U.S. given that both have the same end uses and actual customer preferences at the pump are difficult, if not impossible, to determine. The recent panel decision in *US—Tuna II* provides additional support for a finding of "likeness" in this regard. In that case, Mexico challenged U.S. measures requiring access to "dolphin-safe" labelling on tuna and tuna products. In regard to consumer preferences (analyzed under Article 2.1 of the *TBT Agreement,* the language of which "very closely mirror[s]" Article III.4 of the GATT),[73] the panel confirmed that consumer

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[72] *EC—Asbestos, supra* note 55 at para 117. (The Appellate Body stated that the "extent to which consumers are—or would be—willing to choose one product instead of another to perform those end-uses, is highly relevant evidence in assessing 'likeness' of . . . products" [*ibid*]). See also *United States—Measures Affecting the Production and Sale of Cigarettes (Complaint by Indonesia)* (2011), WTO Doc WT/DS406/R at paras 7.207–32 (Panel Report) [*US—Cigarettes*].

[73] *United States—Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products (Complaint by Mexico)* (2011), WTO Doc WT/DS381/R at para 7.223 (Panel Report).

preferences can impact the competitive relationship between products[74] and found that the evidence suggested that U.S. consumers are "sensitive to issues related to dolphin mortality"[75] and have "certain preferences with respect to tuna products, based on their dolphin-safe status".[76] Nevertheless, the panel did believe such information should modify their findings of likeness between Mexican tuna products (not eligible for the dolphin-safe label) and US/other tuna products (eligible for the dolphin-safe label). Given that the panel in *US—Tuna II* did not use a clear consumer preference towards tuna products harvested in a dolphin-safe manner to find that the products were not "like", it is highly unlikely that unproven assertions relating to consumer preferences regarding the environmental impact of oil and gasoline products would be enough to lead to a finding that conventional and unconventional oil are not "like".

Finally, the U.S. Harmonized Tariff Schedule (HTS) distinguishes "petroleum oils and oils obtained from bituminous minerals, crude" under Heading 2709.00 according to degree of API—with testing under 25 degrees API (2709.10) entering at a lower rate than testing at or above 25 degrees API (2709.20)—as opposed to whether the oil is conventional or unconventional or any other method.[77] Therefore, according to the U.S. HTS, unconventional oil (such as that derived from oil sands) and conventional oil are "like" products.

After evaluating each of the relevant factors, it is clear that a competitive relationship exists between finished crude oil exported from Canada to the U.S. and crude oil produced in California and other parts of the U.S. It is also

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74 *Ibid* at para 7.249

75 *Ibid* at para 7.253.

76 *Ibid* at para 7.249. See also *ibid* at paras, 7.253, 7.290. For a brief analysis of the differences between the GATT and TBT obligations, see *US—Cigarettes*, *supra* note 72 at paras 7.91–119.

77 It should also be noted that as a result of the *North American Free Trade Agreement* (NAFTA), as well a commercial exchange agreement between U.S. and Canadian refiners, Canadian oil is exported to the U.S. duty-free. See Harmonized Tariff Schedule of the United States, Chapter 27 and Additional U.S. notes 1 (a), online: United States International Trade Commission <http://hts.usitc.gov>.

appears clear that the products are "like" insofar as Article III.4 is concerned.[78]

Turning to "less favourable treatment", the WTO Appellate Body in *Korea—Beef* interpreted this factor as requiring consideration of equality of opportunities with respect to conditions of competition in a market place.[79] In this respect, the effect the differing treatment resulting from the LCFS has on the competitiveness of Canadian oil as compared to domestic oil would be a relevant factor in determining whether the measure treats Canadian oil less favourably than it treats domestic oil. An analogous situation can be found in *US—Gasoline*, where the U.S. allowed domestic entities to use historic individual baselines, whereas foreign entities were forced to use a statutory baseline reflecting average U.S. 1990 gasoline quality. The panel in that dispute described at length why such differing treatment violates Article III.4:

> The Panel observed that domestic gasoline benefitted in general from the fact that the seller who is a refiner used an individual baseline, while imported gasoline did not. This resulted in less favourable treatment to the imported product, as illustrated by the case of a batch of imported gasoline which was chemically-identical to a batch of domestic gasoline that met its refiner's individual baseline, but not the statutory baseline levels. In this case, sale of the imported batch of gasoline on the first day of an annual period would require the importer over the rest of the period to sell on the whole cleaner gasoline in order to remain in conformity with the Gasoline Rule. On the other hand, sale of the chemically-identical batch of domestic gasoline on the first day of an annual period would not require a domestic refiner to sell on the whole cleaner gasoline over the period in order to

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78 This conclusion may be different, or at the very least the conclusions would be more nuanced, if one considers crude oil as an intermediate product whose immediate consumers are the refineries rather than drivers of motor vehicles or ultimate consumers of the oil. Such an argument would be based on the fact that some refineries are uniquely designed for the different types of crude oils. Given the structure of the LCFS, however, such an argument does not appear relevant in any potential dispute with Canada. The authors are grateful to Melaku Desta for raising this point.

79 *Korea—Beef, supra* note 54 at paras 135, 144. See also *United States—Section 337 of the Tariff Act of 1930 (Complaint by the European Economic Community)* (1989), GATT Doc L/6439, 36th Supp BISD (1989) 345 at para 5.11 [*US—Section 337*].

> remain in conformity with the Gasoline Rule. The Panel also noted that this less favourable treatment of imported gasoline induced the gasoline importer, in the case of a batch of imported gasoline not meeting the statutory baseline, to import that batch at a lower price. This reflected the fact that the importer would have to make cost and price allowances because of its need to import other gasoline with which the batch could be averaged so as to meet the statutory baseline.[80]

Recalling the GATT-era panel report of *United States—Section 337 of the Tariff Act of 1930,* which stated that "[t]he words 'treatment no less favourable' in paragraph 4 call for effective equality of opportunities for imported products in respect of the application of laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products",[81] the panel concluded that the U.S. methods for establishing its baselines effectively prevented imported gasoline from benefiting from as favourable sales conditions as those afforded to domestic gasoline by an individual baseline tied to the producer of a product. In this regard, the U.S. measure treated imported gasoline less favourably than domestic gasoline.

Before continuing, it should be noted that in determining less favourable treatment, the WTO Appellate Body has repeatedly stressed that the emphasis of comparison is between the group of imported products and a group of "like" domestic products, as opposed to comparing the treatment of an individual imported product and an individual "like" domestic product.[82] For example, the WTO Appellate Body in *EC—Asbestos* stated:

> The term "less favourable treatment" expresses the general principle, in Article III:1, that internal regulations "should not be applied . . . so as to afford protection to domestic production". If there is "less favourable treatment" of the group of "like" imported products, there is, conversely, "protection" of the group of "like" domestic products. However, a Member

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80 *United States—Standards for Reformulated and Conventional Gasoline (Complaint by Venezuela and Brazil)* (1996), WTO Doc WT/DS2/R at para 6.10 (Panel Report).

81 *US—Section 337, supra* note 79 at para 5.11.

82 See Simon Lester & Bryan Mercurio, *World Trade Law: Text, Materials and Commentary* (Oxford: Hart, 2008) at 302–07.

> may draw distinctions between products which have been found to be "like", without, for this reason alone, according to the group of "like" *imported* products "less favourable treatment" than that accorded to the group of "like" *domestic* products.[83]

Given the existing jurisprudence, the test to be used in our hypothetical case then becomes relatively simple. It is essentially a question of whether the LCFS requires a substantial percentage or proportion of Canadian oil producers to purchase more "credits" than is required from its domestic competitors. Several studies do indicate de facto discrimination, as Canadian producers would have to purchase more credits than domestic oil producers. For example, one prominent study published in early 2009 using the GREET model found that the well-to-wheel carbon-intensity values of both *in situ* and open-pit tar-sand mining would be above those of the LCFS standard, thus placing Canadian oil producers in a "deficit" under the LCFS.[84]

It should be noted, however, that while such studies indicate a likelihood of disparate impact, they do not definitively resolve the issue, as researchers and organizations are using different models (including, but not limited to, GREET and modifications thereof) to calculate carbon intensities of fuels. Indeed, the LCFS uses a modified GREET model to calculate carbon intensities. Therefore, it must be understood that results vary depending upon which model has been used.[85] Stanford economist Adam Brandt demonstrates the disparities between and among models in a study in which he compares various models and their respective GHG emission estimates of oil sands when refined in the European Union. To perform this study, Brandt extracted calculations of GHG emissions from various studies and converted them into comparable units, gCO_2/MJ.[86] On comparison, Brandt considers

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[83] *EC—Asbestos*, *supra* note 55 at para 100 [emphasis in original].

[84] Alex D Charpentier, Joule A Bergerson & Heather L MacLean, "Understanding the Canadian oil sands industry's greenhouse gas emissions" (2009) 4:1 Environmental Research Letters 1 at 6, online: IOPscience <http://iopscience.iop.org>.

[85] For a comprehensive comparison of these models and their figures see Brandt, "Upstream Greenhouse Gas", *supra* note 63 at 21.

[86] *Ibid* at 20–21, where Brandt converted the units in findings from gCO_2/km to gCO_2/MJ using figures from Charpentier, Bergerson & MacLean, *supra* note 84.

that the differences in GHG emissions depends greatly on the model used and notes that each model cannot be directly compared to another in any rigorous fashion.[87] Thus, while we have attempted to construct a table that estimates total carbon intensities of both *in situ* and open-pit mining, it must be emphasized that the figures used in Table II are drawn from multiple sources and thus may contain some discrepancies.[88] We have therefore compiled this table simply to illustrate the potentially disparate effect the LCFS has on Canadian producers due to the fact that U.S. producers can make use of the CARBOB average-intensity value while Canadian producers are excluded from using the average value.

Table II reveals the estimated total carbon intensities of both *in situ* and open-pit mining are well above the threshold of the standard of 95.61 gCO_2/MJ. Since Canadian producers do not qualify to use the CARBOB average-intensity value of 95.86 gCO_2/MJ, their actual carbon-intensity value will be used, which, according to all indications and previous studies, will result in a significant deficit balance. By contrast, domestic oil producers in California qualify to use the CARBOB average-intensity value of 95.86 gCO_2/MJ, as they are included in the 2006 California baseline crude mix.[89] Again relying on existing studies, it would seem that the actual emissions

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87 Brandt, "Upstream Greenhouse Gas", *supra* note 63 at 33 (for a comparison of the differences in emission values depending on the model, see *ibid* at 21–22).

88 More specifically, Brandt relies on the figures calculated by Charpentier et al and others, in determining well-to-*tank* carbon emissions (i.e., the carbon intensity of the fuel up until the point it is in the tank and before combustion of the petroleum) under the GREET model and calculates them into the equivalent of gCO_2/MJ. See Brandt, "Upstream Greenhouse Gas", *supra* note 63 at 20–21. The Modified Californian GREET model, however, includes in their calculations combustion of the oil, as it is on a well-to-*wheel* basis. Thus, in order to calculate a total figure, we had to determine the combustion of oil in a gas tank and relied on calculations made by Brandt. See *ibid* at 37; Jacobs Consultancy, "Life Cycle Assessment Comparison of North American and Imported Crudes" (2009), online: Alberta Innovates <http://www.ai-ees.ca> at 8–10. We then added the well-to-tank figure to the combustion figure to come up with an estimate of the well-to-wheel carbon intensity of the fuels in gCO_2/MJ for the tar-sand oil (103.4 and 106.4, respectively).

89 California Environmental Protection Agency: Air Resources Board, *supra* note 45 at slide 5.

figures for U.S. producers are substantially higher than the CARBOB average-intensity value. On this basis, it is clear that Canadian oil producers are being treated less favourably than U.S. producers, as they will have to purchase more carbon credits than comparable U.S. domestic crude-oil producers. This, Canada would argue, constitutes de facto discrimination in violation of Article III.4 of the GATT.

TABLE II: ESTIMATED TOTAL CARBON EMISSION INTENSITY		
Carbon Emissions open-pit mining (gCO_2/MJ)	**Carbon Emissions *in situ* (gCO_2/MJ)**	**Model and Source**
30 (well to tank)	33 (well to tank)	GREET[90]
73.4 (combustion)	73.4 (combustion)	Adam R. Brandt, combustion calculation for notional EU refinery[91]
Total: 103.4 2011 Gasoline Fuel Standard: 95.61	Total: 106.4 2011 Gasoline Fuel Standard: 95.61	LCFS Standard, using modified California GREET[92]

Note: Figures are approximate from the readings of graphs and tables from the above-sited sources. The modified California GREET model is likely to give different figures than the standard GREET model.

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90 Brandt, "Upstream Greenhouse Gas", *supra* note 63 at 20–21. Brandt cautions reliance on the GREET model for constructing industry-average emissions due to its inability to accurately make assumptions as to energy intensity and fuel mix. See Brandt, "Variability and Uncertainty", *supra* note 11 at 1259.

91 Brandt, "Upstream Greenhouse Gas", *supra* note 63 at 37. See also Brandt, "Variability and Uncertainty", *supra* note 11 at 1258–1259. Jacobs Consultancy also produces figures for combustion of Canadian oil and puts them between 72–74 gCO_2/MJ. Jacobs Consultancy, *supra* note 88 at 8–10.

92 Cal Code Regs tit 17, § s 95486(b) (2010).

2. ARTICLE III.2

In addition to claiming a violation of Article III.4, Canada could also argue that the U.S. has breached the first sentence of Article III.2:

> The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products.

Thus, the first sentence of Article III.2 requires both that (1) the taxed imported and domestic products are "like", and (2) the taxes applied to the imported products are in excess of those applied to the like domestic products.[93] In order to sustain its claim, Canada would therefore have to prove that the LCFS is imposing a "charge" in excess of those applied to "like" domestic products.[94]

Due to the existence of the second sentence of Article III.2, it is clear that the definition of "like" in the context of the first sentence of Article III.2 is narrower than that of Article III.4. The WTO Appellate Body in *Japan—Alcohol* confirmed this when stating:

> No one approach to exercising judgment will be appropriate for all cases. The criteria in *Border Tax Adjustments* should be examined, but there can be no one precise and absolute definition of what is 'like'. The concept of 'likeness' is a relative one that evokes the image of an accordion. The accordion of 'likeness' stretches and squeezes in different places as different provisions of the *WTO Agreement* are applied. The width of the accordion in any one of those places must be determined by the particular provision in which the term 'like' is encountered as well as by the context and the circumstances that prevail in any given case to which that provision may

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93 See *Japan—Alcohol*, *supra* note 55 at paras 18–19.

94 As the LCFS imposes a charge on both domestic and foreign oils inside the customs border, it is unlikely that a violation under Article II ("duties or other charges on imported products that are applied at a Member's border") would be claimed. However, it could potentially be argued that the LCFS is a "charge" on or in connection with importation and is less favourable than that committed under the Schedules of Concessions.

> apply. We believe that, in Article III:2, first sentence of the GATT 1994, the accordion of 'likeness' is meant to be narrowly squeezed.[95]

Despite the narrowly squeezed accordion under Article III.2, Canada would likely satisfy the "likeness" test in this case. As mentioned in the above quote, and similarly to Article III.4, the criteria established in the *Report of the Working Party on Border Tax Adjustments*[96] remain relevant to an assessment under Article III.2, first sentence: physical characteristics, end use, consumer tastes and preferences, and tariff classification. Again similar to its arguments under Article III.4, Canada would argue that the finished product resulting from oil sands is exactly the same as that resulting from conventional oil. Moreover, Canada would assert that end use, consumer tastes and preferences, and tariff classification all point to the fact that the products are "like". As these factors have been discussed in the above subsection, we will not further address these issues here other than to point to the similarity between oil in this case and cigarettes in *Dominican Republic—Cigarettes*. In that dispute, despite the fact that various tobacco was grown in different regions and had different characteristics, the panel quickly determined imported cigarettes to be "like" domestic cigarettes, stating that

> the available evidence demonstrates that both imported and domestic cigarettes have similar physical properties; they are made from similar materials; have a similar presentation; they have the same end-use (i.e., they are smoked by consumers); and they are classified under the same tariff heading 2402.20.00.[97]

The success of Canada's claim would thus depend upon the interpretation of the terms "tax" and "internal charge". As described in the above subsection, operation of the LCFS will result in Canadian oil producers running a greater deficit than U.S. domestic producers. In order to comply with the

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[95] *Japan—Alcohol*, *supra* note 55 at para 21.

[96] *Border Tax Adjustments*, *supra* note 56.

[97] *Dominican Republic—Measures Affecting the Importation and Internal Sale of Cigarettes (Complaint by Honduras)* (2004), WTO Doc WT/DS302/R at para 7.330 (Panel Report).

LCFS, the regulation provides that Canadian oil producers will then either have to shift production methods to lower emission rates or, more likely, purchase credits from producers in credit.[98] The latter, however, assumes there will be a market in credits. If no such market eventuates, it is not inconceivable that the government would sell credits to deficit producers. If this occurs, Canada could argue that the issuance and sale of "credits" operates in essence as a tax or charge on the imported oil. Depending on how widely the term "charge" is construed, Canada might even succeed in arguing that having to purchase credits from other producers is inconsistent with Article III.2.[99]

Likewise, the LCFS is also inconsistent with Article III.2, which applies to (1) directly competitive or substitutable products that are (2) not similarly taxed (3) so as to afford protection to domestic production. Given the above analysis indicating that Canada could meet the stricter requirements of Article III.2, it is highly likely that a panel would also find the Californian measures to be inconsistent with Article III.2 for the following three reasons. First, all imported crude oil is directly competitive or substitutable with a domestic product at issue (that is, domestic crude oil). Second, Canadian imported crude oil is not taxed similarly to domestic crude oil due to the availability and operation of the CARBOB baseline figure to domestic but not to Canadian oil producers. Third, the nature of the discrimination, which promotes the use of domestic oil over certain foreign oil by giving it advantages vis-à-vis imported oil products, is clearly designed to afford protection to domestic production.[100]

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98 Cal Code Regs tit 17, § 95484(b)(4)(A) (2010).

99 Indeed, producers benefiting from the use of the baseline also benefit by acquiring the right to profit from the sale of credits.

100 *Indonesia—Certain Measures Affecting the Automobile Industry (Complaint by Japan, the European Communities, and the US)* (1998), WTO Docs WT/DS54, 55, 59, 64/R (Panel Report) at para 14.115 [*Indonesia—Automobiles*]. For recent Appellate Body interpretation and analysis of Article III.2, second sentence, see *Philippines—Taxes on Distilled Spirits (Complaint by the US)* (2011), WTO Doc WT/DS396, 403/AB/R (Appellate Body Report) at paras 244–57 [*Philippines—Distilled Spirits*].

While the first two criteria are easily established,[101] the third criterion warrants some discussion. The WTO Appellate Body in *Japan—Alcohol* established that the question of whether dissimilar taxation affords protection is "not one of intent, but rather of application of the measure at issue".[102] According to the WTO Appellate Body, this requires "comprehensive and objective analysis of the structure and application of the measure in question on domestic as compared to imported products".[103] The WTO Appellate Body further stated:

> Although it is true that the aim of a measure may not be easily ascertained, nevertheless its protective application can most often be discerned from the design, the architecture, and the revealing structure of a measure. The very magnitude of the dissimilar taxation in a particular case may be evidence of such a protective application.[104]

In that case, the WTO Appellate Body confirmed that Japan had not "similarly taxed" certain foreign alcohol products "so as to afford protection", in that the measures made it "difficult . . . to penetrate the Japanese market" and "[did] not guarantee equality of competitive conditions" between directly competitive or substitutable products.[105] Likewise, in the case of Canadian oil exports to California, the LCFS acts to make it difficult for

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[101] See *Chile—Taxes on Alcoholic Beverages (Complaint by European Communities)* (2000), WTO Doc WT/DS110/AB/R (Appellate Body Report). In this regard, it should be noted that the Appellate Body did not accept the argument that a differentiation in taxation of alcoholic beverages based on alcohol content meant that the products were not directly competitive or substitutable. Such a determination would support the view that oil and oil products with high and low GHG emissions remain directly competitive or substitutable even if production processes were taken into consideration.

[102] See *Philippines—Distilled Spirits*, *supra* note 100 at para 250. See also *Japan—Alcohol*, *supra* note 55 at 27.

[103] *Ibid* at 29. See also *Korea—Taxes on Alcoholic Beverages (Complaint by the European Communities and the US)* (1999), WTO Doc WT/DS75/AB/R (Appellate Body Report) at para 149 [*Korea—Alcohol*]; *Philippines—Distilled Spirits*, *supra* note 100 at para 250.

[104] *Japan—Alcohol*, *supra* note 55 at 29. See also *Korea—Alcohol*, *supra* note 103 at para 137.

[105] *Japan—Alcohol*, *supra* note 55 at 31.

Canada—and all other countries where oil producers do not qualify to use the CARBOB baseline figure—to penetrate the Californian market. Therefore, this creates inequality of competitive conditions between directly competitive or substitutable products.

B. MOST FAVOURED NATION

Article I.1 of the GATT reflects the principle of most favoured nation:

> 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.[106]

Canada could claim that its oil is not being accorded every advantage that other WTO Members enjoy due to the LCFS's disparate effect on Canadian oils in comparison to "like" oils from other Members being imported to California. In order to successfully pursue this claim, Canada would once again have to demonstrate that (1) Canadian oil is "like" the oil from producers located elsewhere,[107] and (2) as a group, Canadian oil producers will be forced to purchase more carbon credits than producers located in other countries and exporting oil to California.

The "like" product jurisprudence involving Article I.1 is not as rich as that of Article III, and while the test is similar, slight variations do exist.[108] For this

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[106] *GATT, supra* note 9 at art I.1.

[107] The likeness test has been discussed above under "National Treatment"; substantially the same test is used under MFN.

[108] For a critical analysis of jurisprudence attempting to minimize the differences between "like" product in Articles I and III, see Robert E Hudec, "'Like Product': The Differences in Meaning in GATT Articles I and III" in Thomas Cottier & Petros Mavroidis, eds,

reason, and in the interest of brevity, we limit our discussion to existing jurisprudence directly arising from Article I.1. Importantly, however, the panel in *Indonesia—Autos* found that an advantage could not be conditional upon criteria that were unrelated to the product itself, which may imply that access conditional on PPMs or other non-product-related factors would not be consistent with the non-discriminatory obligations contained in Article I.1.[109] This proposition is, however, far from certain. Nevertheless, further analysis of the issue likewise reveals the inconsistency of the Californian measures with Article I.1.

In the GATT-era case of *Spain—Coffee*, the panel used the following factors to determine whether certain types of Brazilian coffee were like other imported coffees that received more favourable tariff treatment: (1) geographical factors, cultivation methods, processing, and genetic factors; (2) end use; and (3) no other contracting party had divided their tariff schedule in such a manner.[110] A subsequent GATT-era dispute, *Japan—Lumber*, more narrowly defined "like" product by stressing the wide discretion that contracting parties (Members) have in classifying goods, even with the HTS. Both of these cases, however, lend support for the view that oil sands from Canada are "like" conventional oils from elsewhere. As noted in the above subsection, the U.S. HTS does not distinguish between conventional oil and unconventional oil, but rather by degrees. Thus, as long as Canadian oil is within the same category as other oils, the GATT-era disputes suggest that the products should be considered "like". The analysis of the panel in *Spain—Coffee* regarding end use also supports the view that oil sands from Canada are "like" conventional oils from elsewhere.[111] As briefly

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Regulatory Barriers and the Principle of Non-Discrimination in World Trade Law (Ann Arbor: University of Michigan Press, 2000) 101.

[109] *Indonesia—Automobiles*, *supra* note 100 at para 14.145.

[110] *Spain—Tariff Treatment of Unroasted Coffee (Complaint by Brazil)* (1981), GATT Doc L/5135, 28th Supp BISD (1981) 102.

[111] In the dispute, Brazil argued that Spain's modifications of its tariff treatment to imports of unroasted coffee discriminated against Brazilian coffee and therefore was in violation of Article I.1 of the *GATT*. More specifically, Brazil argued that by introducing a seven percent tariff rate on imports of unroasted, non-decaffeinated coffee of the "unwashed

mentioned above, consumers generally do not distinguish between the origins of oil, and all oils are mixed prior to distribution to the consumer. Thus, as with coffee, which at that time was primarily distributed and consumed in a blended form as opposed to originating in a single source/location, oil is essentially exclusively distributed and consumed as a blend. Finally, although the panel in *Spain—Coffee* deemed geographical factors, cultivation methods, processing, and genetic factors relevant considerations, it discounted the differences for the purposes of its "like" product analysis:

> The Panel did not consider that such differences [geographical factors, cultivation methods, processing and genetic factors] were sufficient reason to allow for a different tariff treatment. It pointed out that it was not unusual in the case of agricultural products that the taste and aroma of the end-product would differ because of one or several of the above-mentioned factors.[112]

Thus, both *Spain—Coffee* and *Japan—Lumber* support an interpretation that unconventional oil from Canada is "like" conventional oil imported into the U.S. from other countries.

As to less favourable treatment, there is evidence that the LCFS would have a disparate impact on Canadian producers. For instance, a study conducted by Jacobs Consultancy in 2009 estimated well-to-wheel GHG emissions of different oils globally, finding that oils produced elsewhere, for instance in Saudi Arabia, have lower GHG emissions than oil from Canada. Assuming that the modified GREET model used in the LCFS would produce a similar result, Canadian producers would attract a greater deficit than Saudi Arabian producers and thus have to purchase more credits than

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Arabica" and Robusta groups, while affording duty-free treatment to coffee of other groups, Spain provided less favourable treatment than that accorded to "mild" coffee. See *ibid* at paras 1.1, 3.9.

[112] *Ibid* at para 4.6.

> Spain had submitted that "qualitative differences did exist between various types of coffee considering both technico-agronomic, economic and commercial criteria .... [R]obusta coffee bean was morphologically different from the Arabica coffee bean, having a different chemical composition and yielding a neutral beverage that was lacking in aroma and was richer in soluble solids than the beverage made from Arabica coffee[:]
>
> (*ibid* at para 3.6).

Saudi Arabian producers.[113] Such differences result in "less favourable treatment" for the Canadian producer. The difference in treatment is even more pronounced when the foreign producer's actual GHG emissions are near to or exceed Canadian emissions, but the foreign producer can claim the benefit of CARBOB, while Canadian producers cannot. Such is the case with Mexican oil, which qualifies to use the CARBOB figure of 95.86 gCO_2/MJ, as more than two percent of the 2006 baseline mix included Mexican oil, while Canadian oil producers must calculate their emissions.[114] Using available data from the Jacobs model calculation, Mexican oil producers emit more than 100 gCO_2/MJ and thus emit similar levels of emissions to those of Canada.[115] Canada cannot benefit from the CARBOB figure, as it is excluded from the 2006 baseline mix (despite the fact that Canada exports far more oil to the U.S. than Mexico does). The result is less favourable treatment to Canadian oil than to oil producers in other Member states, in violation of Article I.1 of the GATT.[116]

While acknowledging that the GHG emission figures produced under the modified GREET model used by California may be substantially different than the figures produced by the Jacobs model, the point here is simply to demonstrate the real possibility that the LCFS will result in a situation where Canadian oil producers have to purchase carbon-tax credits whereas at least one other WTO Member does not have to purchase any

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[113] Despite the differences, there is no reason to suggest that the modified GREET used in California would produce markedly different results from the GREET. See Jacobs Consultancy, *supra* note 88 at 8–10. For a brief description of some of the differences, see Jennifer Pont & Matthew Hooks, "Introduction to FFCA and the CA-GREET Model" Report produced by TIAX LLC for the California Air Resources Board California Energy Commission, 14 February 2007 at slides 12–15, online: CEPA ARB <http://www.arb.ca.gov>.

[114] United States Energy Information Administration, *supra* note 7.

[115] See Jacobs Consultancy, *supra* note 88.

[116] On the "unconditional" nature of this obligation, see *Indonesia—Automobiles*, *supra* note 100 at para 14.145.

credits or has to purchase fewer credits than do Canadian producers. On this basis, there would likely be a violation of the MFN principle.[117]

C. ARTICLE XX: EXCEPTION

In the event that the U.S. measure is found to be inconsistent with either Article I or Article III of the GATT, the U.S. would likely contend that it satisfies the requirements of an exception under Article XX of the GATT. More specifically, the U.S. would claim an exception under Article XX(g), as a measure "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption", or Article XX(b), as a measure necessary to protect human, animal, or plant life or health.[118]

The first hurdle for the U.S. in claiming the Article XX(g) exception would be to prove that clean air is an exhaustible natural resource. This would not be difficult given that the WTO Appellate Body in *US—Gasoline* affirmed the panel's view that clean air could be viewed as an exhaustible natural resource.[119] The panel found as follows:

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[117] See e.g. *Canada—Certain Measures Affecting the Automotive Industry (Complaint by European Communities and Japan)* (2000), WT/DS139/R/ and WT/DS142/R (Panel Report) at paras 2.1–2.35, 3.1–3.6.

[118] *GATT, supra* note 9, arts XX(g), XX(b). For an interesting article on the relationship between subparagraphs (b) and (g) of Article XX, see Bradly J Condon, "GATT Article XX and Proximity of Interest: Determining the Subject Matter of Paragraphs B and G" (2004) 9 UCLA J Int'l L & Foreign Aff 137 [Condon, "GATT"] (developing an analytical approach to deciding whether to address a trade measure under GATT paragraph XX(b) or (g), with domestic issues being assigned Article XX(b) and transnational issues using Article XX(g)).

[119] *United States—Standards for Reformulated and Conventional Gasoline (Complaint by Venezuela)* (1996), WTO Doc WT/DS2/AB/R at 14 (Appellate Body Report) [*US—Gasoline*]. GATT panels, and WTO panels and appellate bodies, have also found salmon and herring, tuna, dolphins, and migratory sea turtles to be exhaustible natural resources. See *Canada—Measures Affecting Exports of Unprocessed Herring and Salmon (Complaint by the US)* (1988), GATT Doc L/6268, 35th Supp BISD (1988) 98 [*Canada—Herring*]; *US—Tuna I, supra* note 69; *US—Shrimp, supra* note 69.

> In the view of the Panel, clean air was a resource (it had value) and it was natural. It could be depleted. The fact that the depleted resource was defined with respect to its qualities was not, for the Panel, decisive. Likewise, the fact that a resource was renewable could not be an objection. A past panel had accepted that renewable stocks of salmon could constitute an exhaustible natural resource. Accordingly, the Panel found that a policy to reduce the depletion of clean air was a policy to conserve a natural resource within the meaning of Article XX(g).[120]

It also seems clear that if traditional WTO jurisprudence is maintained, the U.S. would likely be able to establish that its measure targeting GHG emissions relates to the conservation of exhaustible natural resources as set out in Article XX(g). In this regard, the WTO Appellate Body in *US—Gasoline* regarded as a prime consideration whether the *measure* is "primarily aimed at" the conservation of natural resources,[121] while the WTO Appellate Body in *US—Shrimp* noted its role was to "essentially look . . . into the relationship between the measure at stake and the legitimate policy of conserving exhaustible natural resources".[122] In other words, there must be "a close and genuine relationship of ends and means" in order for the measure to "relate to" conservation of the exhaustible natural resource.[123]

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[120] *US—Gasoline*, *supra* note 119 at para 6.37. See also *US—Shrimp*, *supra* note 69 at paras 128–31.

[121] *US—Gasoline*, *supra* note 119 at 15:

> One problem with the [panel's] reasoning... is that the Panel asked itself whether the "less favourable treatment" of imported gasoline was "primarily aimed at" the conservation of natural resources, rather than whether the "measure" (i.e., the baseline establishment rules) were "primarily aimed at" conservation of clean air. In our view, the panel here was in error in referring to its legal conclusion on Article III.4 instead of the measure in issue. The result of this analysis is to turn Article XX on its head. Obviously, there had to be a finding that the measure provided "less favourable treatment" under Article III.4 before the panel examined the "General Exceptions" contained in Article XX. That, however, is a conclusion of law. The chapeau of Article XX makes it clear that it is the "measures" that are to be examined under Article XX(g), and not the legal finding of "less favourable treatment".

See also *Canada—Herring*, *supra* note 119 at paras 3.24–40.

[122] *US—Shrimp*, *supra* note 69 at para 135.

[123] *Ibid* at para 136.

As the nature and structure of the regulation is clearly to reduce carbon emissions and thus improve the quality of the air, it was until recently relatively uncontroversial that the U.S. would be able to establish that the LCFS is primarily aimed at the conservation of natural resources, namely, reduction of the effects of climate change, including harmful GHG emissions, reduction in air quality, and environmental degradation.[124] The recent WTO Appellate Body decision in *Thailand—Cigarettes*, however, raises some uncertainties. More specifically, the decision, without specifically referencing prior WTO Appellate Body reasoning or jurisprudence, held in the context of an Article XX(d) defence that,

> when Article XX(d) is invoked to justify an inconsistency with Article III:4, what must be shown to be "necessary" is the treatment giving rise to the finding of less favourable treatment. Thus, when less favourable treatment is found based on differences in the regulation of imports and of like domestic products, the analysis of an Article XX(d) defence should focus on whether those regulatory differences are "necessary" to secure compliance with "laws or regulations" that are not GATT-inconsistent.[125]

If such a holding is maintained, Canada could argue that regulatory differences in the measure preclude the U.S. from relying on the exception contained in Article XX(g), in that the treatment giving rise to the finding of less favourable treatment is not "related to" the conservation of exhaustible natural resources; that is, the discrimination itself is not related to the reduction of carbon emissions or improvement of air quality.[126]

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[124] Furthermore, the genesis of the LCFS is directly to combat climate change by reducing California's dependency on carbon intensive fuels. This stems from an Executive Order issued by former Governor Schwarzenegger, S-01-07 in 2007, online: CEPA ARB <http://www.arb.ca.gov/fuels/lcfs/cos0107.pdf>, which began California's pursuit of reducing the carbon intensity of their fuels. Global negotiations and agreements concerning climate change, GHG emissions, and environmental protection could also be relevant and support the view that LCFS "relates to" the conservation of exhaustible natural resources.

[125] *Thailand—Customs and Fiscal Measures on Cigarettes from the Philippines (Complaint by the Philippines)* (2011), WTO Doc WT/DS371/R at para 177 (Panel Report).

[126] It should be noted that at the DSB meeting adopting this Appellate Body Report, both Australia and the U.S. expressed reservations regarding this aspect of the decision (e.g.,

Regardless, Canada could also argue that in providing local producers with the advantage of using the CARBOB figure while denying Canadian producers its use, the U.S. measure fails to meet the latter part of Article XX(g): that measures must be "made effective in conjunction with restrictions on domestic production or consumption".[127] The WTO Appellate Body in *US—Gasoline* viewed this as an "even-handedness" requirement, and thus Canada could argue that the differing treatment means it is not treated in an "even-handed" manner.[128] This argument, however, is likely to fail, as the WTO Appellate Body in *US—Gasoline* and subsequent panels has taken a rather loose approach to applying Article XX(g); if such jurisprudence is followed, as long as the measure as a whole relates to environmental concerns, it will fall within the exception.[129]

Article XX(b) of the GATT is also relevant, as it applies to measures "necessary to protect human, animal or plant life or health". To date, the extensive jurisprudence on this issue has allowed broadly based policy goals to fall within the range of policies designed to protect human, animal, or plant life or health. In fact, recent jurisprudence includes environmental protection within the scope of the Article XX(b). After establishing that the policy goals fit the exception, the next step is to analyze whether the measure is "necessary" to achieve the policy goals in light of the level of risk that a

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attributing the U.S. position as the following: "[In the Appellate Body's] analysis of Article 20(d) of GATT 1994, the Appellate Body stated that it was the differential treatment that must be 'necessary' to secure compliance. For the U.S., this seemed to be at odds with prior reports in which it was found that it was the 'measure' that must be necessary.") See WTO, "WTO Adopts Reports on Philippines/Thailand Cigarettes Case", WTO News (15 July 2011), online: WTO News <http://www.wto.org>. See also "Statements by the United States at the July 15, 2011 DSB Meeting" (15 July 2011), online: Mission of the U.S.: Geneva, Switzerland <http://geneva.usmission.gov>.

127 *GATT, supra* note 9, art XX(g).

128 For an analogous argument, see *US—Gasoline, supra* note 119 at 19–21 (finding the U.S. met the "evenhandedness" requirement as its measures applied both to domestic and international products).

129 See *ibid* at 16, 19–21. But see *China—Measures Relating to the Exportation of Various Raw Materials (Complaint by the US)* (2011), WTO Doc WT/DS394,395,398/R at paras 7.388–7.468 (Panel Report).

Member sets for itself. As an interpretive tool, the WTO Appellate Body in *Korea—Beef* found this involved a "weighing and balancing" of a series of factors, including the level of importance of the interests or values that the challenged measure is intended to protect (that is, the greater the importance of the interests and values, the more likely it is that the measure is necessary) and the extent to which the measure contributes to the end pursued (that is, the greater the measure contributes to the end pursued, the more likely it is that the measure is necessary).[130] The trade impact of the challenged measure is also an important factor in determining "necessity", with a greater trade impact making it more likely that the measure is necessary. Finally, the WTO Appellate Body looks at whether a WTO-consistent (or less WTO-inconsistent) alternative measure that could reasonably be employed is available to the Member concerned. While there is no set formula or weighting to the process of "weighing and balancing" the factors, the jurisprudence does make clear that the "weighing and balancing" of the first three factors informs the determination of the fourth factor.[131]

The California legislature unquestionably considers environmental protection to be one of the main policy goals of the LCFS. Given the decision in *Brazil—Tyres*, it is also clear that environmental protection fits within the framework of Article XX(b). In *Brazil—Tyres*, the panel and WTO Appellate Body accepted that measures aimed at protecting Brazil's environment fell within the range of policies covered by Article XX(b), with the panel finding that "few interests are more 'vital' and 'important' than protecting human beings from health risks, and that protecting the environment is no less important".[132]

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[130] See *Korea—Beef, supra* note 54 at paras 162–64.

[131] See e.g. *ibid* paras 165–66. See also *EC—Asbestos, supra* note 55 at paras 159–72; *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services (Antigua and Barbuda)* (2005), WTO Doc WT/DS285/AB/R at paras 304–11 (Appellate Body Report) [*US—Gambling*]; *Brazil—Measures Affecting Imports of Retreaded Tyres (Complaint by the European Communities)* (2007), WTO Doc WT/DS332/AB/R at paras 139–143 (Appellate Body Report) [*Brazil—Tyres*].

[132] *Ibid* at paras 7.108. (See also *ibid* at para 179).

The extent to which the LCFS contributes to the end pursued is difficult to accurately gauge, and it is questionable whether the Californian measure meets the high standard set by the WTO Appellate Body in *Brazil—Tyres*. In that case, the WTO Appellate Body stated that a measure making "a marginal or insignificant contribution" to the objective is not enough to be considered necessary and that a necessary measure will be "apt to produce a material contribution to the achievement of its objective".[133] However, the WTO Appellate Body did leave some room for debate, as it emphasized the need to view the relevant measure as part of the broader context of a comprehensive strategy involving numerous interconnected measures.[134] The WTO Appellate Body ultimately concluded that even the contribution of a trade-restrictive measure to address climate change that is not immediately observable can under certain circumstances be justified under Article XX(b):

> We recognize that certain complex public health or environmental problems may be tackled only with a comprehensive policy comprising a multiplicity of interacting measures. In the short-term, it may prove difficult to isolate the contribution to public health or environmental objectives of one specific measure from those attributable to the other measures that are part of the same comprehensive policy. Moreover, the results obtained from certain actions—for instance, measures adopted in order to attenuate global warming and climate change . . .—can only be evaluated with the benefit of time.[135]

It is thus reasonable to conclude—or perhaps, more accurately, not unreasonable to assume—that a panel or the WTO Appellate Body could find that the LCFS contributes to the end pursued, that is, environmental protection.

Without possessing empirical evidence on trade flows, it is perhaps too soon to accurately assess the trade impact of the LCFS on Canadian oil. That being said, it is reasonable to assume that the higher cost of exporting oil to California for Canadian producers vis-à-vis domestic producers and foreign

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[133] *Ibid* at paras 150–51.

[134] *Ibid* at para 154.

[135] *Ibid* at para 151.

producers that qualify for the CARBOB figure would significantly distort trade flows.[136]

In terms of a reasonably available alternative, it is well established that the burden lies on the complainant to raise a WTO-consistent or less-WTO-inconsistent alternative measure that, in its view, the respondent should have taken. The respondent must then demonstrate why the proposed alternative is not, in fact, "reasonably available". If the respondent is able to demonstrate that the alternative is not "reasonably available", in light of the interests or values being pursued and in light of its desired level of protection, the challenged measure must be viewed as "necessary".[137]

Assuming that a reasonably available alternative cannot be found, it is quite possible that a panel or the WTO Appellate Body would find that the LCFS fits within the scope of Article XX(b) as being "necessary to protect human, animal or plant life or health".

While the LCFS is likely to be found to be "relating to the conservation of natural resources" and "made effective in conjunction with restrictions on domestic production or consumption" within the meaning of Article XX(g) and could possibly even be deemed to be "necessary to protect human, animal or plant life or health", it is unlikely the application of the measure would meet the requirements of the chapeau, that is, as not constituting "arbitrary or unjustifiable discrimination" between countries where the same conditions prevail or a "disguised restriction on international trade".[138] The specific language of the chapeau to Article XX reads:

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[136] Condon makes the interesting point that

> if a 'comprehensive regulatory strategy' is relevant the extent of the contribution, then it should also be examined in assessing the trade-restrictive impact of the measure. In that case, the cumulative impact of a series of climate change measures could together have much more significant restrictive effects than a measure considered in isolation[:]

Condon, "Climate Change", *supra* note 70 at 914–15.

[137] See e.g. *US—Gambling*, *supra* note 131 at paras 310–11.

[138] The Appellate Body in *Brazil—Tyres* states that "the chapeau focuses on the 'application' of the measure and 'serves to ensure that Members' rights to avail themselves of exceptions are exercised in good faith to protect interests considered legitimate under Article XX, not as a means to circumvent one Member's obligations towards other WTO Members."

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement . . . of measures [of the type specified in the subsequent paragraphs of Article XX].

The three main requirements contained in the chapeau are cumulative, and the burden of proof to demonstrate that the application of the measure meets the requirements falls on the Member concerned (that is, the respondent). In essence, the chapeau is designed to prevent abuse of the specified paragraphs of Article XX.[139]

In interpreting the chapeau, cases such as *US—Shrimp* and *US—Shrimp II* have clarified the standard to be used when assessing whether a Member's measure meets the requirements of the chapeau.[140] For the most part, the WTO Appellate Body in these cases focus on the cause, or the rationale, of the discrimination and whether "discrimination that might result from the application of [the relevant] measures had a legitimate cause or rationale in the light of the objectives listed in the paragraphs of Article XX".[141] The WTO Appellate Body in *Brazil—Tyres* followed this line of reasoning, stating that "the analysis of whether the application of a measure results in arbitrary or unjustifiable discrimination should focus on the cause of the discrimination, or the rationale put forward to explain its existence."[142] The WTO Appellate Body further added:

Brazil—Tyres, *supra* note 131, citing *US—Gasoline*, *supra* note 119 at 20–22; *US—Gambling*, *supra* note 131 at para 339.

139 *Brazil—Tyres*, *supra* note 131 at para 227, citing *US—Gasoline*, *supra* note 119 at 22.

140 *US—Shrimp*, *supra* note 69 at paras 162–77; *United States—Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 of the DSU by Malaysia*, (1998), WTO Doc WT/DS58/AB/RW at paras 144–47 (Appellate Body Report) [*US—Shrimp II*].

141 *Brazil—Tyres*, *supra* note 131 at para 225. See also *US—Shrimp II*, *supra* note 140.

142 *Brazil—Tyres*, *supra* note 131 at para 226.

> [T]here is arbitrary or unjustifiable discrimination when a measure provisionally justified under a paragraph of Article XX is applied in a discriminatory manner "between countries where the same conditions prevail", and when the reasons given for this discrimination bear no rational connection to the objective falling within the purview of a paragraph of Article XX, or would go against that objective.[143]

Finally, the WTO Appellate Body concluded:

> [W]e have difficulty understanding how discrimination might be viewed as complying with the chapeau of Article XX when the alleged rationale for discriminating does not relate to the pursuit of or would go against the objective that was provisionally found to justify a measure under a paragraph of Article XX.144

The WTO Appellate Body in *US—Gasoline* rejected both explanations put forward to explain the existence of the discrimination: (1) the impracticability of verification and enforcement of individual baselines for foreign refiners, and (2) that the imposition of a statutory baseline requirement on domestic refiners was not feasible as it would then require domestic refiners to incur the physical and financial costs and burdens entailed by immediate compliance with a statutory baseline.[145] In so doing, the Appellate Body highlighted two main reasons for its decision that the U.S. measures in that dispute did not meet the conditions of the chapeau: (1) the failure of the U.S. to co-operate with the complainants to provide equal treatment with foreign refiners; and (2) the U.S.'s failure to properly account for the costs to foreign refiners resulting from the measure.[146] Furthermore, the WTO Appellate Body noted that the resulting discrimination must have been foreseen and was not merely inadvertent or unavoidable.[147]

Canada would rely upon these holdings in arguing that the U.S. measures in this case likewise fail to meet the conditions of the chapeau: the U.S. failed

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[143] *Ibid* at para 227.

[144] *Ibid.*

[145] *US—Gasoline, supra* note 119 at 25–28.

[146] See *ibid* at 22–29.

[147] *Ibid* at page 28.

to co-operate with Canada and others to provide equal treatment to those countries unable to make use of the 2006 baseline rate;[148] the U.S. did not properly account for the heavy costs to foreign refiners not able to make use of the 2006 baseline; and the discrimination was indeed foreseeable (i.e., Canada's Minister of Natural Resources expressed her concerns to California in 2009).[149] Moreover, and of particular note, California has not put forward any justification for the existence of the 2006 baseline or reasoning as to why the year 2006 was selected for the baseline mix.

As previously noted, oil producers in California and certain foreign oil producers can avoid calculating their actual carbon-intensity levels if included in the 2006 California baseline crude mix. More specifically, crude-oil producers that constituted at least two percent of the 2006 California baseline crude or those whose oil is not a high-carbon-intensity crude oil can simply use a standard baseline rate (i.e., the CARBOB figure of 95.86 gCO_2/MJ) as opposed to calculating their actual carbon intensity.[150] Canadian producers, however, are not included as qualifying producers, as total Canadian exports of oil to California in 2006 failed to meet the two percent threshold.[151] Thus, despite being the largest oil exporter to the U.S.,[152] Canada is not a large exporter to California. However, as pointed out in

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[148] The issue of co-operation between the Member concerned and other WTO Members played a prominent role in the *US—Shrimp* dispute and in other disputes involving Article XX(g). *US—Shrimp*, *supra* note 69, paras 166–71; *US—Shrimp II*, *supra* note 140 at paras 115–34. By contrast, the requirement to co-operate or negotiate has not been included in the jurisprudence involving Article XX(b). For discussion, see Condon, "Climate Change", *supra* note 70 at 917–20. See also Condon, "GATT", *supra* note 118.

[149] Letter from Lisa Raitt, Canadian Minister of Natural Resources, to CARB and Governor Schwarzenegger regarding concerns over the LCFS (21 April 2009), online: Canada's International Gateway <http://canadainternational.gc.ca> (noting Canada's exclusion from use of the CARBOB and stating "[a]ny unjustifiable discrimination against Canadian crude oil could be contrary to the international trade obligations of the United States").

[150] Cal Code Regs tit 17, § 95486(b)(2)(A) *Use of Lookup-Table Carbon-Intensity Values* (17 CCR § 95486) (2010).

[151] See Raitt, *supra* note 149.

[152] United States Energy Information Administration, *supra* note 7.

Figure 1 above, Canadian oil exports to California have increased in the intervening years, and the latest figures indicate that Canada exceeded this two per cent threshold in 2009 and 2010.

To demonstrate the disparate effect the 2006 baseline mix/CARBOB figure has on Canadian imports of oil to California, again consider imports of Mexican oil compared to Canadian oil. Under the current regime, Mexican oil producers qualify to use the CARBOB figure of 95.86 gCO_2/MJ, as over two per cent of the 2006 baseline mix included Mexican oil, while Canadian oil producers must calculate their emissions.[153] However, using available data from the Jacobs model calculation, Mexican oil producers actually emit over 100 gCO_2/MJ.[154] Thus, despite the fact that Canada exports significantly more oil to the U.S. than Mexico[155] and emits similar levels of emissions, Canada is excluded from the 2006 baseline mix and therefore not allowed to use the CARBOB figure while Mexico can use the CARBOB figure (and in doing so understate its actual carbon emissions). As a result of the exclusion, Canada would have to purchase more credits than Mexico. Simply stated, if the LCFS applied an objective test or established a different baseline year, Mexico would likely be above the LCFS threshold and would be required to purchase a similar number of carbon credits as Canada. In this regard the application of the LCFS likely results in unjustifiable discrimination or even a disguised restriction on international trade within the meaning of the chapeau.

The LCFS also appears to be arbitrarily discriminatory in selecting 2006 as the baseline year; this is especially the case given that a reduction in harmful GHGs is the objective of the measure. Quite simply, a country qualifying for the 2006 baseline (and thus eligible to use CARBOB irrespective of its actual carbon intensity) has little incentive to curb its *actual* GHG emissions. On the contrary, countries excluded from the 2006 baseline and thus not eligible to use the CARBOB average must expend resources calculating carbon-intensity levels and either actively work towards reducing

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[153] *Ibid.*

[154] See Jacobs Consultancy, *supra* note 88.

[155] United States Energy Information Administration, *supra* note 7.

their emissions levels or purchase credits. Such a system thus does little to meet the aim of reducing carbon emissions—that is, conserving an exhaustible natural resource—and merely serves to give advantage to producers from countries that accounted for more than two percent of Californian oil imports in 2006. The system seems even more arbitrary when actual trade flows are taken into consideration. For instance, as pointed out above, Canadian oil exports to California now account for more than two per cent of total usage; on the contrary, Mexican exports of oil to California fell below the two percent threshold in 2007, the year following the baseline calculation. Thus, Mexico continues to benefit from the CARBOB figure whereas Canada does not, despite the fact that Canada now consistently exports more oil to California than Mexico.

Taken in totality, the U.S. measures are likely to be viewed as "arbitrary discrimination" and either "unjustifiable discrimination" or a "disguised restriction on trade".[156]

V. CONCLUSION

This article is not meant to cast doubt on the intentions of the LCFS or any other environmentally motivated legislation aimed at reducing GHG emissions. Nor is the intention to dispute whether oil sands are significantly more environmentally damaging than conventional oil (we leave that to the engineers and economists). Instead this article is simply intended to draw attention to the need to tailor domestic laws and regulations in ways that do not inherently discriminate against foreign producers. We argue that the LCFS discriminates against Canadian producers not because it attempts to target carbon emissions, but rather because it does so in an arbitrary and discriminatory manner.

The concern is that the LCFS may be used as a benchmark model for other U.S. states or even a future federal law. Moreover, speculation exists that other jurisdictions, such as the E.U., will take measures to block tar-sand-

[156] In practice, the Appellate Body almost always finds that a measure which is "arbitrary or unjustifiable discrimination" is also a "disguised restriction on international trade". See e.g. *US—Gasoline, supra* note 119 at 23; *Brazil—Tyres, supra* note 131 at para 239.

oil imports from Canada.[157] Unless carefully crafted in a manner mindful of WTO law, these efforts will also likely violate the provisions considered in this article (Articles I and III of the GATT), Article XI of the GATT, and even Articles 2.1 and 2.2 of the *TBT Agreement*.

Regardless of the design of measures targeting GHG emissions, such measures will always be controversial and challenged under domestic law by interested parties. It also seems clear that at some stage measures targeting GHG emissions will also be challenged at the WTO. As this article attempts to illustrate, the measures will likely be found to be inconsistent with GATT and other WTO commitments unless the international rules are fully considered and respected at the drafting and implementation stage of the legislative process.

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[157] See *EC, Commission Directive 2009/30/EC of 23 April 2009 Amending Directive 98/70/EC as Regards the Specification of Petrol, Diesel and Gas-oil and Introducing a Mechanism to Monitor and Reduce Greenhouse Gas Emissions and Amending Council Directive 1999/32/EC as Regards the Specification of Fuel Used by Inland Waterway Vessels and Repealing Directive* 93/12/EEC [2004] OJ, L 140/88. For the purposes of implementing Article 7(a)(1) of the Directive, EU Climate Action Commissioner Connie Hedegaard proposes to specifically target oils sands and shale oil as high-carbon "dirty" fuels. See generally Fratini Vergano, "The EU May Place a 'Dirty Fuel' Label on Oil Extracted from the Canadian Oil Sands", online: (2011) 7 Trade Perspectives 1 <http://fratinivergano.eu>; Pete Harrison & Juliane von Reppert-Bismarck, "Tar Sands Row Threatens Canada–EU Deal: Sources" *Reuters* (21 February 2011), online: Reuters <http://www.reuters.com>.