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Challenging Fossil Fuel Subsidies in the WTO:

A Legal Analysis of Fossil Fuel Subsidies under the SCM Agreement

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List of Abbreviations

AB - Appellate Body

CVD – Countervailing Duties

DSB – Dispute Settlement Understanding

DSU – Dispute Settlement Body

FIT – Feed in Tariff

GATT- General Agreement on Tariffs and Trade

GDP - Gross Domestic Product

GSI - Global Subsidies initiative

IEA - International Emergency Agency

IMF - International Monetary Fund

INEA - the Innovation and Networks Executive Agency

IISD - International Institute for Sustainable Development

NGO – Non-Governmental Organization

OECD - Organization for Economic Co-operation and Development

R&D - Research and Development

SCM - (Agreement on) Subsidies and Countervailing Measures

TRIM - (Agreement on) Trade Related Investments Measures

UN - United Nation

US - United States

US JOB (act) – United States Jumpstart Our Business Start-ups (Act)

WTO – World Trade Organization

Executive Summary

The global energy market is worth trillions of dollars and comprises a significant portion of international trade. This market is heavily subsidized, with an estimated \$5.2 trillion spent on global fossil fuel subsidies in 2017 (IMF, 2019), by states such as China, the US, Russia, the EU, India, and Saudi Arabia. Fossil fuel subsidies have a highly detrimental impact on the environment, distort energy markets, encourage over-consumption of fossil fuels, and discourage investment in climate-friendly alternatives. Reducing or eliminating fossil fuel subsidies can help promote the transition from fossil fuels to renewable energy, and reduce carbon emissions and global warming.

Considering the widespread global effects of fossil fuel subsidies, attention has been directed to the role the World Trade Organization (WTO) can play in phasing them out. Thus far, WTO members have not used the WTO Subsidies and Countervailing Measures Agreement (SCM) to challenge fossil fuel subsidies through dispute settlement. Current research has focused on why this is the case, and why only renewable energy subsidies have been challenged in the WTO, as well as the possibility of challenging specific fossil fuel subsidies. This Memorandum aims to provide a broader analysis of the potential use of WTO litigation based on the SCM, by surveying the legal issues associated with *seven alternative scenarios within three structural categories of fossil fuel subsidies*, and addressing the various SCM elements that may apply (specificity, benefit, adverse effects and particularly serious prejudice, and prohibited subsidies).

The *structural categories of subsidies* discussed are:

- Direct fossil fuel production subsidies;
- Fossil fuel consumption subsidies as production inputs;
- Fossil fuel consumer subsidies to end users.

The *alternative scenarios* relate to the possible effects that each structural category might have on different components of fossil fuel production and consumption chains:

- Direct fossil fuel production subsidies:
 - effects on non-subsidized fossil fuel;
 - pass-through effects on inputs into the production of energy intensive products;
 - effects on alternative energy products.
- Fossil fuel consumption subsidies as production inputs:
 - effects on producers of energy-intensive products with similar production method;
 - effects on producers of energy-intensive products with a different production method.
- Fossil fuel consumer subsidies to end users:
 - effects on international trade of the subsidized product;
 - effects on the use of complementary energy products.

Each category and scenario faces particular legal obstacles and opportunities. One legal obstacle evident in most scenarios is that many fossil fuel subsidizing countries – aside from the US and China - have non-diversified economies. In these cases, it remains unclear if the legal tools provided by the SCM can be effective in challenging fossil fuel subsidies as they are not likely to meet the specificity test. Moreover, in many scenarios, the factual evidence required to prove adverse effects may be difficult to obtain. Another hurdle in the adverse effects analysis is the ‘like’ product test.

Throughout the Memorandum we suggest possible legal avenues that under certain circumstances may be pursued to challenge a fossil fuel subsidy program in the WTO. Nevertheless, as noted by many commentators, the current SCM legal framework is not optimal in this respect, and substantial reform would be needed in order for the SCM to be a more effective tool for this purpose.

1 Introduction

The Main Question

This paper assesses the potential feasibility for a World Trade Organization (WTO) member to challenge another member's fossil fuel subsidies in WTO dispute settlement based on the Agreement on Subsidies and Countervailing Measures (SCM). If we find that there might be an opening to bring a WTO case against fossil fuel subsidies, the paper can contribute to the global effort to phase them out and help reduce carbon emissions (and global warming). At the least, the analysis may be able to make a small contribution to the discourse regarding reform of the SCM aimed at promoting the transition from fossil fuel to the more “eco-friendly” renewable energy.

With the development of renewable energy, it is becoming increasingly difficult to justify the subsidization of environmental harmful fossil fuels. As detailed in Chapter 2 below, large fossil fuel subsidies distort energy markets, lead to a less than optimal distribution of taxpayer dollars, encourage over-consumption of fossil fuels, have a highly detrimental impact on the environment, and discourage investment in climate friendly alternatives. Nevertheless, while renewable energy subsidies have been challenged in WTO dispute settlement, to date fossil fuel subsidies have not.¹

For various reasons, including the inadequacy of the case law (particularly the AB's ruling in the Canada-Renewable Energy FIT case), many commentators have concluded that the only recourse to deal with phasing out fossil fuel subsidies in the WTO is through reform of its subsidy law.²

We test the commentators' conclusion that most fossil fuel subsidies cannot be challenged under WTO law, by analyzing various scenarios to determine where fossil fuel subsidies might be vulnerable to a WTO challenge.

¹ Experts have suggested a number of explanations for this phenomenon. See for example, Henok Birhanu Asmelash, 'Energy Subsidies and WTO Dispute Settlement: Why Only Renewable Energy Subsidies Are Challenged' (2015) 18(2) *Journal of International Economic Law*, 261; Timothy Meyer, 'Explaining Energy Disputes at the World Trade Organization' (2017) 17(3) *International Environmental Agreements: Politics, Law and Economics* 391; Dirk De Bièvre, 'No Iceberg in Sight: On the Absence of WTO Disputes Challenging Fossil Fuel Subsidies' (2017) 17(3) *International Environmental Agreements: Politics, Law and Economics* 411.

² Liesbeth Casier and Tom Moerenhout, 'WTO Members, Not the Appellate Body, Need to Clarify Boundaries in Renewable Energy Support' (2013) 24 *International Institute for Sustainable Development* 1-9; Aaron Cosbey and Luca Rubini, 'Does it FIT? An Assessment of the Effectiveness of Renewable Energy Measures and of the Implications of the Canada-Renewable Energy/FIT Disputes' E15 Expert Group on Clean Energy Technologies and the Trade System, December 2013; Tom Moerenhout and Tristan Irschlinger, 'Exploring the Trade Impacts of Fossil Fuel Subsidies' International Institute for Sustainable Development, 22 March 2020, 28.

WTO Energy Disputes Based on SCM Agreement

1.2.1 Why Fossil Fuel Subsidies Have Not Been Challenged in the WTO

Currently while renewable energy subsidies have been challenged in the WTO, fossil fuel subsidies have never been challenged. A standard explanation for this is that the SCM's provisions seem to be better suited for challenging renewable energy subsidies over fossil fuel subsidies.³ For example, fossil fuel subsidies are less likely to be contingent upon export performance or domestic content requirement in comparison with renewable energy subsidies - which would make for an easier case for a dispute under the provisions of the SCM.⁴ Also, as fossil fuel subsidies are often generally available to consumers (including industrial consumers) throughout many sectors in the market, they are less likely to be deemed specific.⁵ If the main driving factor for governments to submit a complaint to the WTO is the likelihood of success – an opinion accepted and recognized by scholars⁶ - it would be clear why fossil fuel subsidies have not been challenged while renewable energy subsidies have.

Furthermore, there is a strong correlation between the initiation of a WTO dispute by a member state and the existence of influential domestic interest groups and lobbying. Currently, as a more established industry, there are many powerful and influential lobbyists working on behalf of the fossil fuel industry.⁷ This could sway governments to challenge the subsidization of industries which may pose a financial threat to such interest group while blocking attempts at challenging subsidies which favour them.

Another possible reason may be the mere fact that almost all influential members of the WTO subsidize fossil fuels in one way or another.⁸ To illustrate this, if a government decides to challenge another government's fossil fuel subsidy program, they run the risk of having their own fossil fuel subsidy programs challenged in the WTO, thereby risking causing damage to their own economies.⁹ Also, more generally, when challenging influential members' subsidies, the challenging member takes a risk of some sort of retaliatory action.. This could influence the decision of members who do not subsidize fossil fuels – which

³ Asmelash (n 1) 278.

⁴ *ibid* 281.

⁵ *ibid*.

⁶ Bièvre (n 1) 415; Asmelash (n 1) 279.

⁷ For examples, see Sandra Lavielle, 'Fossil Fuel Big Five Spent 251M Lobbying EU Since 2010', *The Guardian* 24 October 2019, <https://www.theguardian.com/business/2019/oct/24/fossil-fuel-big-five-spent-251m-lobbying-european-union-2010-climate-crisis>.

⁸ UN Environment Program, 'Fossil Fuel Subsidy Reform', <https://www.unenvironment.org/explore-topics/green-economy/what-we-do/economic-and-fiscal-policy/fiscal-policy/policy-analysis-3>; Jacob Skovgaard and Harro Van Asselt 'The Politics of Fossil Fuel Subsidies and their Reform: Implications for Climate Change Mitigation' *Wiley Interdisciplinary Reviews: Climate Change* (2019) 10(4) 2; Asmelash (n 1) 285.

⁹ Meyer (n 1) 400.

will often be smaller countries and less influential in the global economy – not to challenge members who do.

Other reasons many governments are deterred from challenging these subsidies in the WTO may be due to commitments that have been made to private international investors under the TRIMs Agreement, and a sense that a losing member may not comply with the DSB's ruling - a concern that mainly relates to disputes filed against new WTO members whose economies depend on the fossil fuel industry.¹⁰

1.2.2 Why Renewable Energy Subsidies Have Been Challenged in the WTO

Although fossil fuel subsidy programs have not been challenged under WTO law, there are a number of cases challenging renewable energy subsidies. A plausible reason for this is the fundamental differences between fossil fuel subsidies and renewable energy subsidies that make the latter an easier target. Many of the risks and difficulties in challenging fossil fuel subsidies listed above do not apply to renewable energy subsidies as renewable energy is relatively new, and can be found primarily in diversified economies. Moreover, there aren't many international investment treaties regarding investments in renewable energy, and not many countries have as extensive subsidies for renewable energy production and consumption.

Nevertheless, using the SCM Agreement to challenge renewable energy subsidy programs has not been easy. In cases such as EC vs. Canada - renewable energy/FIT, and United States vs. India—Certain Measures Relating to Solar Cells and Solar Modules, the challenging countries have preferred to use GATT Article I (most favored nation) and GATT Article III (national treatment) rather than the SCM since they are easier to apply (and prove) from a legal and economic perspective in comparison with the SCM's stricter conditions. These difficulties and conditions will be addressed in detail in Chapters 4 and 5. Moreover, anti-dumping measures were often chosen over countervailing measures.

Methodology: Division into Categories and Scenarios

The categories we look at consist of subsidies granted to fossil fuel producers (known as production subsidies) subsidies granted to industrial consumers of fossil fuel, and subsidies granted to end users of fossil fuel for personal use (with the latter two known as consumption subsidies). The scenarios within each category vary; they represent different WTO dispute scenarios involving various industries, and that might be litigated differently under the SCM if the dispute concerned renewable energy. Our analysis examines the direct effects fossil fuel subsidies may have on the fossil fuel industry itself, in addition to indirect effects through the use of subsidized inputs with pass through effects on downstream producers of energy

¹⁰Steve Charnovitz, 'Green Subsidies under the WTO', Policy Research Working paper, October 2014.

intensive products such as steel and plastic, as well as their impact on renewable energy as an alternative source of energy.

The table below describes the categories and the respective scenarios in our analysis:

Table 1.1: Category and Scenarios in the Analysis

<u>Category 1</u>	<u>Category 2</u>	<u>Category 3</u>
Direct fossil fuel production Subsidies	Fossil fuel consumption subsidies for use as input for energy intensive production	Fossil fuel consumer subsidies
Scenario 1 – Direct fossil fuel production subsidies’ effects on non-subsidized fossil fuel production.	Scenario 1 – Fossil fuel consumption subsidies’ effects on foreign producers of similar energy intensive products using a similar method of production.	Scenario 1 – Fossil fuel consumer subsidies’ effects on international trade of the subsidized product.
Scenario 2 – Direct fossil fuel production subsidies’ pass- through effects vis-à-vis inputs into the production of energy intensive products.	Scenario 2 - Fossil fuel consumption subsidies’ effects on producers of energy intensive products using a different production method.	Scenario 2 – Fossil fuel consumer subsidies’ effects on the use of complementary energy products.
Scenario 3 – Direct fossil fuel production subsidies’ effects on non-similar alternative energy products.	--	--

Overview of Paper

Following the Introduction,

Chapter 2 sets the stage by providing some basic background as to the nature of the paper. We start by describing today’s energy market and the main players in the global fossil fuel market. We then discuss the reason fossil fuel subsidies are problematic and offer insight into the economic effects the subsidies have on different industries competing in the global markets.

Chapter 3 briefly surveys the history of the SCM and describes how the SCM categorizes different types of subsidies and the different remedies at the disposal of a WTO member. In addition, this chapter will provide an overview of the relevant SCM articles and a brief explanation of the provisions.

Chapters 4 and 5, the heart of our analysis, assess the issues and obstacles that may arise in each scenario, in order to determine which scenarios can be challenged under the WTO, and what obstacles stand in the way of a potentially successful complaint.

Chapter 6 provides a summary of the analysis and some concluding remarks.

2 Setting the Stage

The Energy Market

2.1.1 What are Fossil Fuels and Renewable Energy?

Fossil fuel is a fuel formed naturally, often by decomposition of dead organisms over millions of years. Common fossil fuels are coal, natural gas, petroleum propane and kerosene. Natural processes continue to create fossil fuels; however, they are nevertheless regarded as non-renewable resources since the process takes millions of years. Thus, fossil fuel reserves are limited and diminishing since they are consumed at a much higher rate than they are formed. Today, fossil fuel energy is the primary source of energy, and accounts for some 85% of the world's energy consumption.¹¹ However, fossil fuels have significant negative environmental effects as discussed below.

In contrast, renewable energy is based on resources that replenish naturally. Common sources of renewable energy include wind, rain, sunlight, waves and heat. Examples of typical uses include solar heat, hydroelectricity, wind and solar electricity. Renewable energy accounts for a fraction of world energy consumption, but its share is growing, as it becomes cheaper and more efficient in light of fast technological advancements. Unlike fossil fuels that are geographically limited to certain countries, renewable energy sources can be found all over the world (wind, sunlight, etc.).

2.1.2 Size and Main Players in Energy Market

Today's energy markets are worth trillions of dollars, and comprise a substantial part of international trade. The enormous size of energy related industries and the subsidies they receive on a global level, is key to understanding why many influential WTO members avoid challenging fossil fuel subsidies in the WTO, and why others would like to challenge these subsidies. Any disruption in the energy markets may have drastic effects on domestic economies as well as on the global economy - despite the positive effects such a disruption would have on the introduction of cleaner forms of energy production, and thus on climate change.¹²

According to an IMF working paper published in May 2019, on a macro scale, global fossil fuel subsidies amounted to \$4.7 trillion (6.3 percent of global GDP) in 2015 and were projected to increase to \$5.2 trillion

¹¹Robert Rapier, 'Fossil Fuels Still Supply 84 Percent of World Energy – And Other Eye Openers from BP's Annual Review' *Forbes* 20 June 2020, <https://www.forbes.com/sites/rpapier/2020/06/20/bp-review-new-highs-in-global-energy-consumption-and-carbon-emissions-in-2019/?sh=1f62b58f66a1>.

¹² It should be noted that the present corona crisis has significantly lowered the demand for energy and led to an expected 5% decline in global energy demand in 2020. See IEA 'World Energy Outlook' 13 October 2020, <https://www.iea.org/reports/world-energy-outlook-2020/overview-and-key-findings>.

(6.5 percent of GDP) in 2017. In order to give context to these numbers it is important to note that just coal and petroleum account for 85 percent of global subsidies.¹³

The largest subsidizers in 2015 were China (\$1.4 trillion), United States (\$649 billion), Russia (\$551 billion), European Union (\$289 billion) and India (\$209 billion). About three quarters of global fossil fuel subsidies are related to domestic factors¹⁴ - i.e. to combat poverty and raise the standard of living by making energy more affordable to a country's citizens - or to provide employment in depressed regions. At the same time, energy pricing reform is largely in a country's domestic interest, given the high environmental costs of underpriced fossil fuel, such as air pollution and related health costs.

The International Energy Agency (IEA) estimated that global fossil fuel consumption subsidies alone totaled more than \$400 billion annually in 2018.¹⁵ By contrast, global renewable energy subsidies as a whole were relatively modest, totaling only \$167 billion in 2017.¹⁶

In addition, according to various estimates, fossil fuel consumption subsidies tend to be far higher than fossil fuel production subsidies.¹⁷ In 2011, for instance, the Global Subsidies Initiative (GSI) estimated production subsidies to be around \$100 billion compared to \$500 billion spent on fossil fuel consumption subsidies".¹⁸

There are many different state players in today's international energy markets. This paper points to a few of the main differences among state players, and why some might favor challenging fossil fuel subsidies in the WTO, and others might be reluctant to.

Firstly, the United States and China have more diversified economies (i.e., are dependent on multiple agricultural and industrial sectors for income) than states such as Saudi Arabia and Venezuela who have noticeably less diversified economies (i.e., are mainly dependent on one commodity such as fossil fuel for

¹³ David Coady and others, 'Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates' *International Monetary Fund* 2 May 2019, [https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509#:~:text=IMF%20Working%20Papers&text=Globally%2C%20subsidies%20remained%20large%20at,percent%20of%20GDP\)%20in%202017.](https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509#:~:text=IMF%20Working%20Papers&text=Globally%2C%20subsidies%20remained%20large%20at,percent%20of%20GDP)%20in%202017.)

¹⁴ *ibid* 5.

¹⁵ Wataro Matsumura and Zakia Adam, 'Fossil Fuel Consumption Subsidies Bounced Back Strongly in 2018', IEA 13 June 2019, <https://www.iea.org/commentaries/fossil-fuel-consumption-subsidies-bounced-back-strongly-in-2018>.

¹⁶ Michael Taylor, 'Energy Subsidies: Evolution in The Global Energy Transformation to 2050', International Renewable Energy Agency, 2020, 31.

¹⁷ Christian Harris Slattery, 'Fossil Fueling the Apocalypse: Australian Coal Subsidies and the Agreement on Subsidies and Countervailing Measures' (2019) 18(1) *World Trade Review* 109, 111.

¹⁸ Asmelash (n 1) 266.

income). The legal implications of this are discussed in Chapters 4 and 5 below. Economic diversification or lack thereof may also impact how a state responds to a ruling against the subsidies that support a major segment of their economy.

Secondly, states with economic power and influence have more to gain from maintaining the status quo, i.e. keeping fossil fuel energy product prices artificially low. For example, larger fossil fuel producers such as the United States, China and Russia can afford to subsidize fossil fuel production, in order to stay competitive in the global energy markets, and at the same time, collect revenue through taxes, and create jobs for their citizens.

Thirdly, many countries have political and economic incentives to join the WTO, and take part in international liberalized trade. However, not all countries are as well equipped to make drastic changes in order to meet WTO standards. Therefore, the fact that some countries joined the WTO more recently, and others have been taking part in international liberalized trade since the GATT days, can have a significant effect on whether or not the country can, or would be willing to change its subsidy programs, even if there would be a ruling to do so by the DSB..

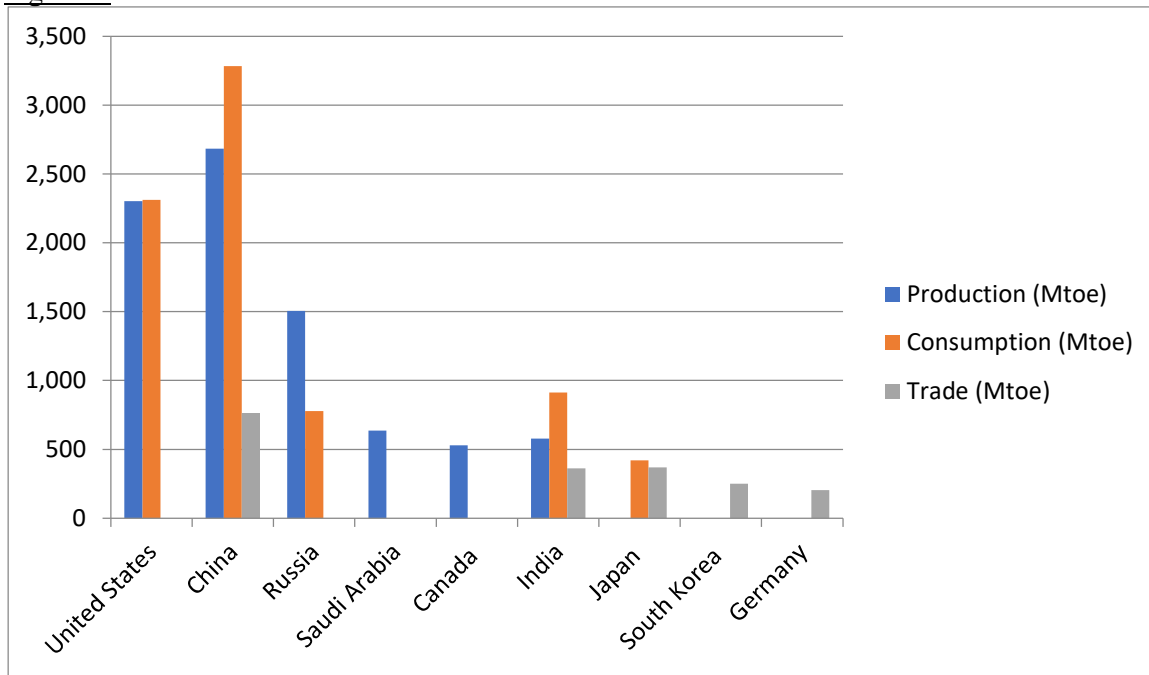
Besides the legal impacts these factors have as discussed below, differences such as economic diversity, economic power and influence, and seniority as a member of the WTO, would have a recognizable impact on what may incentivize WTO members to challenge certain subsidy programs while ignoring others.

The leading state players in the energy market today – both fossil fuel and renewable energy – are described below in a birds-eye view of the industry based on top producing, consuming and internationally trading states for 2019. The metric used is millions of tons of oil equivalent (Mtoe), (see Table 1):¹⁹

- Production (Mtoe) – China (2,684), United States (2,303), Russia (1,506), Saudi Arabia (637), India (577), Canada (530).
- Consumption (Mtoe) – China (3,284), United States (2,213), India (913), Russia (779), Japan (421).
- Trade (Mtoe) – China (763), Japan (368), India (361), South Korea (251), Germany (203).

¹⁹ EnterData, 'Total Energy Production', Global Energy Statistical Yearbook 2020, <https://yearbook.enerdata.net/total-energy/world-energy-production.html>.

Figure 1:



2.1.3 Political, Social & Economic Incentives for Granting Fossil Fuel Subsidies

Fossil fuels, refined energy products such as refined coal and energy-intensive, non-energy products such as steel and plastic, constitute a significant portion of international markets. Countries that trade in these markets are in a constant struggle to stay competitive, and therefore will act to keep prices low. One way governments do so, is by offering monetary and economic support for different stages of the fossil fuel production process such as extraction, production, R&D, etc. While fossil fuel producers benefit *directly* from such support, energy-intensive, non-energy products may also benefit, even if indirectly, from such monetary and economic support.

The possible consequences can be seen more clearly in non-diversified economies. For example, in Saudi Arabia - where the petroleum sector accounts for roughly 87% of Saudi Arabia's budget revenues, 90% of its export earnings, and at least 42% of its GDP²⁰ - because it is the world's largest exporter and producer of oil, it is easy for the country to provide its citizens low-priced oil. As a result, and because fossil fuel production is controlled by the government, citizens consider low oil prices as a right.²¹ It has been suggested that Saudi Arabia provides cheap energy to its citizens as part of a social contract whereby Saudis

²⁰ Forbes, 'Saudi Arabia', <https://www.forbes.com/places/saudi-arabia/#51ff59974e5c>; Oil and gas account for 55% of Saudi Arabia's GDP, see Redouane Sarrakh and others, 'Impact of Subsidy Reform on the Kingdom of Saudi Arabia's Economy and Carbon Emissions' (2020) 28 *Energy Strategy Reviews*, 1.

²¹ *ibid* 6.

may not be able to choose their leaders, they do however benefit from generous welfare.²² Therefore, Saudi Arabia (and other economically non-diversified states such as Venezuela) would have an interest in avoiding the elimination of their fossil fuel subsidies, which would in turn cause a surge in internal and export oil prices, in order to avoid social unrest. Policy change regarding fossil fuel subsidies could drastically affect the country's economic and political situation in a totally unpredictable manner. Eliminating subsidies that help keep the nation's fossil fuel industry competitive on the international market could cause a surge in unemployment rates, a substantial decline in the nation's GDP, risk a surge in criminal activity, poverty, social uprisings and other unknown outcomes.

Nevertheless, it is not only states with non-diversified economies that may suffer consequences from the elimination of fossil fuel subsidies. For example, in the United States, the oil and natural gas industry alone supports 10.3 million jobs, and account for approximately 8% of the country's GDP.²³ In Chile, fossil fuels constituted approximately 11% of the country's GDP in 2017²⁴ and 10.2% of Canada's GDP as of 2019.²⁵ Although these numbers do not come close to those of Saudi Arabia, it is clear that the abolition of fossil fuel subsidies and global competitiveness in the sector, could cause the loss of millions of jobs, and could have drastic economic and social implications such as those mentioned above.

Governments, of countries with both diversified and non-diversified economies, may also see fossil fuel subsidies as a tool to reduce energy import dependency, thereby enhancing the country's "energy security/independence"; or as a means to support regional development or to ensure affordable access to sources of energy for poor households.²⁶

Why are Fossil Fuel Subsidies Problematic?

Fossil fuel subsidies cause production costs and consumption costs to be artificially low. As a result, fossil fuel energy products are more likely to be cheaper than their cleaner alternatives, and thus encourage the

²² Chloe Farand, 'Saudi Arabia Censors Fossil Fuel Subsidy Discussion as G20 Host', *Climat Home News* 14 July 2020, <https://www.climatechangenews.com/2020/07/14/saudi-arabia-censors-fossil-fuel-subsidy-discussion-g20-host/>.

²³ American Petroleum Institute, 'Oil & Natural Gas Contribution to U.S. Economy Fact Sheet', [https://www.api.org/news-policy-and-issues/taxes/oil-and-natural-gas-contribution-to-us-economy-fact-sheet#:~:text=Economy%20Fact%20Sheet-.Oil%20%26%20Natural%20Gas%20Contribution%20to%20U.S.%20Economy%20Fact%20Sheet,our%20nation's%20Gross%20Domestic%20Product](https://www.api.org/news-policy-and-issues/taxes/oil-and-natural-gas-contribution-to-us-economy-fact-sheet#:~:text=Economy%20Fact%20Sheet-.Oil%20%26%20Natural%20Gas%20Contribution%20to%20U.S.%20Economy%20Fact%20Sheet,our%20nation's%20Gross%20Domestic%20Product.).

²⁴ OECD, 'Latin American Economic Outlook 2019: Development in Transition', 5 March 2019, https://read.oecd-ilibrary.org/development/fossil-fuels-and-mining-contribution-to-countries-gdp-2017_93d71b1e-en#page1.

²⁵ Government of Canada, 'Energy and the Economy', <https://www.nrcan.gc.ca/science-data/data-analysis/energy-data-analysis/energy-facts/energy-and-economy/20062#L4>.

²⁶ Asmelash (n 1) 266.

use and production of fossil fuel whether by enterprises or end consumers. This turn of events has some problematic outcomes that will be briefly explained below.

2.2.1 Environmental Impact

Global warming and other globally dangerous environmental phenomenon have been associated with the use of fossil fuels and the refined energy products that are produced from them.²⁷ Although general awareness of global warming has been around for quite some time, only recently have international organizations taken an urgent stand for the prevention of global warming through calls for meaningful reform in the production and consumption of fossil fuel energy.²⁸ Fossil fuel subsidies essentially promote the consumption of fossil fuel energies by energy intensive industries as well as by end consumers and households,²⁹ thus having a direct detrimental effect on the environment.

2.2.2 Trade Impact and Renewable Energy

Fossil fuel subsidies, in their various shapes and sizes, have a direct effect on the prices of fossil fuel and refined energy products by driving them below their efficient price.³⁰ Although the reason for this may be primarily economic, for example, to be competitive in the international markets and to lower the cost for domestic use, these subsidies have a huge effect not only on competition between like-products - where the effects are more easily identified on a global scale - but on alternative energy products such as renewable energy. Essentially, these subsidies prevent fair competition between fossil fuel energy and the more innovative and cleaner renewable energy.³¹ Fossil fuel subsidies make it extremely difficult for renewable energy to enter both the domestic market (due to consumption subsidies) as well as the international markets. Ultimately, potential investors may be deterred from investing in the renewable energy industry. More generally, the effects that fossil fuel subsidies have on the global markets lead to increased market share of subsidized products by enabling the production and consumption of fossil fuel energy products at prices lower than the efficient price, prevention of a decline in fossil fuel energy products' market share,

²⁷ Union of Concerned Scientists, 'The Hidden Costs of Fossil Fuels', 30 August 2016, [https://www.ucsusa.org/resources/hidden-costs-fossil-fuels#:~:text=Burning%20fossil%20fuels%20emits%20a,formation%20of%20harmful%20particulate%20matter.](https://www.ucsusa.org/resources/hidden-costs-fossil-fuels#:~:text=Burning%20fossil%20fuels%20emits%20a,formation%20of%20harmful%20particulate%20matter.;); Melissa Denchak, 'Fossil Fuels: The Dirty Facts', *NRDC* 29 June 2018, <https://www.nrdc.org/stories/fossil-fuels-dirty-facts>.

²⁸ Washington Post, 'U.N. Calls on Countries to Urgently Act to Stop Global Warming', 11 December, https://www.washingtonpost.com/lifestyle/kidspost/un-calls-on-countries-to-urgently-act-to-stop-global-warming/2018/12/11/e53cf5f4-f8c9-11e8-8d64-4e79db33382f_story.html.

²⁹ Skovgaard (n 8) 2.

³⁰ Coady (n 13) 5.

³¹ Irene Monasterolo and Marco Raberto, 'The Impact of Phasing Out Fossil Fuel Subsidies on The Low-Carbon Transition', (2019) 124(c) *Energy Policy* 335, 356.

and the creation of a barrier against the entry of new innovative 'greener' energy products into global energy markets.

Fossil Fuel Subsidies

2.3.1 Definition

Currently, “there is no universally agreed definition of what constitutes a fossil fuel subsidy. Multiple organizations make assessments each using their own, unique approach. The huge range of estimates for the value of fossil fuel subsidies is driven by both the methods they use to calculate them, and the countries covered”.³²

2.3.2 Types of Fossil Fuel Subsidies

The types of subsidies and their impact on the market have important implications for determining whether they are consistent with the provisions of the SCM. “Energy subsidies are categorized in a variety of ways, including by administrative form (i.e. grant, loan, tax, concession), economic incidence (i.e. direct- subsidy to outputs, indirect-subsidy to intermediate inputs), and type of recipient (i.e. consumption subsidy, production subsidy).”³³ This paper focuses on type of recipient when categorizing subsidies. As will be explained in Chapters 4 and 5, we have categorized the subsidies as production subsidies (typically granted to fossil fuel producers), industrial consumption subsidies and consumption subsidies granted to end users. Once categorized, we divide each category into scenarios based upon economic incidence. This categorization allows us to better identify the legal hurdles in challenging subsidies.

This sub-chapter will focus on general types of subsidies rather than their categorization which will be explained in Chapters 4 and 5.

2.3.3 Direct Subsidies

Direct subsidies are subsidies that are granted directly to producers or consumers in order to reduce the production or consumption costs of fossil fuels.³⁴ Subsidies of this nature can come in the form of direct fossil fuel production subsidies or direct fossil fuel consumption subsidies. For example, direct subsidies to fossil fuel producers may be subsidies that reduce taxes imposed on fossil fuel production companies, or the subsidization of certain parts in the process of the research and development or extraction. Direct

³² Jocelyn Timperley, 'Explainer: The Challenge of Defining Fossil Fuel Subsidies', *Carbon Brief Clear on Climate* 12 June 2017, <https://www.carbonbrief.org/explainer-the-challenge-of-defining-fossil-fuel-subsidies>. For a brief discussion of the lack of a common definition of energy subsidy, see Asmelash (n 1) 265.

³³ For different types of subsidies and their estimated sizes see: Environmental and Energy Study Institute, 'Fact Sheet | Fossil Fuel Subsidies: A Closer Look at Tax Breaks and Societal Costs' 29 July 2019, <https://www.eesi.org/papers/view/fact-sheet-fossil-fuel-subsidies-a-closer-look-at-tax-breaks-and-societal-costs>; Oil Change International, 'Fossil Fuel Subsidies Overview', <http://priceofoil.org/fossil-fuel-subsidies/>.

³⁴ Tom Moerenhout, 'Trade Impacts of Fossil Fuel Subsidies', (2020) 19 *World Trade Overview*, S1.

consumer subsidies are government programs that subsidize the fossil fuel energy products such as gas and electricity being used by the public, thus creating an artificially low price for these products. Direct fossil fuel subsidies may also support the production of energy intensive products (such as the production of plastic and steel), and often take the form of consumption subsidies that are granted on the basis of the consumption of specific fossil fuels. For example, the government may want to incentivize the use of cleaner forms of fossil fuel products such as refined coal over the use of unrefined coal. In order to do so a government may offer a special tax break or cheaper purchase price (with the difference covered by the subsidy program) for refined coal.

2.3.4 Indirect Subsidies

Indirect subsidies, in our case, are subsidies that are granted to a fossil fuel energy product that is then used as a down-stream input for the manufacturing of other products – often energy intensive products such as plastic and steel. For example, direct fossil fuel subsidies such as R&D and extraction subsidies would reduce the price of fossil fuels, thus significantly reducing the cost of plastic and steel production.

The down-stream effects fossil fuel subsidies have also been referred to as “pass-through effects”. This concept and the legal implications they entail will be addressed in greater detail in Chapters 4 and 5.

2.3.5 Consumer or Consumption Subsidies

Consumer subsidies, a sub-category under direct and indirect subsidies, are subsidies that lower the purchase price of fossil fuel energy for fossil fuel consumers.³⁵ Direct consumption subsidies often take the form of direct cash transfer, price control, and tax exemption and rebate. Consumer subsidies have a significant effect on the global markets as they significantly reduce the domestic price of energy products such as electricity and gasoline. As a result, imports of energy products would be lower, since the prices for domestically produced fossil fuel products are artificially low.

Consumer subsidies can often lead to dual pricing which is defined as ‘a two-tier’ pricing policy, whereby fossil fuel producing countries in particular, charge their domestic consumers, including domestic industries, lower prices compared to the price on the global market. Consumer subsidies often benefit domestic end users and domestic energy intensive industries. This results in a competitive price advantage to their industry on both the domestic market and their export markets.

³⁵ Bièvre (n 1) 5.

2.3.6 Producer or Production Subsidies

Producer subsidies are subsidies that affect the production costs of energy products. Production subsidies often come in the form of reduced royalty payments, monopoly concession, and underpricing of access to natural resources including government land, export restrictions, credit guarantee, preferential tax treatment, and government-provided infrastructure.³⁶ Producer subsidies can significantly affect the global markets as they artificially lower the price of fossil fuel products both for domestic use and the export price charged from countries abroad. Reports by the UN environment program and the IISD have noted that “Countries do not seem to distinguish between producer and consumer subsidies and are generally more focused on consumer subsidies. While some subsidies identified by countries can be classified as one or the other, this is not generally done in the country reporting” rather this is done by the OECD.³⁷

2.3.7 Main Subsidies Used in Energy Market

According to various estimates, fossil fuel consumption subsidies tend to be far higher than production subsidies.³⁸ As explained below, challenging consumer subsidies through the SCM is more difficult since they are often generally available to a wide variety of consumers rather than specific industries, and therefore are not likely to meet the definition of specificity under the SCM.

³⁶ Bièvre (n 1) 5.

³⁷ Peter Wooders, Ronald Steenblik and Anna Zinecker, 'Measuring Fossil Fuel Subsidies in the Context of Sustainable Development Goals' *International Institute for Sustainable Development* Report, 22 May 2019, 28.

³⁸ Asmelash (n 1) 266; Slattery (n 17).

3 WTO Subsidy Law – Background

History of the SCM

Between 1947 and 1986, several agreements, which constitute the basis of international trade law and relations, were discussed and developed. The original agreement, which was negotiated in 1947, was the General Agreement on Tariffs and Trade (GATT) which came into force in 1948. By the launch of the Uruguay Round in 1986, eight trade negotiating rounds under the GATT had taken place.

The agreements on subsidies, anti-dumping measures, government procurement, technical barriers and other non-tariff measures (which then were known as “codes”) were negotiated as part of the Tokyo Round (1973-1979). These agreements were voluntary, and although 102 countries participated in the Tokyo Round negotiations, only 24 adopted the Subsidies Code.³⁹ With the establishment of the WTO, these agreements became part of the legal framework that constitutes the WTO legal texts, and obligatory for all WTO members.

The WTO Agreement on Subsidies and Countervailing Measures (SCM) improved on the Tokyo Round Subsidies Code by defining - for the first time - certain key terms, such as "subsidy" and "serious prejudice" and prohibited subsidies. Also, the SCM clarifies how a complaining member may apply the rapid and effective WTO dispute settlement mechanism, by, among other things, strengthening the enforcement of panel reports on losing subsidizing governments.⁴⁰

Prohibited Subsidies and Actionable Subsidies

Subsidies under the SCM can be categorized as “actionable” or “prohibited” subsidies. These concepts are explained further in Chapters 4 and 5.

Prohibited subsidies are addressed in Article 3 of the SCM and are deemed prohibited if they are contingent upon export performance or upon the use of domestic goods over imported products. These subsidies are considered to blatantly distort the international markets. According to the provisions of Article 4 of the SCM, if a member considers another member to be providing a prohibited subsidy, a mutually agreed solution may be achieved through consultations, and/or taken to a panel to determine whether it is a

³⁹ World Trade Organization, 'The GATT Year: From Havana to Marrakesh', https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm.

⁴⁰ International Trade Administration, 'Agreement on Subsidies and Countervailing Measures', <https://enforcement.trade.gov/regs/uraa/saa-cv.html>.

prohibited subsidy, and if so determined, the panel report would be submitted to the DSB for its adoption, and the subsidy must be withdrawn “without delay”..

Actionable subsidies are not addressed in a specific article in the SCM but rather must be examined through Articles 2, 5 and 6. Actionable subsidies must be specific and cause adverse effects or serious prejudice to the complaining member state – as will be explained in Chapters 4 and 5.

Key Provisions of the SCM

Although the SCM itself does not define its objective, WTO website points to two interconnected purposes: to discipline the use of certain subsidies and to regulate the actions that countries can take to counter the effects of these subsidies.⁴¹

Despite their arguably negative effects, subsidies are generally permitted under WTO law. It is only those that are considered to distort trade that may be challengeable under the SCM. The SCM defines three types of subsidies: actionable, non-actionable and prohibited subsidies. The provision regarding non-actionable subsidies lapsed on January 1, 2000, leaving two types.⁴² To be considered actionable, a subsidy must meet the definition of subsidy, confer a benefit, be deemed specific, and cause adverse effects. As noted above, to be considered a prohibited subsidy, and trade distortionary by nature,⁴³ a subsidy must be contingent on export performance or on the use of domestic over imported goods.

To challenge a subsidy, it considers inconsistent with WTO law, a member may pursue an action or remedy through one of two tracks, domestically by enacting countervailing measures (the unilateral track) or through the WTO’s dispute settlement mechanism (the multilateral track).

3.3.1 Article 1 – The Definition of a Subsidy

Article 1 of the SCM lists the types of government support measures that are to be considered subsidies for the purposes of the Agreement. In order for a subsidy to fall within the scope of application of the SCM, it must constitute a government financial contribution⁴⁴ and must confer a benefit to the recipient.⁴⁵ According to Article 1, a financial contribution by a government body can take one of four forms: (I) direct transfers of funds or liabilities⁴⁶; (ii) government revenue that is otherwise due is forgone;⁴⁷ (iii) provision

⁴¹ World Trade Organization, 'Subsidies and Countervailing Measures',

https://www.wto.org/english/tratop_e/scm_e/scm_e.htm

⁴² Agreement on Subsidies and Countervailing Measures (entered into force 15 April 1994) 1869 UNTS 14, Art 8.

⁴³ Dominic Coppens, *WTO Disciplines on Subsidies and Countervailing Measures: Balancing Policy Space and Legal Constraints* (2014), 116.

⁴⁴ SCM Agreement (n 42) Art 1.1(a)(1).

⁴⁵ SCM Agreement (n 42) Art1.1(b).

⁴⁶ SCM Agreement (n 42) Art 1.1(a)(1)(i).

⁴⁷ SCM Agreement (n 42) Art 1.1(a)(1)(ii).

or purchase of goods or services other than general infrastructure;⁴⁸ and (iv) any form of income or price support in the sense of Article XVI of GATT 1994.⁴⁹ The financial contribution, whether it be granted by the government or by a private body which is being used as a "proxy" by the government,⁵⁰ if satisfies the conditions of one of the four forms stated above, shall be fall under the disciplines of the SCM.

A benefit is considered to be conferred if the recipient of the financial contribution is better off than it would otherwise have been, absent that contribution, within the relevant market.⁵¹ Note that there is a difference between the CVD benefit analysis and the non-CVD analysis. In the non-CVD context (which relate to the scenarios we are analyzing in this study), we do not need to determine the numerical amount of the benefit as we would in the CVD context. We would only need to determine whether a benefit exists.⁵² The SCM and case law suggest that the recipient of the financial contribution and the recipient of the benefit do not have to be the same entity.⁵³ This argument will be useful in the pass-through scenarios we analyze.

3.3.2 Article 2 – Specificity

A subsidy shall be considered specific if it is *de jure*⁵⁴ or *de facto*⁵⁵ limited to certain enterprises or industries, or enterprises in certain regions,⁵⁶ unless the subsidy is granted based on objective eligibility criteria and conditions and is automatically granted.⁵⁷

Prohibited subsidies do not have to go through the specificity analysis because they are automatically deemed specific.⁵⁸ Nor do they have to go through the adverse effect analysis.⁵⁹

The basic principle is that a subsidy that distorts the allocation of resources within an economy – which when addressing fossil fuel subsidies refers to the international global economy – should be subject to discipline. Where a subsidy is widely available, such a distortion in the allocation of resources is presumed not to occur.

As explained above, the SCM distinguishes between prohibited and actionable subsidies, and sets out separate remedies for dealing with them. Once a subsidy is proven to be prohibited under Article 3 of the

⁴⁸ SCM Agreement (n 42) Art 1.1(a)(1)(iii).

⁴⁹ SCM Agreement (n 42) Art 1.1(a)(2).

⁵⁰ SCM Agreement (n 42) Art 1.1(a)(1)(iv).

⁵¹ Bièvre (n 1) 5.

⁵² Marc Benitah *The WTO Law of Subsidies: A Comprehensive Approach* (2019) 47.

⁵³ Benitah (n 52) 41, 42; Panel Report *US – Lead and Bismuth II*, adopted 5 July 2000, WT/DS138/9/Corr.1, fn 69.

⁵⁴ SCM Agreement (n 42) Art 2.1(a).

⁵⁵ SCM Agreement (n 42) Art 2.1(c).

⁵⁶ SCM Agreement (n 42) Art 2.2.

⁵⁷ SCM Agreement (n 42) Art 2.1(b). This exception refers only to *de jure* specific subsidies.

⁵⁸ SCM Agreement (n 42) Art 2.3.

⁵⁹ For discussion of this point, see Benitah (n 52) 62-63.

SCM, there is no need for any further analysis and “the panel shall recommend that the subsidizing Member withdraw the subsidy without delay”.⁶⁰

3.3.3 Article 3 – Prohibited Subsidies

Prohibited subsidies are subsidies that are *de jure* or *de facto* contingent upon export performance⁶¹ or contingent upon the use of domestic over imported goods.⁶² It should be noted that it is possible to bypass the export contingency analysis by going directly to the Illustrative List of Export Subsidies in Annex 1 of the SCM. If the measure falls into one of the types of export subsidies mentioned in the Illustrative List, it would be deemed a prohibited subsidy.⁶³

Once concluded that a subsidy does not fall under the provisions of Article 3 and therefore is not prohibited, the subsidy may still be actionable. For a subsidy to be actionable it must be specific (Article 2) and cause adverse effects (Article 5) to another member.

3.3.4 Article 5 – Adverse Effects

Article 5 lists the different adverse effects that if caused by a specific subsidy, would be actionable. These adverse effects can come in one of three forms: (i) injury to the domestic industry of another Member;⁶⁴ (ii) nullification or impairment of benefits accruing directly or indirectly to another Member;⁶⁵ or (iii) serious prejudice to the interests of another Member.⁶⁶

3.3.5 Article 6 – Serious Prejudice

Originally, Article 6.1 listed four cases in which serious prejudice was presumed, thus transferring the burden of proof onto the respondent (the member granting the subsidy): (i) the total ad valorem subsidization of a product exceeding 5%;⁶⁷ (ii) subsidies to cover operating losses sustained by an industry;⁶⁸ (iii) subsidies to cover operating losses sustained by an enterprise;⁶⁹ and (iv) direct forgiveness of debt.⁷⁰ Like Articles 8 and 9, this provision expired as of January 1, 2000.⁷¹

⁶⁰ SCM Agreement (n 42) Art 4.7.

⁶¹ SCM Agreement (n 42) Art 3.1(a).

⁶² SCM Agreement (n 42) Art 3.1(b).

⁶³ Benitah (n 52) 72-97.

⁶⁴ SCM Agreement (n 42) Art 5(a).

⁶⁵ SCM Agreement (n 42) Art 5(b).

⁶⁶ SCM Agreement (n 42) Art 5(c), 6.

⁶⁷ SCM Agreement (n 42) Art 6.1(a).

⁶⁸ SCM Agreement (n 42) Art 6.1(b).

⁶⁹ SCM Agreement (n 42) Art 6.1(c). However, Art 6.1(c) states that one-time measures that are given “merely to provide time for the development of long-term solutions and to avoid acute social problems” are excluded.

⁷⁰ SCM Agreement (n 42) Art 6.1(d).

⁷¹ Article 31 of the SCM Agreement called for Articles 8, 9 and paragraph 1 of Article 6 to be reviewed and extended. They were not extended. For explanation and why these provisions were tied together, see Dominic Coppens (n 43) 147.

Article 6.3 lists the four cases in which serious prejudice exists: (i) the subsidies' effect is displacement or impedance of imports of like products of another member into the market of the subsidizing member;⁷² (ii) or a third country;⁷³ (iii) significant price undercutting or price suppression or lost sales in the same market;⁷⁴ or (iv) increase in world market share.⁷⁵ Finally, Article 6.7 lists the six different circumstances where displacement or impediment resulting in serious prejudice will not arise: (i) restrictions on exports of the like product from the complaining Member or on imports into the third country market concerned;⁷⁶ (ii) decision by an importing government operating a monopoly of trade to shift, for non-commercial reasons, imports from the complaining Member to another country or countries;⁷⁷ (iii) force majeure situations such as natural disasters, strikes, and transport disruptions;⁷⁸ (iv) existence of arrangements limiting exports from the complaining Member;⁷⁹ (v) voluntary decrease in availability for export of the product concerned from the complaining Member;⁸⁰ and (vi) failure to conform to standards and other regulatory requirements in the importing country.⁸¹

The Unilateral Track

If a subsidy has been found to be actionable under the provisions of the SCM, the complaining WTO member can apply countervailing measures through the unilateral track or pursue dispute settlement in the multilateral track. The unilateral track for actionable subsidies is conducted according to the specific conditions and regulations under Part V (Articles 10-23) of the SCM.

This paper does not address taking countervailing duty action against the subsidizing member state under the unilateral track. Simply put, a WTO member can impose countervailing measures on imported products found to be subsidized and injuring its domestic industry that produces a “like product”. It should be noted that the unilateral track for both anti-dumping and countervailing duty actions is presently the main means of dealing with renewable energy.⁸²

⁷²SCM Agreement (n 42) Art 6.3(a).

⁷³SCM Agreement (n 42) Art 6.3(b).

⁷⁴SCM Agreement (n 42) Art 6.3(c).

⁷⁵SCM Agreement (n 42) Art 6.3(d).

⁷⁶ SCM Agreement (n 42) Art 6.7(a).

⁷⁷ SCM Agreement (n 42) Art 6.7(b).

⁷⁸ SCM Agreement (n 42) Art 6.7(c).

⁷⁹ SCM Agreement (n 42) Art 6.7(d).

⁸⁰ SCM Agreement (n 42) Art 6.7(e).

⁸¹ SCM Agreement (n 42) Art 6.7(f).

⁸² Ilaria Espa and Gracia Marín Durán, 'Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond Canada–Renewable Energy/Fit Program' (2018) 21(3) *Journal of International Economic Law*, 621, 632.

Regarding fossil fuel subsidies, countervailing measures taken by most energy-importing member states may be seen as inconsequential to the subsidizing state, and may actually cause more harm than benefit.⁸³ In the global energy market, most member states on their own cannot significantly affect the various subsidizing member states' fossil fuel exports and market share. This in part is due to the influence and size of fossil fuel subsidizing countries.⁸⁴

On the other hand, unilateral action against dual pricing can make it less appealing for countries to maintain dual-pricing policies.

The Multilateral Track

If a subsidy has been found to be prohibited or actionable under the provisions of the SCM, the complaining WTO member can submit a complaint against another member under the WTO's DSU. This course of action is referred to as the multilateral track.

This paper focuses on challenging fossil fuel subsidies through the multilateral track as this can lead to change in policy on a global scale. Although each panel is not formally bound to prior decisions,⁸⁵ a successful complaint against fossil fuel subsidies in the WTO can make way for other member states to submit similar complaints, and provide support for phasing out fossil fuel subsidies through the WTO.

⁸³ Vernon JC Rive, *Fossil Fuel Subsidy Reform: An International Law Response* (2019) 134.

⁸⁴ Gary Horlick, Peggy A. Clarke, 'Rethinking Subsidy Disciplines for the Future: Policy Options for Reform' (2017) 20(3) *Journal of International Economic Law* 673, 692.

⁸⁵ World Trade Organization, 'Legal Effect of Panel and Appellate Body Reports and DSB Recommendations and Rulings', https://www.wto.org/english/tratop_e/dispu_e/disp_settlement_cbt_e/c7s2p1_e.htm.

4 Legal analysis of Actionable Fossil fuel subsidies

Methodology

In this chapter and the following chapter, we apply the SCM to a series of scenarios within each of the three categories (See 1.2 above for description of categories). The aim of the analysis is to determine the difficulty of proving a prohibited or actionable subsidy under the SCM, by identifying the legal hurdles in each of the scenarios. When facing a legal hurdle, we also suggest legal interpretations that may help establish a violation of the SCM. Because the analysis is conducted on hypothetical abstract scenarios that are not based on specific data regarding any particular subsidy, in many cases we make assumptions about the subsidies that may be in the scenario. It is also important to note that some of the scenarios overlap. In such cases, we refer the reader to the relevant analysis. Table 5.1 below provides a roadmap whereby we walk the reader through the legal analysis under the SCM. Actionable and prohibited subsidy scenarios are analyzed separately. We first focus on *actionable subsidies* in this chapter, and then turn to *prohibited subsidies* in the next chapter, even though the prohibited subsidy path (Article 3 of the SCM) would normally precede the actionable subsidy path (Articles 5 and 6 of the SCM).

At the end of each category analysis, we include a table that summarizes our assessment regarding the various scenarios, and provides a brief explanation regarding the difficulty of satisfying the legal tests involved in challenging a fossil fuel subsidy in the WTO.

Actionable Analysis

Table 4.1: Analysis Roadmap

	Yes	No
Is the measure a subsidy within the meaning of the SCM (Art.1)?		
Is the measure provided by a governmental body?	Continue to financial contribution test. We generally assume that it is.	The measure is not a subsidy within the meaning of the SCM.
Is the measure a financial contribution?	Continue to benefit test.	The measure is not a subsidy within the meaning of the SCM.
Does the measure confer a benefit?	Continue to specificity test.	The measure is not a subsidy within the meaning of the SCM
Is the measure specific (Art.2)?		
Is the measure de jure specific?	Continue to prohibited subsidy test	The measure might still be prohibited
Is the measure de facto specific?	Continue to the adverse effects and serious prejudice analysis	The measure might still be prohibited
Is the subsidy prohibited? (Article 3)		
Is the subsidy contingent, in law, upon export performance (art 3.1.a)?	The subsidy is illegal. Can pursue remedy procedures under Article 4 – Remedies	The subsidy might still be prohibited. Continue to ‘in fact’ export contingency test
Is the subsidy contingent, in fact, upon export performance (Art 3.1.a)?	The subsidy is illegal. Can pursue remedy procedures according to Article 4 – Remedies	The subsidy might still be actionable. Continue to adverse effects/serious prejudice test.
Is the subsidy contingent, in law, upon the use of domestic over imported goods (Art 3.1.b)?	The subsidy is illegal. Can pursue remedy procedures under Article 4 – Remedies	The subsidy might still be prohibited. Continue to ‘in fact’ export contingency test
Is the subsidy contingent, in fact, upon the use of domestic over imported goods (Art 3.1.b)?	The subsidy is illegal. Can pursue remedy procedures under Article 4 – Remedies	The subsidy might still be actionable. Continue to adverse effects/serious prejudice test.

Does the subsidy create adverse effects/serious prejudice (Art.5-6)?		
Does the subsidy create adverse effect in terms of injury to domestic industry of other Member (Article 5(a)) or nullifies or impairs the benefits accrued directly or indirectly to other Members (Article 5(b))?	The subsidy is actionable	Continue to the serious prejudice analysis
Does the subsidy create serious prejudice (Article 5 (c) and Article 6)?	The subsidy is actionable if meets requirements (Causation, significance, like product, same market) Can pursue remedy procedures according to Article 7, Remedies.	The subsidy is not actionable
6.7 Circumstances that serious prejudice will not arise	The subsidy is not actionable	May be actionable

Category 1 - Direct production subsidies

This category refers to direct production subsidies (we will use production subsidies and producer subsidies interchangeably) including subsidies for exploration, extraction and production provided to fossil fuel producers. As previously noted, direct subsidies are subsidies that directly influence the subsidized product's market, and production subsidies are subsidies that are provided to energy producers.

4.3.1 Scenario 1- Direct production subsidies for fossil fuel versus same non-subsidized fossil fuel production

We start our analysis with a simple scenario: a production subsidy for fossil fuel with direct effects on the domestic market of the subsidizing member or on a third country market for the same non-subsidized fossil fuel. Subsidies in this scenario would include production for natural gas, coal, or crude oil that lowers the costs of extraction and transformation for the producers.

In this scenario we would include both producer subsidies aimed at the initial production of fossil fuels, and producer subsidies directed at refined energy carriers. The producer would therefore have a competitive advantage over non-subsidized production. The relevant complaining WTO member in this scenario might be a country that produces, and possibly exports the given fossil fuel, but does not provide subsidies to its fossil fuel producers.⁸⁶ Therefore, its competitiveness compared to the subsidized foreign producer would be negatively affected in its domestic market or in a third market.

4.3.1.1 Scenario 1: Article 1

Government Body

The first question to address is whether a government or a public body provides the subsidy in question. This test is relatively straightforward under Article 1.1 of the SCM, and depends mainly on the facts regarding the particular subsidy. The type of subsidy might affect the public information available regarding the subsidy, and so affect the simplicity of proving governmental involvement, considering the evidence that must be produced to do so. As a rule of thumb, direct subsidies are easier to trace back to governmental bodies than indirect subsidies. Furthermore, as discussed below, one type of financial contribution is the foregoing of government revenue (for example, a tax exemption) that is otherwise due. Since taxation is an integral part of sovereign function, the involvement of a governmental body is inherent.⁸⁷

Another option for determining a financial contribution in this scenario is income or price support which operates directly or indirectly to increase exports or reduce imports in the sense of Article XVI of GATT (Subsidies). It could be claimed that the subsidy raises the competitiveness of the fossil fuel in the global market, thus indirectly increasing exports or reducing imports of alternative products.⁸⁸ In general, the financial contribution would be decided according to the specific circumstances and facts regarding the subsidy.

An alternative way a government or public body might provide a subsidy is through a private body used as a proxy. The complainant can prove that a subsidizing private body is entrusted or directed by a government or public body and is actually being used as an intermediate. The term 'entrusts' refers to situation where a government gives responsibility to a private body, and 'directions' refers to situations where the government

⁸⁶ We start with this type of scenario although it is an unlikely one, since as Wold et al point out, most fossil fuel producers in fact subsidize their production. See Chris Wold, Grant Wilson and Sara Foroshani, 'Leveraging Climate Change Benefits Through the World Trade Organization: Are Fossil Fuel Subsidies Actionable' (2011) 43 *Georgetown Journal of International Law* 635, 640.

⁸⁷ Cleo Verkuijl and others, 'Tackling Fossil Fuel Subsidies Through International Trade Agreements: Taking Stock, Looking Forward' (2019) 58 *Virginia Journal of International Law* 309, 340; Appellate Report *US-Anti-dumping and Countervailing Duties*, adopted 11 March 2011, WT/DS379/R, para. 296.

⁸⁸ SCM Agreement (n 42) Art 1.1(a)(2); Moerenhout (n 34) 16.

exercises its authority over a private body. Both the act of entrusting and that of directing necessarily carry with them the following three elements: (i) an explicit and affirmative action, be it delegation or command; (ii) addressed to a particular party; and (iii) the object of which action is a particular task or duty.⁸⁹ These elements imply and require a more active role rather than mere acts of encouragement and cannot be a mere by-product of government regulation.⁹⁰

For both these reasons, we feel comfortable in assuming a governmental authority provides the subsidy in this scenario.

Financial Contribution

The second question is whether the subsidy constitutes a financial contribution. It should be recalled that Article 1 of the SCM provides an exhaustive list of types of financial contributions, and explicitly provides examples of them.⁹¹ The simplest type of contribution is a government practice that involves a direct transfer of funds.⁹² Grants, as noted in Article 1.1 (a)(1)(i), are one example of this type of measure. Governments often hand out grants to energy producers to incentivize an increase in their production. Alternatively, a government may grant the equivalent of money, such as permits or licenses.⁹³ Another type of contribution relevant in this scenario is in the form of government revenue that is otherwise due that is foregone or not collected.⁹⁴ This type of financial contribution usually refers to tax treatment such as a tax credits or tax exemptions. As Verhkuil notes, “the decision to forgo revenue inherently involves the exercise of government authority”.⁹⁵ Nevertheless, meeting the criteria for this type of financial contribution is somewhat more difficult than other cases of financial contribution because foregone revenue must still be proven.

The Appellate Body in the Large Civil Aircraft (2nd complaint) case laid out a three step analysis as guidance in proving foregone government revenue : (i) Identifying the challenged tax treatment applied to recipients (ii) Identifying a benchmark tax treatment (iii) Comparing the “reasons” for the challenged tax treatment with the benchmark treatment .⁹⁶ In a situation where a tax otherwise due is not collected, the market benchmark can be derived from the tax treatment of a similar taxpayer which would involve an examination

⁸⁹ Panel Report *US – Export Restraint*, adopted 23 August 2001, WT/DS194/R, para. 8.29.

⁹⁰ Appellate Report *US – Countervailing Duty Investigation on DRAMs*, adopted 14 March 2006, WT/DS296/AB, para 114.

⁹¹ SCM Agreement (n 42) Art 1.1(a); Panel Report *US - Large Civil Aircraft 2nd Complaint*, adopted 26 October 2020, WT/DS353/ARB, para. 7.955.

⁹² SCM Agreement (n 42) Art 1.1(a)(1)(i).

⁹³ Appellate Report *Japan - DRAMs (Korea)*, adopted 5 March 2010, WT/DS336/AB, 250.

⁹⁴ SCM Agreement (n 42) Art 1.1(a)(1)(ii).

⁹⁵ Verkuil (n 87) 340; US-Anti-dumping and Countervailing Duties (n 87) para 296.

⁹⁶ *US – Large Civil Aircraft (2nd complaint)* (n 91) paras. 812–814, fn 1667.

of the domestic tax regime and justification for the different treatment. Considering a domestic market, where one domestic producer is subsidized and another is not, proving unjustifiable reasons for this treatment will probably be easier. In a distorted market, identifying a domestic benchmark treatment will be difficult, forcing the complaining party to find an external-international benchmark, which might be impossible considering the differences in taxation regimes and economic conditions. According to Verkuiji, a finding regarding foregone revenue, "automatically implies conferral of benefit", making the in-depth benefit analysis unnecessary.⁹⁷

We conclude that the criteria for establishing a financial contribution are fairly clear under Article 1.1 (a), and the analysis straightforward. We thus consider the financial contribution test fairly easy to meet in this scenario.⁹⁸

Benefit

The next element in proving if a subsidy is challengeable under the SCM is analyzing whether it confers a benefit. Notably, when determining whether a benefit exists, it is important to distinguish between a CVD context (which we are not dealing with in this paper) and a non-CVD context. In a non-CVD context, we do not need to calculate the amount of the benefit, only determine whether a benefit exists. It seems therefore that in a non-CVD context, we would not have to make a numerical comparison with a market benchmark. According to Marc Benitah, we would use a "variant of the concept of non-commercial considerations."⁹⁹ As noted above, WTO case law has determined that a benefit is defined as a financial contribution that has made "the recipient 'better off' than it would otherwise have been, absent that contribution".¹⁰⁰ In the case of a grant, according to WTO jurisprudence, a benefit clearly exists, because it is considered free money that wouldn't even be available in the commercial marketplace.¹⁰¹

In most cases, we would ask whether the terms which the subsidized fossil fuel producer receives are better than the terms available domestically in the marketplace.¹⁰² Moreover, if it can be proven that the government has forgone revenue otherwise due, i.e. as a tax subsidy, a benefit can be assumed to have been automatically conferred.¹⁰³

⁹⁷ Verkuijl (n 87) 341.

⁹⁸ Rive (n 83)120-125; Verkuijl (n 87) 335-336; Slattery (n 17); Wold et al (n 86) 655.

⁹⁹ Benitah (n 52) 47-49.

¹⁰⁰ *US – Large Civil Aircraft* (2nd complaint) (n 91) paras 635 – 636, 662, and 690; Panel Report *Canada-Aircraft*, adopted 4 August 2000, WT/DS70/RW para 157.

¹⁰¹ Panel Report *Canada – Aircraft*, adopted 20 August 1999, WT/DS70/15, para 9.224; Benitah (n 52) 48.

¹⁰² *Canada - Aircraft* (n 101) para 158; Asmelash (n 1).

¹⁰³ Coppens (n 43) 61; Verkuijl (n 87) 341; *US – Large Civil Aircraft* (2nd complaint) (n 91) paras 7.169-7.170.

A problem in determining whether a benefit exists occurs if the subsidy is given to the entire fossil fuel industry in a non-diversified market where government intervention leads to distortion of the country's market. In this case, an appropriate benchmark could be for example an out of country benchmark.¹⁰⁴ We elaborate on alternative benchmarks and the complications they create, in the next scenario. In general, case law suggests that the possibility for using alternative benchmarks is "very limited".¹⁰⁵ In this scenario, we assume that the market is not distorted, and therefore an appropriate domestic comparison can be found, and a benefit conferred fairly easily.

4.3.1.2 Scenario 1: Article 2

The next step is to determine whether the subsidies in this scenario are specific under Article 2 of the SCM. First, we would look at whether access to the subsidy in this scenario is limited to certain enterprises (Article 2.1 (a)). As Verkuijl et al note, the US Lumber IV case points to specificity in cases where a limited group of industries receive the subsidy.¹⁰⁶ Verkuijl extrapolates from this that in the case of energy, if the energy minerals industries are restricted to oil, natural gas, coal and uranium, they could be construed as sufficiently limited, and therefore the subsidy could be regarded as specific.

De Jure

To determine specificity, we would start by looking at de jure specificity, by examining any legislation, regulation or legal instrument that supports the subsidy to determine whether the subsidy is explicitly limited to certain enterprises. Specificity can be disproven based on the objectivity of the criteria and whether eligibility is automatic (Article 2.1 (b)). Because these subsidies are likely to be limited to certain enterprises, they would probably not meet the circumstances referred to in Article 2.1(b), and thus could be considered specific.

Specificity may also be established under Article 2.2 of the SCM if certain enterprises in a specific geographic region enjoy the subsidy.¹⁰⁷

¹⁰⁴ Appellate Report *Canada - Renewable Energy/Canada-Feed-In Tariff Program*, adopted 24 May 2013, WT/DS426/19, paras. 5.219, 5.241; For an analysis of the AB's suggested means of selecting an appropriate benchmark for determining the benefit, see S. Charnovitz and C. Fischer (2015)'Canada-Renewable Energy: Implications for WTO Law on Green and Not-So-Green Subsidies' *World Trade Review*, 14: 2, 177, 198, Table 1: AB's suggested hierarchy for selecting the comparator for benefit analysis. Here it should be noted that the AB ruling in this case (termed as a 'bad' ruling by some commentators such as Rubini) has been a major factor in the call for reform in the SCM. See Rubini (2015). 'The Wide and the Narrow Gate': Benchmarking in the SCM Agreement after the *Canada-Renewable Energy/FIT Ruling*. *World Trade Review*, 14: 2, 211, 211.

¹⁰⁵ Appellate Report *US - Softwood Lumber*, adopted 20 December 2005, G/L/539/Add.2 G/SCM/D45/2/Add.1 WT/DS257/26/Add.1, para 102.

¹⁰⁶ Verkuijl (n 87) 342-3; *US - Softwood Lumber Panel* (n 105) para 7.121.

¹⁰⁷ SCM Agreement (n 42) Art 2.2.

One could also imagine that a production subsidy aimed at only certain enterprises would not be explicitly written in law due to its discriminatory nature.

De Facto

If the industries receiving the subsidy do not meet the de jure specificity test, they still may be deemed as de facto specific.¹⁰⁸ Article 2.1 (c) lists other factors which may lead to de facto specificity: 1) use of a subsidy by a limited number of certain enterprises; 2) predominant use by certain enterprises; 3) granting of disproportionately large amounts of subsidy to certain enterprises; and 4) the way governmental discretion has been used to grant the subsidy.

Because this scenario describes a situation where the government actively supports specific enterprises, a de facto analysis might bear more fruit as the analysis is based on specific circumstances along actual evidence regarding the subsidy. One factor to consider is the limitation to certain enterprises, which is exactly the case in this scenario.¹⁰⁹ Other factors that may be relevant in establishing de facto specificity are the ‘predominant use by certain enterprises’ of a subsidy and ‘disproportionately large’ amounts of the subsidy.¹¹⁰

We assume that the subsidies in this scenario have been operational for a significant time, since this is likely for most fossil fuel subsidies, and thus this scenario could meet the de facto length of time criteria.

Concerning the diversification of the economy, where a non-diversified country supports its only industry or one of its few industries, the specificity examination may be more complicated. Indeed, in the case of a non-diversified economy where the economy is dominated by the fossil-fuel industry, it would be difficult to deem a subsidy as specific since it is generally available to the entire economy.¹¹¹ Countries that grant disproportionate subsidies to fossil fuel producers in a country where fossil fuel is a dominant economic sector might not be deemed specific on the basis of objective criteria in accordance with Article 2.1 (b). In such cases where the entire country's economy is subsidized, the subsidy would not meet the specificity

¹⁰⁸ Normally one would first determine whether de jure specificity exists, and only if negative, then look at de facto specificity, but in Appellate Report *US - Countervailing Measures (China)*, adopted 15 August 2019, WT/DS437/32, para. 371 noted that sequential examination is not always necessary. For discussion of necessity of sequential examination of specificity, see Benitah (n 52) 59-60

¹⁰⁹ *US - Countervailing Measures (China)* (n 108) para 373.

¹¹⁰ Appellate Report *EC and certain member states - Large Civil Aircraft*, adopted 28 May 2018, WT/DS316/44 interpreted this phrase in paras 7.961, 7.964.

¹¹¹ See Panel Report from *EC - Large Civil Aircraft* (n 110) paras 7.974-7.976, where the Panel suggests that a subsidy provided to an industry in an economy consisting of a few industries, would not indicate ‘predominant use’ as required for specificity, See also Tom S.H. Moerenhout ‘Energy Pricing Policies and the International Trade Regime’ *Journal of International Economic Law*, 2020, 23, 119, 127.

threshold, and therefore a WTO claim would end there. This would be the case in many fossil fuel subsidy instances, considering that almost 70% of the market is controlled by 10 countries,¹¹² and at least 6 of them are "market specific", as indicated before.¹¹³ Even though the specificity standard is not met, taking a global view, the subsidization is certainly specific and has the same negative impact on the global market as other specific subsidies. This clash between the legal system and reality calls for a new interpretation that allows an easier "out-of-country" or global comparison.

Overall, it seems that proving specificity in a non-diversified market is straightforward, and its complexity mainly depend on the specific circumstances in each country and the ability to produce evidence.

4.3.1.3 Scenario 1: Articles 5-6

Assuming that the subsidies in this scenario meet the definition of a subsidy, confer a benefit, and are deemed specific within the meaning of the SCM, we turn now to the actionability determination, that is, whether subsidies in this scenario can be proven to have adverse effects. It should be stressed that a subsidy satisfying these conditions is permitted under the SCM unless it can be proven to have adverse effects. Of the scenarios we analyze, this scenario is most likely to meet the requirements of Articles 5-6, since legal hurdles that could arise when dealing with complicated scenarios, such as scenarios with pass-through effects, are less likely to arise in this scenario. However, even though this scenario is straightforward, it has not yet been challenged. Among other things, it has been suggested that this may be because many fossil fuel producing countries subsidize their production, and hence it would not be smart from a strategic standpoint 'to throw stones when you live in a glass house', i.e. open the way to counter lawsuits.¹¹⁴

Adverse Effects

Article 5 provides for three means of establishing adverse effects. The first option is causing injury to another member's domestic industry. Meeting this condition requires establishing an increase in subsidized imports into the complaining member's market which have an effect on prices. This requires finding evidence, and involves conducting a complicated economic analysis very similar to that of a countervailing investigation.¹¹⁵ This option seems difficult to prove from a practical standpoint in a market that has been

¹¹² Wikipedia, List of countries by oil production, https://en.wikipedia.org/wiki/List_of_countries_by_oil_production; used the list provided to check percentages.

¹¹⁴ For more on possible reasons for lack of WTO complaints vis-à-vis fossil fuel subsidies, see Meyer (n 1) 400; Moerenhout (n 111) 129-130.

¹¹⁵ Rive (n 83) 131. In addition to Footnote 11 of the SCM referring us to the definition of the term 'injury to the domestic industry' in a countervailing measure investigation, the Panel on *EC - Large Civil Aircraft* (n 110) in effect seems to instruct us to carry out a countervailing duty investigation as any other interpretation would establish a

heavily subsidized by many parties for decades. The second option for establishing adverse effects is when a subsidy causes nullification or impairment of benefits to other members under the GATT. Since this option is exceptional – as noted by Rive and Verkuijl - we will not analyze it.¹¹⁶

Serious prejudice

The third option is serious prejudice. There have been very few WTO cases claiming serious prejudice. The main problem in a serious prejudice claim is establishing causation, that is, linking the subsidy to the effects listed in Article 6.3 such as price undercutting.¹¹⁷

Article 6.3 of the SCM calls for demonstrating that one or several of the listed market effects has resulted from the subsidy. These effects include displacement of imports into the market of the subsidizing member or into a third country, increase in world market share, or price undercutting, suppression, or lost sales in the same market. All of these require in-depth, technically complex, economic analysis of the specific trade effects of the subsidy.¹¹⁸

While it is difficult to determine definitively if any given subsidy has such effects, the extent of the subsidy (i.e. relative size and absolute size in monetary terms) has a direct correlation with the market effects.¹¹⁹ It is likely that some of the subsidies do make extraction of oil or coal more profitable, and potentially promote the expansion of production, thus causing adverse effects in the market of the non-subsidizing member or in the market of third countries. The problem is to prove it since it requires technically complex analysis.¹²⁰

It is likely to be easier to identify and prove the market effect in this scenario where the comparison of the products themselves is fairly straightforward; for example, the effect of an exported subsidized fossil fuel compared with the effect of the same non-subsidized fossil fuel, both exported to a third market. However,

different legal standard. Moreover, the Panel considers itself to be taking on the role of the investigating authority in a CVD investigation. Paras 7.2068, 7.2080.

¹¹⁶ Benitah (n 52) 134-138; Rive, 131; Verkuijl and others (n 87) cite the GATT EEC Oilseeds IF Panel which indicated that the tariff concession must “systematically offset or counteracted by a subsidy program”. See Verkuijl (n 87) 331.

¹¹⁷ Andre Sapir and Joel Trachtman, ‘Subsidization, Price Suppression, and Expertise: Causation and Precision in Upland Cotton’ (2008) 7 *World Trade Review*, 183, 200.

¹¹⁸ Case law does however suggest that a panel is not obligated to quantify the amount of the subsidy for Article 6.3(c) which somewhat simplifies the analysis - see Appellate Report *US - Upland Cotton*, adopted 20 June 2008, WT/DS267/46, paras. 461, 465 and 467. The AB reinforced this in *US - Large Civil Aircraft* (2nd complaint) (n 91) para 1006.

¹¹⁹ The AB in *US - Upland Cotton* makes this point, i.e., that a large subsidy, closely linked to the price of the product, is likely to have a larger impact on the price, than a small subsidy not linked to the price of the product. AB Report *US - Upland Cotton* (n 118), paras 461, 465, 467.

¹²⁰ Cleo Verkuijl, Harro van Asselt, Tom Moerenhout, Liesbeth Casier, and Peter Wooders 'Tackling Fossil Fuel Subsidies through International Trade Agreements: Taking Stock, Looking Forward' (2019) 58 *Virginia Journal of International Law* 309, 343.

as noted above, this scenario still involves complicated economic analysis. For example, proving serious prejudice under 6.3 (c) would require determining price undercutting, price suppression or price depression caused by the subsidy. Furthermore, the effect must be significant.¹²¹ The significance requirement in analyzing this scenario is likely to be met based on WTO jurisprudence since fossil fuels, like upland cotton, are widely traded, highly competitive commodities, where for example, a small degree of price suppression would likely to be significant.¹²² Regarding the causation requirement, that is, that a “genuine and substantial relationship of cause and effect” exists between the subsidy and the given market effect, it is evident that the more direct the subsidy is in a scenario where the subsidized and non-subsidized are clearly competing like products the easier it will be to prove causation.¹²³ In contrast with this scenario, an indirect subsidy might not necessarily affect the pricing of a product, but rather reduce the operational cost of the producer, increasing his profit margin. Indirect subsidies are less identifiable, and in turn, their effect less identifiable. This complicates the serious prejudice analysis and among other things, proving causation rather than mere correlation. This is problematic since the jurisprudence insists that the existence of *correlation* between the subsidy and market effect is not in and of itself sufficient to establish causation.¹²⁴

In general, advanced economies have smaller direct subsidies, and when they do subsidize, they target specific consumer groups such as poor households. Additionally, they tend to use more indirect subsidies that have unclear market effects that are harder to identify and quantify.¹²⁵ Indirect subsidies are less likely to be challenged successfully since it is hard to satisfy the relevant market effect or its significance, as well as causation. Hypothetically, large enough subsidies may have a clear enough effect to meet these requirements.¹²⁶

Generally speaking, the countries in the Middle East and North Africa are very large fossil fuel subsidizers. In 2011 they accounted for 48% of total global fossil fuel subsidies. These countries often use subsidies that benefit both importers and exporters. The combination of significant subsidization and it being not complicated, make these countries’ subsidies easier to examine and more likely to meet the requirements

¹²¹ Panel Report, *US – Upland Cotton*, adopted 16 October 2014, WT/DS267/R, paras 7.1316-7.1333; Panel Report, *Korea – Commercial Vessels*, adopted on 11 April 2005, WT/DS273/R, paras 7.612-7.615.

¹²² Panel Report, *US – Upland Cotton* (n 121), paras 7.1329-7.1330.

¹²³ Appellate Body Report, *US Large Civil Aircraft (2nd complaint)*, adopted on 23 March 2012, WT/DS353/AB/R, para 913-914.

¹²⁴ Panel Report, *US – Upland Cotton* (n 121), para 10.133.

¹²⁵ Ambrus Bárány and Dalia Grigonytė, ‘Measuring Fossil Fuel Subsidies.’ (2015) 40 ECFIN Economic Brief 6, 12.

¹²⁶ Panel Report, *US – Upland Cotton* (Article 21.5 – Brazil) (n 121), para 10.133; Appellate Body Report, *US – Upland Cotton* (n 118), paras 461, 465-467.

of serious prejudice and be challenged successfully, assuming they have passed the financial contribution of government body, benefit conferred and specificity requirements of the SCM.¹²⁷

Another requirement, which does not seem to be difficult to meet in this scenario, is the "same market" requirement. Under Article 6.3(c) for example, the two products in this scenario would have to be considered as being in the same market. According to WTO, the products are considered in the same market if they are in competition. Moreover, there is no independent geographical restriction vis-à-vis Article 6.3(c), unlike 6.3(a) and 6.3(b) which mandates that the effects occur in the subsidizer's market or in a third country's market, respectively.¹²⁸ In this scenario it is not complicated to determine what market they are competing in, given that like products are competing.

4.3.2 Scenario 2: Fossil fuel production subsidies with pass through effects on inputs into another product

The second scenario in this category involves a 'pass-through benefit' where the fossil fuel production subsidies could conceivably confer a benefit on a producer using subsidized fossil fuel as an input. As discussed below, according to WTO case law, the recipient of the financial contribution and the recipient of the benefit do not have to be the same. Although the subsidies are provided to the fossil fuel producer, they can also affect other industries that use lower-cost inputs. A portion of the subsidy's benefit may "pass through" to downstream producers, whereby the downstream producer using the subsidized fossil fuel as an input would receive an indirect benefit.¹²⁹ One example of such a scenario is coal subsidies that lower the price of coal, and effectively benefit steel producers since coal is a significant input in producing steel. In this scenario, a complaint might be filed by a country producing steel against another steel producing country, where the latter uses subsidized coal in its production process, and then exports low priced steel to the former that doesn't use subsidized coal. Another example might be where a subsidized fossil fuel (such as coal) is used as an input into electricity production, and the initial benefit conferred on the coal would pass through to the electricity producer. In this case, a country producing electricity from non-subsidized coal might file a complaint against another country producing electricity from subsidized coal, where the latter would export to the former that doesn't use subsidized coal.

4.3.2.1 Scenario 2: Article 1 Government body

¹²⁷ ECFIN Economic Brief (n 125) 6-7.

¹²⁸ Appellate Body Report, *US – Upland Cotton* (n 118), paras 408-409.

¹²⁹ Benitah (n 52) 43-44; For useful figure demonstrating pass through of subsidy, Sherzod Shadikhodjaev, 'How to Pass a Pass-Through Test: The Case of Input Subsidies' (2012) *Journal of International Economic Law* 621, 622.

Following our previous discussion in Scenario 1, we assume a governmental authority provided the subsidy.

Financial contribution

The same financial contribution analysis applied in Scenario 1, can be applied in this scenario, even though the industry receiving the subsidized input does not receive the financial contribution directly. As Benitah explains, the recipient of the financial contribution and the recipient of the benefit do not have to be the same, given the abstract language of Article 1 of the SCM as interpreted by case law.¹³⁰ We will expand on this point in the upcoming specificity analysis.

Thus, the circumstances in Scenario 2, like those of Scenario 1, could satisfy the financial contribution threshold if it has been proven that the fossil fuel producer received a financial contribution within the meaning of Article 1.

Benefit

The next step is to determine whether a benefit exists, that is, if the initial financial contribution has conferred a benefit (in our example, to the coal industry).¹³¹ We would then have to determine if the benefit had passed through to the industries that use the subsidized input (in our example, the steel producers). According to the US – Softwood Lumber II case, to prove a pass-through benefit one must prove that the benefit resulting from the subsidy has passed through, at least in part, from the input producer (upstream industry), to benefit the producer of the processed product (downstream industry).¹³² In the Brazil – Aircraft case the Panel ruled that proof of subsidized financial services to customers purchasing a product would constitute prima facie proof of benefit to the producer.¹³³ In our view, although the current category deals with producer subsidies, it is logical to claim that producer subsidies also constitute prima facie proof of benefit to the direct consumer, especially when the subsidized product is used as an input.¹³⁴

In proving that a benefit has passed through from the subsidized upstream producer, it would seem logical to claim that the production costs of downstream producer A are lower than the production costs of downstream producer B if A and B both use fossil fuel, but subsidized fossil fuel is only used by A.¹³⁵ The

¹³⁰ Benitah (n 52) 41-42; Panel Report, *US-Softwood Lumber IV*, adopted 17 February 2004, WT/DS257/R, para 7.85 on abstract language; Panel Report, *US - Lead Bismuth II*, adopted 7 June 2000, WT/DS138/R, fn 69.

¹³¹ See Shadikhodjaev (n 129), 639.

¹³² Panel Report *US – Softwood Lumber III*, adopted 1 November 2002, WT/DS236/R, para 7.71; *US-Softwood Lumber IV* (n 130), para. 143. For discussion, see Shadikhokjaev (n 129), 639-640, noting that a two-level benefit test would be necessary, at both the upstream and downstream levels.

¹³³ Panel Report, *Brazil – Aircraft* (Article 21.5 – Canada II), adopted 23 August 2001 WT/DS46/RW/2, para 5.28 and fn 42.

¹³⁴ Benitah (n 52) 43.

¹³⁵ See Benitah (n 52) 43-44 for definition of upstream and downstream concepts.

simplest way of proving that the benefit has passed through would be to compare the subsidized price of the input (coal) with the prevailing non-subsidized price of the input in the domestic market. In other words, we would determine whether downstream producer A (steel producer) is able to procure the input (coal) cheaper as a result of the subsidy provided to the coal producer, than downstream producer B who purchases the same non-subsidized input at a higher price.

As discussed above, the complainant might be unable to determine a prevailing non-subsidized price for the input in the domestic market. This might be the scenario when a country's market is distorted, assuming that most of the market is subsidized.¹³⁶ According to the Appellate Body in the Canada Renewable Energy case, an out-of-country benchmark is applicable when government intervention is distortive. However, finding another country comparable domestic market might be impossible,¹³⁷ since the economic conditions affecting a country's market are theoretically endless. In the same case, after analyzing several comparable out-of-country markets, the Appellate Body concluded that it did not have enough information to finish the analysis, leaving the case of distorted domestic markets unresolved.¹³⁸

Thus, in a pass-through scenario, a case could be made for a benefit having been conferred, however, given the lack of conclusive guidance in case law in relation to a distorted market, the outcome would be questionable. The Brazil – Aircraft prima facie proof indicated before can prove extremely useful in these cases, allowing to transfer the burden of proof to the subsidized producer.

4.3.2.2 Scenario 2: Article 2

It may be recalled, that in order to make a claim under the SCM, the measure in question must first meet the definition of subsidy and confer a benefit (under Article 1), and then be deemed as specific in accordance with Article 2. In the US – Upland Cotton case, the Panel held that specificity can only be assessed on a case-to-case basis.¹³⁹ Moreover, the question of specificity is dependent on determining whether an industry or group of industries is limited to a “discrete segment of the economy”.¹⁴⁰ With regard to a subsidized input (for example, from subsidized fossil fuel) into another good (for example steel), while case law has determined that some of the benefit of the original subsidy could be passed through to the processed

¹³⁶ Appellate Body Report, *US – Softwood Lumber IV*, adopted 20 December 2005, WT/DS257/AB/R, para 90.

¹³⁷ Since energy producing country usually heavily subsidize this energy, thus distorting the domestic market, an out-of-the-country benchmark is mandatory.

¹³⁸ *Canada – Renewable Energy*, para 5.225; the Appellate Body claims that the Panel did not pay sufficient regard to the energy supply-mix in different countries.

¹³⁹ Panel Report, *US – Upland Cotton* (n 121), para 7.1142.

¹⁴⁰ Panel Report, *US – Upland Cotton* (n 121), paras 7.1142 and 7.1151. For further discussion of the specificity criterion, see Benitah (n 52) 24-27.

product,¹⁴¹ specificity would depend on the particular circumstances of the case, i.e. what subsidy has been granted and at what level of production—upstream or downstream producer. Shadikhodjaev opines that specificity would have to be established at both levels of subsidization (at the level of the input, and at the downstream level), and finds support for this view from Rubini as well.¹⁴² Benitah connects the specificity requirement to the benefit analysis and suggests to analyze specificity where benefit is actually conferred, as explained below.¹⁴³

The panel in the US – Upland Cotton case ruled that type of products might comprise an "industry". It seems reasonable to claim that fossil fuel producers would be classified as an industry since the "type" of product is consistent. It is also in line with the underlined rationale of Article 2 whereas it is not a widely distributed subsidy, and the scholars' opinions described in Scenario 1. In a case where fossil fuel producers dominate the subsidizing country's market, making it the only "available" industry for the subsidy, the specificity requirement would be impossible to prove, since it's domestically non-specific.

De Jure

When considering the pass-through effect, as noted above, according to Benitah, the analysis can distinguish between the receivers of the financial contribution and the recipients of the benefit.¹⁴⁴ The specificity requirement is focused on the distribution of the benefit and not the distribution of the financial contribution. If the complainant proves that a non-specific financial contribution (that has very broad and justified conditions for example) conferred a benefit to a specific downstream industry or enterprise, a benefit is considered to be conferred.¹⁴⁵ Because the analysis would be based on factual circumstances, without knowing the facts of the case, we cannot determine whether de jure specificity can be established. What we do know is that it is relatively easy/straightforward to determine whether legislation is behind the subsidy and then determine whether it is specific.

De Facto

Where the subsidy is not explicitly spelled out in law, it may be demonstrated by "real-world" or de-facto evidence that the subsidy indirectly reaches downstream producers through subsidized fossil fuel inputs.

¹⁴¹ AB Report, *US-Softwood Lumber IV* (n 136), para 143.

¹⁴² See Shadikhodjaev, (n 129), 640-642; Luca Rubini, *The Definition of Subsidy and State Aid: WTO and EC Law in Comparative Perspective* (Oxford: Oxford University Press), 2009, 338.

¹⁴³ Benitah (n 52) 600; Panel Report, *Brazil-Aircraft* (Article 21.II) (n 133) par. 5.28 and fn 42.

¹⁴⁴ *ibid.*

¹⁴⁵ *ibid.*

As noted in scenario 1 above, disproportionate use and other factors would apply in a pass-through scenario as well.

It has been argued that since energy intensive goods (such as steel), disproportionately use fossil fuels, when subsidized, these subsidies might be considered to be de facto specific in a pass-through scenario.¹⁴⁶ Since, as suggested above, specificity would have to be proven twice, at the input level and at the downstream level,¹⁴⁷ again the establishment of specificity would depend on the specific circumstances of the case, but it seems that it would be arguable.

Taking Benitah's approach, in his book he writes that in these cases "a functional test is needed which shows analytically (i.e., through an economic reasoning) if limitation of access to benefit emerges or not".¹⁴⁸ Following our steel producer example, if the complainant shows that the financial contribution received by fossil fuel producers, has conferred a benefit mainly to the steel industry, it might be deemed specific (depending on the facts provided).

One should also consider the possibility of a distorted market as described in Scenario 1. In such cases, proving specificity is extremely difficult.

4.3.2.3 Scenario 2: Articles 5-6

Adverse Effects

As previously mentioned, one option under Article 5 for establishing adverse effects, is causing injury to another member's domestic industry. In the current scenario it would be possible to prove factors such as growth in the volume of imports of an energy intensive product (for example, steel) into another Member's economy, where the benefit of the subsidized fossil fuel is passed through to the steel producer/exporter, leading to lower cost steel imports, and thus leading to competition with domestic steel produced with unsubsidized fuel. As in the previous scenario, however, the main obstacle here is that it involves complex economic analysis.

In the case of the use of the cheaper subsidized coal input into electricity which is then exported to a country that does not subsidize coal (and thus subsidized coal would not be used in the generation of electricity there), it may be even more difficult to prove that due to the coal subsidy, cheap electricity was imported, and the domestic electricity market of the complaining member was adversely affected. In the case of

¹⁴⁶ See Robert Howse, 'Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis', *the International Institute for Sustainable Development*, May 2010, 9.

¹⁴⁷ Shadikhodjaev (n 129), 642.

¹⁴⁸ Benitah (n 52) 600.

electricity, for this to even be possible, the subsidizing country and the complaining member must be on the same electric grid and sell to each other. Therefore, it would be very difficult to prove adverse effects.

Another option for adverse effects is a subsidy causing nullification or impairment of benefits to other members under the GATT. The analysis of this option is the same as the analysis of the previous scenario.

As indicated above, there have not been many complaints based on nullification or impairment. It is important to note that according to Article 5(b) impairment may be direct or *indirect* (italics added by authors), and thus could relate to a pass-through scenario. Nullification and impairment (in contrast to injury to the domestic industry of another member which involves the domestic market of another member) involves the domestic market of the subsidizing country, where a tariff concession has been offset by a subsidy. Where the adverse effect of the subsidy is on energy intensive industries of other members, Asmelash has suggested that it would be very difficult to demonstrate adverse effects, due to the “high standard of proof required”.¹⁴⁹ In any case, the nullification or impairment path is not the main path for challenging subsidies.¹⁵⁰

Serious prejudice

The central way to prove serious prejudice is to show the subsidy causes any of the market effects listed in Article 6.3. These effects include displacement of imports into the market of the subsidizing member or into a third country, increase in world market share, or price undercutting, suppression, or lost sales in the same market.

Obviously an in-depth economic and empirical analysis would be required for any given subsidy. Regarding the requirements of 6.3 (c), it is logical to assume that only subsidies that have significant price effects on the subsidized fossil fuel product can theoretically have consequential pass-through effect. This is due to the fact that only part of the subsidy may have passed through, and the subsidized input is only one component of the final cost of the production.

Similarly, proving the relevant market effect may be a significant barrier since the effect of the subsidy challenged is passed through. In other words, proving that a coal subsidy causes displacement of imports or change in market share or price suppression, not in the coal market but rather in the electricity market, would be difficult.

¹⁴⁹ Asmelash (n 1), p. 282; Verkuijl (n 87), 331; Coppens (n 43) 146.

¹⁵⁰ For further discussion see Verkuijl (n 87), 330-1; Coppens (n 43) 146; Benitah (n 52) 134-139.

The difficulty can be attributed to three issues. The first is the significance requirement, which rules out inconsequential effects.¹⁵¹ Even if one can prove that the coal subsidy has a pass-through effect on electricity production, and that advantage causes one of the effects above, it is unclear if those effects would be significant enough. This is relevant for Article 6.3(c) but not (a) or (b).¹⁵² Secondly, the causation requirement of establishing a genuine and substantial relationship of cause and effect between the subsidy and the given market effect, may be difficult to prove.¹⁵³ The fact that the effect is not direct, and the burden of proof to prove causation (and not just correlation) is on the complaining member and that other contributing factors must not be attributed to the subsidy, makes it hard to overcome this requirement.¹⁵⁴ Thirdly, in the case of electricity, a subsidizing country must share an electric grid, otherwise it seems impossible that it would be affected. Additionally, displacement of imports to a third country would require the third country to also share a grid with the complaining member as well as the subsidizing member, which seems to be an unlikely or rare situation.

Focusing on the effect the subsidies may have on steel, it is important to understand that coal is an essential ingredient in its manufacturing. 70% of the steel produced uses coal. According to the World Coal Association, around 770 kilograms of met coal makes 600 kilograms of coke, which in turn produces one ton (1000 kilograms) of steel using a basic oxygen furnace. Basic oxygen furnaces are currently used to produce about 74% of the world's steel. China, for example, is one of the world's biggest consumer and producer of coal. In 2018, coal made up 59% of China's energy use. In the past decade, China transformed itself from a net steel importer to a net steel exporter. In 2006, the country became the world's largest steel exporter by volume. Today it remains the world's largest consumer and producer of steel, with 40% of global production. The data collected shows a powerful statistical correlation between the increase in energy subsidies and the growth of Chinese steel production and steel exports. According to this research, this strong correlation is not chance, since as mentioned, 95% of the government subsidies are dedicated to coal.¹⁵⁵ We believe that given this evidence, it should be possible to prove that these subsidies do cause the relevant market effects, alongside meeting the significance requirement and causation. That being said, we are not sure if this would be the case in other countries.

¹⁵¹ Panel Report, *Korea – Commercial Vessels* (n 121), paras 7.567- 7.571 on discussion of term 'significant'.

¹⁵² Coppins (n 43) 156.

¹⁵³ Appellate Body Report, *US Large Civil Aircraft (2nd complaint)* (n 123), paras 913-914.

¹⁵⁴ Appellate Body Report, *EC and Certain Member States – Large Civil Aircraft* (n 110), para 1232.

¹⁵⁵ Usha CV Haley and George T Haley, 'Subsidies and the China Price' (2008) 86(6) *Harvard Business Review*, 25-26.

For further information on Chinese subsidies see <https://www.iisd.org/gsi/faqs/china>.

Regarding the same market requirement, the language of the different provisions indicates that the affected product and the subsidized product must be in the same market.¹⁵⁶ However, the meaning of “same market” (whether it means the national market or could refer to the world market) has been questioned in WTO case law, which suggests that it can be defined broadly or narrowly depending on the facts of the case.¹⁵⁷ The AB in *US-Upland Cotton* has ruled that same market means wherever the products compete.¹⁵⁸ It seems therefore that the same market requirement could be satisfied in this pass-through situation.

We believe that it may be possible to prove serious prejudice in a case such as the steel case, but more difficult if not impossible in the electricity case. Because a country often provides more than one subsidy, a cumulative or aggregated approach might assist with some of the mentioned challenges, the significance requirement for example.

Note that the present Article 5 and 6 analysis is very similar to Category 2 Scenario 1 and relates to it directly.

4.3.3 Scenario 3: Production-based fossil fuel subsidies that affect markets of non-similar alternative products

Fossil fuel subsidies affect not only the upstream producer that uses the product as an input, but also impact markets of non-like alternative products (such as the effects that coal subsidies have on renewable energy). This is an important scenario since one of the main goals of this exercise is to assess the legal feasibility of bringing a potential case against fossil fuel subsidies in the WTO, in order to phase out harmful fossil fuels in the long run, and promote the use of renewable energy instead. This scenario deals exactly with such a case – one in which subsidized fossil fuel producers and renewable energy producers compete. An example of a WTO case in this scenario might be where a country with renewable energy producers would bring a complaint against a country using subsidized coal (or another fossil fuel) for electricity generation, and by subsidizing the coal, would in effect keep renewable energy imports out of that market.¹⁵⁹

(It should be noted that this scenario does not deal with consumer subsidies for electricity, which we discuss below)

¹⁵⁶ Appellate Body Report, *US – Upland Cotton* (n 118), paras 408-409. SCM Art 6.3.

¹⁵⁷ Coppens (n 43) 164; Panel Report *Korea-Commercial Vessels*, paras 7.564-7.566

¹⁵⁸ AB Report *US – Upland Cotton* (n 118), paras 400-414.

¹⁵⁹ Many countries are working to develop renewable energy exports. For example, the Australian government is working to become a renewable energy powerhouse including exports. See: <https://arena.gov.au/blog/can-we-export-renewable-energy/>.

4.3.3.1 Scenario 3: Article 1

Government body

As in the two previous scenarios, we assume that a government authority provides a direct fossil fuel production subsidy.

Financial contribution

The same analysis presented in Scenarios 1 and 2 applies here. As noted above, the recipient of the financial contribution and the recipient of the benefit do not have to be the same entity according to WTO case law. In the present scenario, as in the second scenario, we would have to establish that the direct recipient, the fossil fuel producer, received a financial contribution, and benefit, and the question then would be whether the benefit to the fossil fuel producer passed through to the electricity producer.

Benefit

Proving that a benefit has been conferred in this scenario is similar to that of Scenario 2. (It should be noted that we are still at the stage of determining whether the subsidy is actionable, that is, whether there is a financial contribution by a government or public body, a benefit conferred, and specificity established). As in Scenario 2, we first have to prove that a benefit was conferred on the initial subsidized fossil fuel producer, and then we would have to prove that the benefit has at the least partially passed through to the electricity producer. In our view, the way to do it would be to compare the subsidized price of the input with the prevailing non-subsidized price of the same or similar input in the domestic market. In other words, we would determine whether the downstream producer (in this case, the electricity producer) is able to purchase the input at a cheaper price from the subsidized fossil fuel producer, than he would if he purchased the input from an unsubsidized fossil fuel producer.

The benefit benchmark is unrelated to the identity of the complainant and should be objectively evaluated. In other words, as depicted above, the complainant would have to prove that the fossil fuel provided by the subsidized producer is cheaper (or in other ways, in better market conditions) than the fossil fuel provided by the un-subsidized producer. An example of confusion when conducting this analysis can be found in the Canada – Renewable Energy case. The panel in the case mistakenly tried to benchmark Canada's renewable energy subsidies for the creation of electricity with other electricity producers. The Appellate Body reversed this analysis, but for the wrong reason. The Appellate Body explained, "...wind and solar PV-generated electricity did not compete with other electricity producers".¹⁶⁰ The Appellate Body was correct to benchmark renewable energy products within the renewable energy framework, but the question of

¹⁶⁰ https://www.wto.org/english/tratop_e/dispu_e/cases_e/1pagesum_e/ds412sum_e.pdf.

competition is irrelevant in this stage of analysis (and will be discussed when analyzing Articles 5 and 6). The Appellate Body also ruled that the fact that solar and wind power electricity generators would not have been able to operate financially without the subsidies, is not sufficient proof for benefit.¹⁶¹ These decisions harden the possibility of acceptance of the prima facie proof interpretation offered above. If proving that a subsidized market would not be operational without subsidization is not sufficient to prove a benefit, the mere existence of a subsidy in one market and not in the other is certainly not enough. This legal reality forces the complainant to conduct an elaborate market benchmark analysis that may be impossible to accomplish in an out-of-state comparison. It is important to note that the decision made by the Panel was not unanimous, and a dissenting judge accepted the financial operation claim to prove a benefit. Because the Panel's decisions are not binding, it remains possible that this interpretation will be accepted in the future.

4.3.3.2 Scenario 3: Article 2

Specificity

See the specificity analysis in Scenario 2 above. In our view, the analysis would be the same as in Scenario 2 where subsidized coal is used as an input into steel. A two-level analysis would be appropriate, first to see whether the initial subsidy is specific and then establish whether the initial subsidy (to the coal producer in this case) has at least partially passed through to the downstream producer (electricity producer). In cases where the economy of the subsidizing state is non-diversified, i.e. dominated by a certain industry (such as fossil fuel), the initial subsidy might be deemed non-specific. Even so, according to Benitah, as explained before, the specificity requirement is related to the benefit, and not to the nature of the financial contribution. If the complainant proves that the non-specific financial contribution is actually benefit-specific, it might still be considered specific. Returning to the steel producer example, if coal (initially subsidized product) is mainly used as an input by certain downstream producers such as steel producers or in electricity generation, it can be argued that it is specific.

4.3.3.3 Article 5-6

This scenario has to overcome two hurdles, one economic and the other legal. The economic question is whether subsidies to one type of energy actually cause adverse effects to other energy products. This is an empiric question which is beyond the scope of this paper. That being said, it is likely that a price change in one product (due to the subsidy) would affect a similar product since they are somewhat interchangeable. If the price drops, end users are likely to shift their consumption to the cheaper alternative product. Despite that, it is important to note that these products (or fossil fuels compared to renewable energy) may only be

¹⁶¹See Charnovitz and Fisher (n 104) 28-29.

partially interchangeable since industries can't shift overnight from one source of energy to another, and since not all types of energy can be used interchangeably. Therefore, the subsidy's market effect on a competing energy source is likely to be smaller than the subsidy's effects on the market for the subsidized product.

Following this logic, in order for the subsidy to have an effect on a different product, the subsidy would have to be substantial, especially in order to meet the significance requirement.¹⁶² We believe that in some cases this is possible, but it limits the number of cases that are relevant in this scenario.

The main legal obstacle in this scenario is the "like" product issue. To challenge a subsidy in the WTO, the challenging WTO member must produce a product that is "like" the subsidized product of another member. We would start by identifying the products to be considered "like" products for the purpose of the adverse effects analysis (Articles 5 and 6) in this particular scenario.

The question is whether fossil fuels and renewable energy are "like" products. Obviously if the subsidized fossil fuel is used to produce electricity, then this electricity is a "like product" compared to renewable electricity. The issue is when we are comparing one type of energy versus a different type of energy, and then it seems unlikely that this requirement would be met.

The first three options listed in Article 6.3 mandate that the products under consideration be "like products". The effect in Articles 6.3(a)-(b) is "displacement or impedance of imports of a like product" into the market of the subsidizing Member or a third country, and the various effects in Article 6.3(c) are compared "with the price of a like product in the same market". Therefore, it would be necessary to claim that the subsidized fossil fuel and the affected alternative product such as renewable energy are like products.

In order to determine that products are "like products" according to the SCM, we would have to show that they are "identical" or in the absence of an identical product, one with similar characteristics (SCM Art. 15.1 note 46). This includes physical characteristics as well as the end use of the products. Despite the fact that from an economic standpoint renewable energy and fossil fuels may be considered as alternative products, it is hard to conclude that they would be deemed "like products". This is due to the fact that physically they are not alike, and even though there is some overlap in their uses by consumers they are not totally interchangeable.¹⁶³ This is obviously a generalization, and there may be specific types of renewable

¹⁶² Panel Report, *US – Upland Cotton* (n 121), paras 7.1392-7.1395; Panel Report, *Korea – Commercial Vessels* (n 121), paras 7.612-7.615.

¹⁶³ Wold et al (n 86) 635, 661; Verkuyl (n 87) 16-17.

energy that would be considered “like products”. For example, it has been suggested that Petro diesel is not like biodiesel but may be considered like biodiesel blended with Petro diesel.¹⁶⁴

One possible suggestion to overcome this obstacle has been to reframe the comparison. Instead of comparing fossil fuels to renewable energy, it has been suggested that electricity produced from fossil fuels be compared with electricity produced from renewable sources.¹⁶⁵ The result would be that there is no way to distinguish electricity produced from fossil fuels and electricity produced from renewable energy, (GATT case law doesn’t distinguish products from one another based on processes or production methods – Tuna/Dolphin case) and thus they should be considered “like products”.

The problem with this suggestion is that it raises other hurdles that are not easy to overcome, and were raised in previous scenarios. Firstly, this would require proving that the subsidy to the fossil fuel passes through significantly to the electricity producer so that the market advantage it receives has adverse effects on the producers of electricity via other methods such as renewable sources. For further discussion on this issue see Scenario 2. Secondly the issue of being on the same grid – for elaboration on this hurdle see Scenario 2.

A similar issue arises regarding the same market requirement.¹⁶⁶ The same market is defined as a market where the two sides compete for sales of a specific type.¹⁶⁷ A few parameters have been mentioned in the jurisprudence such as physical characteristics, consumer preferences, and end-uses, but these are not exclusive factors. Demand-side substitutability is another parameter. As mentioned above these products are substitutes for each other to some extent but not totally given different uses that are unique to each type. Another parameter is supply-side substitutability which includes for example, the ability to change production from one product input to another. This seems unlikely regarding the products as discussion.¹⁶⁸ Considering all of these parameters, it seems unlikely but possible that the various energy products would be considered in the same market. It is possible that these products would be considered separate submarkets and not one market.¹⁶⁹

¹⁶⁴ Wold et al (n 86) 664.

¹⁶⁵ Wold et al (n 86) 682-684

¹⁶⁶ Appellate Body Report, *US – Upland Cotton* (n 118), paras 408-409.

¹⁶⁷ Panel Report, *Korea – Commercial Vessels* (n 121), para 7.566.

¹⁶⁸ Appellate Body Report, *EC and certain member states – Large Civil Aircraft* (n 110) paras 1119-1123.

¹⁶⁹ Panel Report, *EC and certain member states – Large Civil Aircraft* (Article 21.5 – US), adopted 28 May 2018, WT/DS316/44, paras 6.1292, 6.1370 and 6.1410.

Table 4.2: Category 1, Production subsidies

	Scenario 1: Fossil Fuel vs. Subsidized Fossil Fuel	Scenario 2 Subsidized Pass through input vs. Non -Subsidized Fossil Fuel Input	Scenario 3 Production-based fossil fuel subsidies that effect markets of non-similar alternative products
Govt. Body	As a rule of thumb, direct subsidies are easier to prove. Financial contribution that is "foregoing of government revenue" (such as tax exemption) is inherently governmental.		
Fin. Contribution	Direct funds (1(i)(ii)(i)), revenue otherwise due (1(i)(ii)(ii)) and price support in the sense of GATT. Considering the latter, when analyzing "reasons" for differences in treatment, a distorted market might complicate the analysis.		
Confer Benefit	A finding regarding foregone revenue automatically implies a benefit. A grant is clearly a benefit. Otherwise, the benchmark for comparison is the domestic market	Heavily subsidized markets require an out-of-country benchmark. A prima-facie proof for production subsidies, transferring the burden of proof to the subsidizing country might assist. In a non-distorted market proving benefit is straightforward.	
Specificity	De jure will be harder to use due to apparent discrimination at the domestic level. De facto specificity can be proved through predominant use or disproportionate large amounts to certain enterprises. In a non-diversified economy, the current legal regime is very limited.	In a non-diversified economy, the current legal regime is very limited. Otherwise, specificity needs to be established for both levels of subsidization. Specificity can be proved de facto by proving that the subsidy is disproportionately used.	
Adverse Effects			

Injury to another member's domestic industry	Seems difficult to prove from a practical standpoint in a market that has been heavily subsidized by many parties for decades.	Very difficult to demonstrate injury, due to the high standard of proof and complicated economic analysis required.	The subsidy's market effect on a competing energy source is likely to be smaller than the subsidy's effects on the market for the subsidized product and therefore harder to prove.
Nullification or impairment of benefits to other members under the GATT	Unlikely. Changes case-by-case and is not determined by the type of scenario		
Displacement of imports into the market of the subsidizing member or into a third country, increase in world market share, or price undercutting, suppression, or lost sales in the same market	Considering the extent of the subsidies, they probably do cause some of these market effects	Large subsidies that have significant price effects on the subsidized fossil fuel product can theoretically have a noticeable pass-through effect. smaller subsidies or more complicated ones might not have a noticeable pass-through effect.	The market effect of a subsidy on a competing energy source is smaller than the subsidies' effects on the market of the subsidized product. therefore the subsidy would have to be very substantial for it to affect the alternative market.
Additional constraints to proving the market effects	The simpler the mechanism of the subsidy, the easier it will be to prove the market effect	If electricity case, then countries involved must share an electric grid.	
Significance requirement	Likely to be met in this case given the heavy subsidization.	Unclear if the pass-through effects would be significant enough.	In order to meet the significance requirement, the

			subsidy would have to be substantial.
Genuine causal link	The more direct and less complicated the subsidy is, the easier it will be to meet the causation requirement.	Harder to prove than Scenario 1 Category 1	Possible to prove
Like product same market	Should not be problematic	Should not be problematic	It is hard to see that legally they would be deemed to be “like products”
6.7 Circumstances that serious prejudice will not arise	Case-by-case, does not depend on the specific scenario		

Category 2 – Fossil fuel Consumption Subsidies for Use in Inputs

As will be recalled, consumption subsidies comprise a much larger portion of global fossil fuel subsidies than production subsidies. Indeed, Vernon Rive calculates that consumption subsidies made up 80% of total fossil fuel subsidies in 2018.¹⁷⁰ This category of our analysis consists of fossil fuel consumption subsidies that reduce the price of fossil fuels that are used as inputs in other production processes downstream. Like Scenario 2 above, these inputs may be used for energy products, such as electricity, or in non-energy intermediate products such as steel and plastics. The difference is that in this category we analyze consumption subsidies rather than production subsidies.

In general, fossil fuel consumption subsidies often fulfill social policy objectives and consist of direct budgetary transfers (such as fuel vouchers), price controls, dual pricing policy or other tax subsidies. Obviously not all of these subsidies are relevant for producers that use fossil fuels as inputs in their production, but rather are aimed at the end user (see Category 3 below). Of these consumption subsidies, the ones that are relevant here are those that reduce the price of fossil fuels used in the production of other products, usually in some form of price control or tax benefit.¹⁷¹

4.4.1 Scenario 1: Subsidies reducing the input costs lead to a market advantage for the domestic producers compared to foreign producers using the same input but unsubsidized

The first scenario in this category refers to consumption subsidies that enable the intermediate consumer (i.e., energy intensive manufacturer) to pay lower than market price for the input, leading to a market advantage for the domestic producer (intermediate consumer) compared to foreign producer (intermediate consumer) using the same input but unsubsidized. For example, coal consumption price control subsidies affect steel producers in other countries that use coal but do not receive subsidies.

4.4.1.1 Scenario 1: Article 1

The first requirement is whether a government body provides the subsidy. In the case of consumption subsidies, it is probably easier than production subsidies to trace the subsidy back to a government body since it is used by the general public. However, because the subsidies in this particular scenario are indirect, and they are not necessarily used by the public, they might be harder to prove. In other words, in situations where consumer subsidies are utilized by the general public, they would be impossible to hide. In other

¹⁷⁰ Rive (n 83) 42, based on the OECD Companion to the Inventory of Support Measures for Fossil Fuels 2018

¹⁷¹ Exploring the Trade Impacts of Fossil Fuel Subsidies (n 1) 8-11; Asmalesh (n 1) 265-266.
Bièvre (n 1) 5.

situations where consumer subsidies are utilized by other enterprises, using the purchased product as an input, they would generally be easier to hide.

Additionally, it is required that there be a financial contribution. Consumption subsidies are usually given in the form of direct cash transfer, price control, and tax exemption and rebates.¹⁷² The discussion about the three-step legal analysis for tax subsidies discussed in Category 1 is also relevant here.¹⁷³ A price support in the sense of the GATT is also relevant in this category.

Another requirement is the benefit requirement. The Brazil – Aircraft prima facie proof previously described directly applies in this case.¹⁷⁴ As long as the input used by the producer is subsidized, a prima facie proof of benefit to the producer exists, thus transferring the burden of proof to the subsidizing state. According to the US – Softwood Lumber Case, it is clear in these cases that the benefit resulting from the initial subsidy has passed through to indirectly benefit the processed product.¹⁷⁵ The difficulties of using out-of-the-country comparisons in cases of a distorted market also apply here.

4.4.1.2 Scenario 1: Article 2

Article 2 deals with specificity, which may be de jure or de facto.

De Jure

Consumption subsidies are more likely to be explicitly depicted in law, as they are used by the public. In this case, where the subsidy is given to producers using fossil fuel as an input, thus aimed at a narrower group of receivers, it might not be explicitly written in law. The main difficulty with consumption subsidies is to determine whether a certain enterprise or industry receives the subsidy, or if the subsidy is generally available, and thus inherently non-specific. If the subsidy is given to a specific type of fossil fuel, it might still be deemed specific in nature. For example, the US JOBS Act 2014 grants a tax break for consumers of refined coal. This obviously affects specific enterprises using refined coal as an input.¹⁷⁶ Even so, the subsidy might still be deemed non-specific according to Article 2.1(b) assuming it is objective, automatic and spelled out in law.

De Facto

¹⁷² As discussed in Chapter 2.3.3.

¹⁷³ See Section 5.2.1.1

¹⁷⁴ See Section 5.2.3.1

¹⁷⁵ *US – Softwood Lumber III* (n 132), para 7.71.

¹⁷⁶ US Job Act 2014.

One way to overcome the specificity hurdle, is to try to prove that the benefit confers better conditions on specific industries. Taking the example of fossil fuel, a consumption subsidy might benefit all end consumers, but steel producers disproportionately use the subsidy. In this example specificity can be claimed. Another possible example is refined coal subsidy that is predominantly used by specific enterprises.

4.4.1.3 Scenario 1: Articles 5-6

In many ways the analysis of this scenario regarding Articles 5-6 is very similar to Scenario 2 in Category 1.

Nevertheless, it seems that this case is stronger regarding the economic obstacles because the subsidy has a closer relationship to the end product since the subsidy is a consumption subsidy for the input. Therefore, the causal requirement of a genuine and substantial relationship of cause and effect between the subsidy and the given market effect is more likely to be proved.¹⁷⁷ Similarly, the significance requirement should be easier to meet since basically all of the subsidy is passed through to the end product.¹⁷⁸

It is important to note that it may be difficult to find a country that can be challenged. Since the product challenged is steel for example (assuming electricity is a problem, because of the grid issue described above¹⁷⁹), but the subsidized product is a fossil fuel, it seems like the challenged country would have to be both a significant fossil fuel subsidizer and a steel producer. If the subsidizing country does not produce steel, the steel industry is not benefiting from it. (Unless the fossil fuel is exported cheaply so the steel industry in a different country would benefit from it. But if this is the case, then seemingly also the complaining member could buy the cheap fossil fuel used as an input, and therefore wouldn't be negatively affected.) In such a case, in order to successfully challenge fossil fuel subsidies by steel producers, the subsidizing country must also produce steel. This is not a fundamental issue, but rather a technical one that limits the possibilities for challenging the subsidies.

An additional requirement that must be met is the same market requirement. For further discussion see Scenario 2 in Category 1.¹⁸⁰

¹⁷⁷ Appellate Body Report, *US Large Civil Aircraft* (2nd complaint) (n 123), pars 913-914.

¹⁷⁸ Moerenhout and Irschlinger (n 1) 13.

¹⁷⁹ See Section 5.2.2.3

¹⁸⁰ See Section 5.2.2

4.4.2 Scenario 2: Subsidies reducing input costs for producers using the subsidized input compared to producers using other production methods

The second scenario within this category is similar to the previous scenario, and deals with consumption subsidies (rather than production subsidies) that reduce input costs for producers using the subsidized input. The difference is that in this scenario although the complaining party produces the same end product, it does not use the same input as the subsidizing member but rather uses a different production method.

On one hand, this producer is affected by the lower production price of its competitor that has a significant advantage, but on the other hand, this is a less direct effect. An example of this scenario is a coal consumption subsidy that gives electricity producers using coal an advantage over electricity producers using renewable energy technologies. Another example is steel producers using subsidized coal, and therefore, gain a competitive advantage over steel producers not using coal.

4.4.2.1 Scenario 2: Article 1

The first requirement is whether the subsidy is given by a government body. Following our previous discussion, we assume a governmental authority provided the subsidy.

Regarding the requirement for financial contribution, the same analysis discussed in Scenario 1 applies here.¹⁸¹

In relation to the benefit analysis, the difference in production method does not affect the benefit analysis. As long as the producer enjoys a subsidized input that cheapens its production costs relatively to other competitors (or the market benchmark), the Brazil – Aircraft prima facie proof applies, and the burden of proof passes to the subsidizing party.

4.4.2.2 Scenario 2: Article 1

Same analysis as conducted for Scenario 1 Category 2 applies here.¹⁸²

4.4.2.3 Scenario 2: Articles 5-6

This scenario raises similar issues to the previous scenario concerning Articles 5-6, including the legal dilemma regarding whether the product challenged must be the subsidized product, the problem of the electric grid, etc. To some extent this scenario also enjoys the same advantage as the previous scenario of

¹⁸¹ See Section 5.3.1.1.

¹⁸² See Section 5.3.1.2.

the consumption subsidy having a direct impact on the end product. As mentioned above, this makes it more likely to prove the market effect, the significance requirement, and the causation requirement.

Nevertheless, this scenario is slightly different and not as simple since the complaining member does not consume the type of product subsidized (for example coal). Instead of comparing the price of the energy input (coal) for the subsidized producer compared to the complaining member, one would have to compare the entire production cost for each of the production methods, and estimate whether the subsidy affects the price enough to cause the different market effects. Clearly, this makes it harder to prove the market effects, significance, and the causal link.

On the other hand, this scenario may have advantages compared to the previous scenario. The first advantage is that it widens the scope of cases, so that we are not limited just to complaining members using the exact subsidized input.

Another hypothetical advantage is that this scenario may not be limited to challenging countries that also subsidize the energy input and produce steel, as the previous scenario is. On one hand, if the subsidizing country does not produce steel, there is no steel industry that is benefiting from the subsidy. But on the other hand, here it is hypothetically possible that fossil fuel is exported cheaply so the steel industry in a different country would benefit from it, and unlike the previous case the complaining member can't benefit from buying the cheap fossil fuel since it uses a different production method. Despite this analytical difference it seems realistically impossible to have consumption subsidies for export, and therefore it is not relevant under this category but may be applied in other situations. As a result, we still believe that in almost every situation in this scenario, to successfully challenge fossil fuel subsidies by steel producers, the subsidizing country must also produce steel.

An additional requirement that must be met is the same market requirement. For further discussion see Scenario 2 in Category 1.¹⁸³

¹⁸³ See Section 5.2.2.3.

Table 4.3: Category 2, Consumer Subsidies for Use in Inputs

	Scenario 1: Fossil Fuel Input vs. Subsidized Fossil Fuel Input	Scenario 2 Subsidized Pass Through Input vs. Non -Subsidized Fossil Fuel Input
Govt. Body	Consumption subsidies are not necessarily used by the public, and may be indirect, hence they might be harder to prove than consumption subsidies used by the general public	
Fin. Contribution	The relevant types are: <ul style="list-style-type: none"> - Direct funds, 1(i)(ii)(i) - Revenue otherwise due, 1(i)(ii)(ii) - Price support in the sense of GATT 	
Confer Benefit	Out-of-the-country comparison is nearly impossible. Prima facie proof of benefit directly applies, allowing passing the burden of proof to the subsidizing country.	
Specificity	Hard to prove due to its non-specific nature. Might be possible through de facto analysis, proving disproportionate use by a specific industry	
Adverse Effects		
Injury to another member's domestic industry	Difficult to prove from a practical point of view in a market that is heavily subsidized by all parties	Harder to prove than Scenario 1 Category 2
Displacement of imports into the market of the subsidizing member or into a third country, increase in world market share, or price undercutting, suppression, or lost sales in the same market	As in Category 1 Scenario 2, larger subsidies that have significant price effects on the subsidized fossil fuel product are more likely to have a noticeable pass-through effect, but since the subsidy has a closer relationship to the end product (because the subsidy is a consumption subsidy for the input), this is not unreasonable.	Similar to Scenario 1 Category 2 but harder to prove: Instead of comparing the price of the energy input (coal) for the subsidized producer to the complaining member, one would have to compare the entire production cost for each production method and estimate if the

		subsidy affects the price enough
Additional constraints in proving market effects	The challenged country would have to be both a significant fossil fuel subsidizer and also a producer of the secondary product such as steel.	To successfully challenge fossil fuel subsidies by steel producers for example, the subsidizing country must also produce steel.
Significance requirement	As is Scenario 2 Category 1, it is unclear if the pass through effects would be significant enough, but may be a bit easier to meet requirement since basically all of the subsidy is passed through to the end product	Similar to Scenario 1 Category 2 but might be harder to prove given the difficulty of comparing subsidizer with complaining member
Genuine causal link	The effect is not direct and other contributing factors' effects must not be attributed to the subsidy, therefore it is harder to overcome this requirement, but the subsidy has a closer relationship to the end product than in Scenario 2 Category 1 since the subsidy is a consumption subsidy for the input.	Similar to Scenario 1 Category 2 but harder to prove.
Like product & same market	Same product	Same product
6.7 Circumstances that serious prejudice will not arise	Case by case, does not depend on the specific scenario	

Category 3 – Consumption (Consumer) Subsidies to End User

This category consists of consumer subsidies that reduce the price paid by final consumers (including private sector, public sector and households) in the purchase of a fossil fuel. These subsidies include price discounts, tax exemptions for consumption, price control, etc.¹⁸⁴

4.5.1 Scenario 1: Consumption subsidies to end user– direct effect on subsidized product

The basic scenario describes and analyzes consumption subsidies to end users that have a direct effect on competition in the market of the subsidized product. An example of such a consumption subsidy is one that lowers the price of gasoline, and thus would affect competitors that produce and sell gasoline.

4.5.1.1 Scenario 1: Article 1

Regarding the government body requirement, given our previous discussion, we assume a governmental authority provided the subsidy. Consumption subsidies used by end consumers are probably easy to identify since the entire public uses them.

As for the requirement of financial contribution, the same analysis discussed in before applies here.¹⁸⁵

Another requirement is the benefit requirement. A consumption subsidy to end consumers might take the form of price support. The relevant benchmark for comparison would probably be a non-subsiding state's market or the international price of the subsidized product. In the case of oil, the price of the commodity in a subsidizing country would probably be lower than the international price, which is known, available, and easy to compare. When considering an importing country, detecting a market benchmark is easy- using the international price. However, when considering a producing country providing consumer subsidies, detecting the same benchmark is somewhat more complicated. Other conditions come into play that affect the market of the compared importing country, like freight costs, insurance, and others.¹⁸⁶ Trying to compare the producing country to another producing country might also be problematic since production costs vary among countries. The effect on the non-subsidized market is harder to decipher and will be discussed under Articles 5-6.

¹⁸⁴ Peter Wooders, Anna Zinecker, and Ronald Steenblik, 'Measuring Fossil Fuel Subsidies in the Context of the Sustainable Development Goals' (2019) *IISD Report* 6, 61.

¹⁸⁵ See Section 5.3.1.1.

¹⁸⁶ Moerenhout (n 111) 12.

4.5.1.2 *Scenario 1: Article 2*

Specificity may be proved de jure. As discussed, consumption subsidies are more likely to be explicit and publicly known. This is even more so when considering subsidies for end consumers. Because the subsidy is widely disbursed and inherently non-specific, it seems that this type of subsidy would be the hardest to prove, especially de jure, in light of Article 2.1(b).

Alternatively, specificity may be proved de facto. As discussed above, if a subsidy is disproportionately used by a certain industry or limited enterprises, it can be deemed specific. Proving this is case specific, and fact based. For example, showing that oil intensive industries are the dominant end consumer using this subsidy.

4.5.1.3 *Scenario 1: Articles 5-6*

Fossil fuel consumption subsidies to end users are common mainly in countries in the Middle East and North Africa and developing Asia.¹⁸⁷ This region often uses general subsidies, that benefit everyone, and therefore are less sophisticated and easier to examine and prove their effect (but less likely to be deemed specific under Subsidy Agreement as mentioned above). In this region, the most common way to subsidize is to have a fixed price regime funded by the government. This is common vis-s-vis electricity, gasoline, diesel, and kerosene that are often sold domestically, both to individuals and industries, at prices fixed by the government that are significantly lower than the international price. Obviously, other countries also subsidize fossil fuels including traditional fixed prices policies such as in Russia, Uzbekistan, Turkmenistan, Kazakhstan, Venezuela and Ecuador.¹⁸⁸

This type of subsidization is more straightforward, and therefore easier to examine and prove its effects vis-vis Articles 5-6. Countries in this region that highly subsidize fossil fuels, and do so in an unsophisticated way of fixed prices are good candidates to have some be subsidizing some ad valorem subsidization of more than 5%. Additionally, fixed prices that are significantly lower than the world price are likely to cause some of the market effects listed under Article 6. Displacement of imports into the market of the subsidizing member are likely to occur when the local price is artificially lower than the international price due to fixed price policies. Obviously, this is not relevant if the government price subsidy applies also to imported fossil fuels because then there won't be displacement of imports. In many cases, the fixed price relates only to

¹⁸⁷ Accounting for above 40% of global post-tax fossil fuel subsidies with advanced economies accounting for approximately 25%. In percent of GDP, post-tax subsidies are highest in Emerging and Developing Asia, Middle East, North Africa, Afghanistan, and Pakistan and Commonwealth of Independent States (CIS), at over 12% of regional GDP. See <https://www.imf.org/en/Topics/climate-change/energy-subsidies#A%20Global%20Picture%20of%20Energy%20Subsidies>.

¹⁸⁸ ECFIN Economic Brief (n 125) 6-7.

domestically produced energy, often when the energy producer and supplier is a government operated entity.

For example, Russia has a state-owned gas company that sells natural gas domestically at prices lower than both export prices and import prices, and therefore likely impedes potential imports. In this specific example, it seems likely that the significance requirement would be met since the prices are so low they are often lower than production costs.¹⁸⁹ In the Middle East and North Africa, more than half of the subsidies are for petroleum consumption, and are therefore probably the best candidate to pass the significance requirement. Generally speaking, the region of the Middle East and North Africa is a major subsidizer, accounting for more than 50% of international consumption subsidies in March of 2020.¹⁹⁰ Not only are these regions major subsidizers, they also account for a significant portion of the fossil fuel market, and are responsible for much of the global fossil fuel exports. This may serve as a good indication of the regional subsidies' potential to affect the world market.¹⁹¹ As a result, it seems that these subsidies would be more likely to meet the significance requirement. Furthermore, since fixed price subsidies are simple, general and extensive it should be relatively easy to prove a genuine causal link as required¹⁹² - and it is more likely that the relationship can be determined as causal rather than solely correlational.¹⁹³

An additional requirement that must be met is the same market requirement. For further discussion see Scenario 2 in Category 1.¹⁹⁴

4.5.2 Scenario 2: Consumption subsidies to end user and their possible effects on markets for complementary products

The more complicated scenario under this category is analyzing the effect consumption subsidies to the end user, have on the markets of complementary products. For example, subsidies for gasoline incentivizes the purchase of gasoline-based vehicles, and discourage the purchase of electric vehicles. In this scenario, a country producing electric vehicles might file a complaint in the WTO against a country with gasoline consumption subsidies. Another example might be subsidized electricity prices that lower the incentive for consumers to purchase efficient lightbulbs such as LED lightbulbs. In a hypothetical WTO dispute, a

¹⁸⁹ Panel Report, *US – Upland Cotton* (n 121), paras 7.1392-7.1395; Panel Report, *Korea – Commercial Vessels* (n 121), paras 7.612-7.615.

¹⁹⁰ See: <https://www.iea.org/data-and-statistics/charts/fossil-fuel-consumption-subsidies-by-country-2018>.

¹⁹¹ Appellate Body Report, *US – Upland Cotton (Article 21.5 – Brazil)* (n 124), paras 355-356; Appellate Body Report, *US – Upland Cotton* (n 118), paras 461, 465-467.

¹⁹² ECFIN Economic Brief (n 125) 6-11.

¹⁹³ Panel Report, *US – Upland Cotton (Article 21.5 – Brazil)* (n 121), para 10.133.

¹⁹⁴ See Section 5.2.2.

country that produces LED lightbulbs might file a complaint against a country with electricity consumption support schemes.

4.5.2.1 Scenario 2: Article 1

Regarding the government body requirement, according to our previous discussion, we assume a governmental authority provided the subsidy. As for the financial contribution requirement the same analysis discussed in Category 2 applies here. For the benefit requirement, the question of complementary products does not affect the analysis. The question of benefit is objective and related to the specific subsidized product, as previously discussed.¹⁹⁵

4.5.2.2 Scenario 2: Article 2

The complementary product market question would not change the specificity test as applied in Scenario 1.¹⁹⁶

4.5.2.3 Scenario 2: Articles 5-6

In order to better understand the legal hurdles regarding Articles 5-6 in this scenario, we apply the SCM rules to a specific situation. Saudi Arabia, for example, heavily subsidizes domestic energy consumption by setting fixed prices for gasoline, diesel and electricity. This not only harms foreign non-subsidized producers of the same energy sources that cannot compete with the subsidized prices, but also affects consumption of complementary products. Cheap fuel discourages the purchase of the more expensive but more fuel-efficient cars as well as electric cars. One estimate is that these subsidies increase the payback period for such a purchase from 3 years to sixteen years. This is true not only concerning cars but also incentivizes keeping inefficient cheap lightbulbs instead of purchasing more expensive but efficient ones. Another example is air conditioners that are responsible for 70% of Saudi electricity consumption since it is not worthwhile to buy a more efficient air conditioner.¹⁹⁷

A country producing electric cars might file a complaint based on the market effect the subsidies have on these adjacent markets for complementary products, potentially amounting to serious prejudice. This type of complaint would overcome the electricity hurdle since electronic products can be traded worldwide. One would argue that the fixed electricity price or the fixed gasoline price impedes the imports of efficient lightbulbs or electric cars under Article 6.3 (a) or (b). However, the most difficult hurdle, and one unlikely to be overcome, is that of “like product”. This legal issue is elaborated upon under Category 2 Scenario 3, and the analysis there is relevant here. But unlike the previous scenarios, it seems impossible to argue that

¹⁹⁵ See Section 5.4.1.1.

¹⁹⁶ See Section 5.4.1.2.

¹⁹⁷ ECFIN Economic Brief (n 125) 9.

the product subject to the complaint (subsidized electricity or subsidized gasoline) is like the product of the complainant (LED bulbs or electric cars)

Another possibility would be to challenge a country that subsidizes consumption of one form of fossil fuel and produces complementary products that use that form of fossil fuel, assuming that the subsidy has passed through to the complementary product. One important example is an electric car producer challenging a subsidy by a country that manufactures petroleum-based cars. Obviously, this is a limited scope of cases since most heavy fossil fuel subsidizers are not car producers.

It is important to note that even if a subsidy in the scenarios above meets all the requirements, there is still one more obstacle. Article 6.7 lists certain circumstances that serious prejudice will not arise.

Table 4.4 Category 3, Consumer Subsidies to End User

	Scenario 1: Direct effect on subsidized products	Scenario 2 Effect on complementary product market
Govt. Body	Consumption subsidies used by end consumers are probably even easier to identify since they are publicly used	
Fin. Contribution	The relevant types are: <ul style="list-style-type: none"> - Direct funds, 1(i)(ii)(i) - Revenue otherwise due, 1(i)(ii)(ii) - Price support in the sense of GATT 	
Confer Benefit	Compare price to the international cost of oil. Easier when considering an importing country. When considering an exporting country, the analysis is economically complicated	
Specificity	Hard to prove due to the non-specific nature of the consumption subsidy used by end consumers. Might be possible to prove through de facto analysis, proving disproportionate use by a specific industry	
Adverse Effects		
Displacement of imports into the market of the subsidizing member or into a third country, increase in world market share, or price undercutting, suppression, or lost sales in the same market	Displacement of imports into the market of the subsidizing member is more likely to occur when the local price is artificially lower than the international price due to fixed price policies.	Such effects are not clearly direct since the effect is on a complementary item and not a similar item, and therefore unlikely.

Additional constraints in proving the market effects		Only subsidies by countries that both subsidize consumption and produce inefficient complementary products may potentially be challenged.
Significance requirement	Due to significant subsidization likely to meet requirement	Non straightforward effect and therefore unlikely
Genuine causal link	Due to significant subsidization and simple mechanism likely to meet requirement	The causal link is not strong
Like product & same market	Same product	Unclear if this type of complaint is possible under the SCM given the legal obstacle of “like product”
6.7 Circumstances that serious prejudice will not arise	Case by case, does not depends on the specific scenario	

5 Legal analysis of Prohibited Fossil Fuel Subsidies

As discussed above, in analyzing subsidies under the SCM, there are two frameworks. The first route is the actionable route discussed in the previous chapter. The second one is the prohibited route that we explain below. The common denominator in both of these frameworks, is the analysis of a subsidy under Article 1.1. As we already examined Article 1.1 in detail, we will go directly to examining prohibited subsidies, according to Article 3.

It should be recalled that a prohibited subsidy is defined under Article 3 of the SCM as a subsidy that is contingent on export performance or on the use of domestic over imported goods. Because the analysis doesn't require proof of specificity or adverse effects (since both are assumed), potentially prohibited subsidies are considered easier to challenge under the SCM than other subsidies.¹⁹⁸ Moreover, regarding export subsidies, the SCM has an Illustrative (non-exhaustive) List of Export Subsidies.¹⁹⁹ If the subsidy in question is on the list, it would be considered prohibited without having to satisfy either Article 1 or Article 3(a), both required for the prohibited subsidy test.²⁰⁰ In the following analysis, we examine the possibility of proving the subsidies in our study to be prohibited. In all the cases below, we assume that the subsidies in question have met the first step of the subsidy test (Article 1.1 (a) financial contribution by government or public body), and thus turn directly to Article 3 criteria.

Category 1 – Direct production subsidies of fossil fuels

In this category, it is unlikely that Article 3.1(b) will apply, as subsidies for fossil fuel production cannot generally be contingent upon the use of domestic products over imported ones as inputs as they are at the beginning of the chain of production.

Nevertheless, despite being at the beginning of the chain of production, the fossil fuels activity is spread along a chain of action, which mostly begins at initial stages with activities such as the acquisition of extraction and refinery technologies, governmental authorization etc.²⁰¹ If these types of actions are subsidized, it could directly encourage the development of local production, and therefore, negatively affect foreigners.

¹⁹⁸ Verkuijl (n 87) 327, 334.

¹⁹⁹ WTO Analytical Index: SCM Agreement - Annex 1 (Jurisprudence), 2.

²⁰⁰ Verkuijl (n 87) 326.

²⁰¹ S. Tordo, M. Warner, O. Manzano and Y. Anouti, 'Local Content Policies in the Oil and Gas Sector' (2013) World Bank, 10; Meyer (n 1) 399; Verkuiji et al (n 87) 327, 334.

Moreover, other criteria are able to impact foreign exporters, for example, the fact that the foreign exporter is in a developing country exporting to a developed country. In such a situation the parameters at the very beginning of the process should be examined scrupulously.

Therefore, if contingency could be proven between the grant of direct production subsidies for these fossil fuels and the will to give domestic advantage, it could fall under the provision of Article 3.1.b.

However, the more relevant provision is the one under Article 3.1(a) which prohibits granting subsidies which are contingent upon export performance. In this analysis we assume that the coal and steel producers are unrelated entities (which is most likely the case globally). This point will be explained below.

5.1.1 Scenario 1: Direct production subsidies for fossil fuel versus same non-subsidized fossil fuel production

This scenario might include fossil fuel subsidies granted by a WTO member that lower the costs of extraction and transformation for domestic producers..

There are two possible avenues to apply the provisions of Article 3: (i) where the domestic production is subsidized based on export performance (Article 3.1(a)); and (ii) where the domestic production is subsidized based on the use of domestic products over imported ones (Article 3.1(b)).

Both avenues have two alternatives to prove contingency, and either one must be proven: (i) the contingency should appear either in law (*de jure*), or (ii) in fact (*de facto*).

In order to prove *de jure* contingency as is mentioned in Article's 3.1(a) and (b), it is necessary to do so "on the basis of the very words of the relevant legislation".²⁰²

When trying to prove *de jure* contingency, it seems unlikely that a WTO member would publicly legislate such a policy due to its prohibition under the SCM. Nevertheless, we have seen such a case addressed by the Panel in *Canada – Aircraft* which established that export subsidies granted "for the purpose of supporting and developing, directly or indirectly, Canada's export trade" are prohibited due to their *de jure* contingency upon export performance. This decision is considered a benchmark that should be used in order to identify *de jure* contingency and explicit language that may be found in legislation.²⁰³

²⁰² Appellate Body Report, *Canada – Autos*, adopted 19 June 2000, WT/DS139/12 WT/DS142/12, para. 100. See also Panel Report, *Canada – Aircraft Credits and Guarantees*, adopted 19 February 2002, WT/DS222/10, para 7.365 and Panel Report, *US – FSC (Article 21.5) – EC*, adopted 20 March 2000, WT/DS108/36, paras 8.54-8.56.

²⁰³ Panel Report, *Canada – Aircraft* (n 101), para 9.230.

As Benitah notes, the AB on this case remarks that *de facto* export contingency is “a much more difficult task” than establishing *de jure* contingency.²⁰⁴ In order to prove that a country grants subsidies contingent in fact upon export performances (*Article 3.1(a)*), or upon the use of domestic goods over imported ones (*Article 3.1(b)*), a number of parameters should be examined. These parameters may vary and should be adapted on a case-by-case basis.²⁰⁵ The first parameter is whether a country denies it is actually subsidizing products, or its protectionist intention. For example, Saudi Arabia claims to be “uncomfortable” with the term subsidy, and *a priori* takes advantage of other definitions, such as “fossil fuel incentives”.²⁰⁶ Framing its subsidies as incentives, would potentially enable it to create loopholes allowing it to bypass the agreement's export subsidy prohibition in the future. As a result, Saudi Arabia has been able to sell its oil below international prices.

In a case such as Saudi Arabia's subsidies, where no WTO case has been brought against Saudi Arabia, we might want to look at the WTO Secretariat's TPR Reports and the Question and Answers during its periodical trade policy reviews to determine how it describes its fossil fuel subsidies.²⁰⁷

If *de jure* contingency hasn't been found, we would turn to a *de facto* analysis of the subsidy scenario in question. While no one factor would be sufficient to establish export contingency, a number of factors together - as the design and structure of the measure granting the subsidy; the modalities of operation set out in such a measure,²⁰⁸ - could lead to a *de facto* export contingency.²⁰⁹

An example of the application of the test mentioned above can be seen in the *EC and certain members states* Panel Report. There, they found “each of the measures used to be specific within the meaning of Article 3.1(a)”.²¹⁰ However, regardless of their previous findings, on the basis of the export inducement tests and the ratios analysis, the Panel did not determine that the subsidy was *de facto* contingent upon

²⁰⁴ Benitah (n 52) 67; Appellate Report – *Canada – Aircraft Credits and Guarantees*, adopted 19 February 2002, WT/DS222/10, para 169.

²⁰⁵ Panel Report, *Australia – Automotive Leather II*, adopted 16 June 1999, G/SCM/D20/2 WT/DS126/11, paras 9.56-9.57.

²⁰⁶ Saudi Arabia Censors Fossil Fuel Subsidy Discussion as G20 Host', Climate Home News Ltd, 2020, <https://www.climatechangenews.com/2020/07/14/saudi-arabia-censors-fossil-fuel-subsidy-discussion-g20-host/>.

²⁰⁷ World Trade Organization: 'Report of the Working Party on the Accession of the Kingdom of Saudi Arabia to the World Trade Organization', <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/WT/ACC/SPEC/SAU7.pdf&Open=True>.

²⁰⁸ Appellate Body Report, *EC and certain members states -Large Civil Aircraft*, para 1046.

²⁰⁹ Slattery (n 17) 17.

²¹⁰ Panel Report, *EC and certain member States – Large Civil Aircraft (Article 21.5 – US)* (n 169), para. 6.678.

export performances and therefore was not deemed prohibited.²¹¹ This shows that even if all factors apply, a complaining country may still need to reinforce its claim with more evidence.

Therefore, in addition to the tests stated above, *de facto* contingency – which can be used to reinforce a claim - may arise when the subsidized enterprise solely exports.²¹² Possible *de facto* contingency may also arise if the subsidy has had a significant impact on the enterprise's export performance.²¹³ Finally, a claim concerning *de facto* export contingency may arise when a third party state's domestic economy - which imports from the subsidizing state - is too small to domestically compete with the now subsidized products, is overwhelmed and the market is distorted. Possible *de facto* contingency will generally apply when the subsidized enterprise is large enough to distort the domestic markets of small states.²¹⁴ Such cases may be used to make a claim against a subsidizing state and can reinforce a claim where the *de facto* test applies but it still is not necessarily enough to prove contingency as occurred in the Canada-Aircraft Credits and Guarantees case, where the Panel rejected the claim of *de facto* export contingency.²¹⁵

Where relevant proof of contingency exists, the complainant could prove the link between the subsidy and effect of the export or import through ratio analysis. In the case of direct subsidies, there are two ways to conduct a ratio analysis. The first would be to conduct the analysis retroactively (after the subsidy has been granted), thus comparing between the markets after the subsidized product arrived on the market and before. The second would be to proactively analyze the markets by comparing what the present situation of the market (before the subsidy) and what the market would potentially be if the subsidy were to be granted.²¹⁶

Both ratio analyses in practice are very difficult to prove. On one hand, a retroactive ratio analysis requires an extensive amount of market information in order to calculate how the subsidized product has influenced the market. On the other hand, a proactive analysis may be difficult to prove due to its speculative nature.

5.1.2 Scenario 2: Direct fossil fuel production subsidies with pass through effect on inputs into another product

In the case of direct subsidies, there is no significance to the pass-through effects when analyzing Article 3, and an identical analysis to Scenario 1 should be conducted.

²¹¹ WTO Analytical Index: SCM agreement – Article 3 (Jurisprudence), 10.

²¹² Appellate Body Report, *Canada – Aircraft* (n 101), para 173.

²¹³ Panel Report, *Australia – Automotive Leather II* (n 205), para 9.75.

²¹⁴ Panel Report, *Canada – Aircraft Credits and Guarantees* (n 202), paras 7.370 and 7.372.

²¹⁵ *ibid* (n 214).

²¹⁶ Appellate Body Report, *EC and certain member States – Large Civil Aircraft* (n 110), para 1047.

However, it must be noted that in this scenario the application of Article 3 applies solely to the subsidized product (which in this scenario is currently being used as an input) and not the final product (such as steel, plastic, etc.). Nevertheless, both the input and the final product must be domestically manufactured in order to establish a causal link between the favoring of domestic production of the input product (the fossil fuel) and final product being exported.

To illustrate this scenario, we could take the case of China as a hypothetical example. In 2005, the industrial situation of China suddenly changed. At this time, China was the world's largest producer of steel, with 27% of global production, but until then it had imported 29 million tons of steel annually.²¹⁷ That year, China transformed itself from a net steel importer to a net steel exporter. From 2006, the country became the world's largest steel exporter by volume, up from the fifth largest in 2005, and had only 19% less of the international steel market than European and US companies combined.²¹⁸ Today, in 2020, it remains the world's largest consumer and producer of steel, with 53% of global production.²¹⁹

According to research conducted by the Alliance for American Manufacturing and the Harvard Business Review total energy subsidies to Chinese steel from 2000 to midyear 2007 reached \$27 billion, and from that, about 95% of that amount was for coal.²²⁰

In the eventuality that this situation would be analyzed in the light of Article 3, we would direct our attention to the astonishing changes in export performances and the great amount of resources invested in subsidizing coal. In a case where most of China's steel production used coal as an input, the three factors of the *de facto* contingency test may apply. For example, the fact that 95% of all subsidies are granted to coal manufacturers is a relevant factual circumstance that may surround the actual granting of the subsidy. When combined with the fact that in such a short period of time China's exports have exponentially grown (which falls under one of the potential cases), Article 3 may apply on condition that a link is found.

In this case, a retroactive ratio analysis may be simpler to prove due to a drastic change in the international steel markets before 2000 and after the subsidies in 2007.

²¹⁷ Haley and Haley (n 155).

²¹⁸ *ibid.*

²¹⁹ <https://www.worldsteel.org/media-centre/press-releases/2020.html>.

²²⁰ Haley and Haley (n 155).

However, the threshold required to prove that a subsidy is *de facto* contingent upon export performance remains unclear. Therefore, even if the statistics mentioned earlier raise doubts about the legality of the subsidy, proof of *de facto* contingency necessary under Article 3 is not guaranteed.

5.1.3 Scenario 3: The subsidies' effect on markets of non-similar alternative products

A prohibited subsidy is determined irrespective of adverse trade effects on its unsubsidized competitors, and thus the same analysis as in the first scenario would apply.

Table 5.1: Category 1, Production subsidies

Subsidies contingent upon export performance (art 3.1(a))	Scenario 1: Fossil Fuel vs. Subsidized Fossil Fuel	Scenario 2 Subsidized Pass through input vs. Non -Subsidized Fossil Fuel Input	Scenario 3 Subsidized Fossil Fuel input (Pass through) vs. Non-Subsidized Alternative Input
1- De Jure	Shall be expressly stated in legislation, a legal or regulatory provision, or based on the words used in the measure itself	See Scenario 1 Category 1- Slight Nuance: Article 3 applies here solely to the subsidized product used as an input and not the final product . Nevertheless, both the input and the final product must be domestically manufactured.	Like product analysis not relevant in Article 3 analysis. Same analysis as Scenario 1 Category 1.
2- De Facto	Following factors should be analyzed : (i) the design and the structure of the measure granting the subsidy; (ii) the modalities of operation set out in such a measure; and (iii) the relevant factual circumstances surrounding the grounding of the subsidy	See Scenario 1 Category 1- Slight Nuance: Article 3 applies here solely to the subsidized product used as an input and not the final product . Nevertheless, both the input and the final product must be domestically manufactured.	Like product analysis not relevant in Article 3 analysis. Same analysis as Scenario 1 Category 1.

Subsidies contingent upon the use of domestic over	Scenario 1: Fossil Fuel vs. Subsidized Fossil Fuel	Scenario 2	Scenario 3 Subsidized Fossil Fuel input (Pass through) vs.
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imported goods (art 3.1(b))		Subsidized Pass through input vs. Non -Subsidized Fossil Fuel Input	Non-Subsidized Alternative Input
1- De Jure	Shall be expressly stated in legislation, a legal or regulatory provision, or based on the words used in the measure itself	See Scenario 1 Category 1- Slight Nuance: Article 3 applies here solely to the subsidized product used as an input and not the final product. Nevertheless, both the input and the final product must be domestically manufactured.	Like product analysis not relevant to Article 3 analysis. Same analysis as Scenario 1 Category 1.
2- De Facto	Following factors should be analyzed: (i) the design and the structure of the measure granting the subsidy; (ii) the modalities of operation set out in such a measure; and (iii) the relevant factual circumstances surrounding the grounding of the subsidy	See Scenario 1 Category 1- Slight Nuance: Article 3 applies here solely to the subsidized product used as an input and not the final product. Nevertheless, both the input and the final product must be domestically manufactured.	Like product analysis not relevant to Article 3 analysis. Same analysis as Scenario 1 Category 1.

Category 2 – Consumption subsidies for inputs

Contrary to Category 1, it is more likely that Article 3.1(b) will apply as it is unlikely to grant a subsidy for fossil fuel based on the export of steel rather than the subsidies which are granted for the use of domestically produced fossil fuels as inputs. As stated above, this analysis works on condition that the coal and steel producers are unrelated enterprises (which is the most likely case globally).

5.2.1 Scenario 1: Subsidies reducing the input costs leading to a market advantage to the domestic producers compared to foreign producers using the same input but unsubsidized

In this scenario, as stated above, the main provisions that may apply are the provisions of Article 3.1(b). For example, in a case like this, a subsidy may be granted to a steel producer if the fossil fuels the enterprise uses as inputs are domestically produced.

In such a case, it is more likely to find the subsidy written explicitly in some sort of legislation or other official document than in Category 1. A case like this can be seen in the *Canada – FIT* case, which despite dealing with a subsidy to renewable energy, the subsidy was attacked for being contingent upon the use of domestic over imported goods.²²¹

The *de jure* and the *de facto* contingency analyses are identical to the analysis in Category 1, as the criteria needed to prove contingency are the same, and are not affected by the beneficiary of the subsidy.

As stated above, concerning the use of Article 3.1(a) – *de jure* or *de facto* contingency upon export performance - the subsidized intermediate product (fossil fuel), as well as the finished product (for example steel), would have to be domestically produced and part of the same chain of production.

5.2.2 Scenario 2: Subsidies reducing input costs for producers using the subsidized input compared to producers using other production methods

The analysis for this scenario is identical to the analysis in Scenario 1 Category 2, as the trade effects on producers who use different methods of production are irrelevant to the analysis of Article 3's contingency analysis.

²²¹ https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds426_e.htm.

Table 5.2: Category 2, Consumer Subsidies for use in inputs

Subsidies contingent upon export performance (art 3.1(a))	Scenario 1: Fossil Fuel input vs. Subsidized Fossil Fuel input	Scenario 2: Subsidized Pass through input vs. Non -Subsidized Fossil Fuel Input
1- De Jure	The finished product (for example steel), would have to be domestically produced and part of the same chain of production. Same analysis as Scenario 1 Category 1.	The analysis for this scenario is identical to the analysis in Scenario 1 Category 2, as the effects on producers who use different methods of production are irrelevant to the analysis of Article 3's contingency analysis
2- De Facto	The finished product (for example steel), would have to be domestically produced and part of the same chain of production. Same analysis as Scenario 1 Category 1.	The analysis for this scenario is identical to the analysis in Scenario 1 Category 2, as the effects on producers who use different methods of production are irrelevant to the analysis of Article 3's contingency analysis

Subsidies contingent upon the use of domestic over imported goods (Art 3.1(b))	Scenario 1: Fossil Fuel input vs. Subsidized Fossil Fuel input	Scenario 2: Subsidized Pass through input vs. Non -Subsidized Fossil Fuel Input
	It is more likely that Article 3.1(b) will apply as it is unlikely to grant a subsidy for	The analysis for this scenario is identical to the analysis in

<p>1- De Jure</p>	<p>fossil fuel based on the export of steel rather than the subsidies which are granted for the use of domestically produced fossil fuels as inputs.</p> <p>Same analysis as Scenario 1 Category 1.</p>	<p>Scenario 1 Category 2, as the effects on producers who use different methods of production are irrelevant to the analysis of Article 3's contingency analysis</p>
<p>2- De Facto</p>	<p>It is more likely that Article 3.1(b) will apply as it is unlikely to grant a subsidy for fossil fuel based on the export of steel rather than the subsidies which are granted for the use of domestically produced fossil fuels as inputs.</p> <p>Same analysis of Scenario 1 Category 1.</p>	<p>The analysis for this scenario is identical to the analysis in Scenario 1 Category 2, as the effects on producers who use different methods of production are irrelevant to the analysis of Article 3's contingency analysis</p>

Category 3 – Consumption subsidies to end consumer:

As in Category 2, it is more likely that Article 3.1(b) will apply since end consumers do not export the fossil fuels they purchase and consume. However, Article 3.1(b) may apply in the case of subsidies which are granted based on the use of domestically produced fossil fuels by end consumers (such as gas).

5.3.1 Scenario 1: Consumption subsidies to end consumer – direct effect in subsidized product

In this scenario, although the focus is on the consumer, the *de jure* contingency analysis will be identical to the analysis under Scenario 1 Category 2, because the analysis is not affected by the beneficiary of the subsidy.

However, in this scenario, a *de facto* contingency analysis may be more difficult as the test applies mainly to enterprises. Therefore, applying the same factors to the end consumers would be more speculative and difficult. The SCM does not refer to this situation explicitly, and it seems there may be a legal gap and a lack of legal tools that can be used in the analysis of Article 3 of the SCM.

5.3.2 Scenario 2: Consumption subsidies to end user and their possible effects on markets for complementary products

In the context of Article 3, the analysis of this scenario is identical to the previous scenario. This is because the effect on complementary products is not relevant to the Article 3 analysis.

In general, only in the case where end consumers suddenly avoid purchasing non-domestic products due to a sudden drop in domestic prices (as a result of a subsidy granted to domestically produced products), we could hypothetically consider the possible use of Article 3. However, this case is unlikely and is not seen often.

Table 5.3: Category 3, Consumer Subsidies to End User

Subsidies contingent upon export performance (Art 3.1(a))	Scenario 1: Direct effect on subsidized products	Scenario 2 Effect on complementary product market
1- De Jure	The analysis is identical to the analysis in Scenario 1 Category 2.	The effects on complementary products do not affect the de jure or the de facto contingency analysis. Same analysis as Scenario 1 Category 3
2- De Facto	Because the focus is on the consumer the de facto contingency analysis may be more difficult as the test applies mainly to enterprises.	The effect on complementary products is not relevant the de jure or the de facto contingency analysis

Subsidies contingent upon the use of domestic over imported goods (Art 3.1(b))	Scenario 1: Direct effect on subsidized products	Scenario 2 Effect on complementary product market
1- De Jure	The analysis is identical to the analysis in Scenario 1 Category 2.	The effect on complementary products is not relevant to the de jure or the de facto contingency analysis. Same analysis as Scenario 1 Category 3
2- De Facto	Because the focus is on the consumer itself, the de facto contingency analysis may be more difficult as the test applies mainly to enterprises.	The effect on complementary products is not relevant to the de jure or the de facto contingency analysis

6 Summary and Concluding Remarks

Recently, growing attention has been directed at the role the World Trade Organization can play in reforming fossil fuel subsidies. The call for fossil fuel subsidy reform has resulted mainly from the need to address the harmful environmental impact of fossil fuels but not exclusively.

Some of those seeking to reduce or eliminate fossil fuel subsidies have turned to the WTO framework, and particularly to the SCM to help in this mission, among other things, through consideration of litigation in the WTO dispute settlement system. However, thus far, while WTO members have taken *renewable energy subsidies* to dispute settlement, they have not yet used the SCM to challenge *fossil fuel subsidies*. Many legal commentators have concluded that the SCM as it stands now, would not be effective in dealing with fossil fuel subsidies, and especially consumer fossil fuel subsidies.

Through an analysis of three broad categories of fossil fuel subsidies (production, intermediate consumption, and end-user consumption subsidies), we highlight some of the problems that are likely to arise in challenging fossil fuel subsidies in WTO dispute settlement as well as possible ways of overcoming them. Although the analysis in each of the categories starts with a simple direct subsidy scenario, we are principally interested in the impacts of indirect or pass-through subsidies, where the benefit of the direct subsidy is passed, all or partially, through to a downstream producer, who consequently becomes an indirect recipient of the subsidy. Our scenarios also include potential complaints by renewable energy producing countries against subsidized fossil fuel producing countries.

A challenge against fossil fuel production subsidies in a non-diversified economy where the economy is dominated by the fossil fuel industry would likely have trouble passing the *de jure* specificity test since the subsidies are generally available to the entire economy and the *de facto* specificity test since a completely objective subsidy may find its way to a specific industry if it comprises a big part of the domestic economy. However, as noted in the paper, in a pass-through scenario, if it can be proven that a non-specific financial contribution is actually benefit-specific at the downstream level, it might still be considered specific for the purpose of a WTO complaint. For example, if the initially subsidized fossil fuel is mainly used as an input by certain downstream producers such as steel producers, it could be argued that it is industry specific.

Assuming a fossil fuel subsidy constitutes a subsidy within the meaning of the SCM, in certain cases, it still may be difficult to demonstrate adverse effects, because of a key hurdle, the “like” product test. For example, it would be difficult for renewable energy producing countries challenging a member with fossil fuel subsidies to claim that fossil fuels and renewable energy products are like products. However, as suggested by Wold et al, it might be possible to overcome this hurdle in a pass-through scenario by reframing the comparison. Instead of comparing fossil fuels to renewable energy products, a WTO member

producing electricity from renewable energy sources might challenge a member producing electricity from subsidized fossil fuels, where it could be argued that “all electricity is “like” all other electricity, regardless of the production method.” Nevertheless, an analysis based on one of the three alternative types of adverse effects would still probably struggle to meet the necessary threshold, given the complex economic analysis involved.

The legal analysis of prohibited subsidies, which requires proof of *de jure* or *de facto* contingency on export or local content, is generally straightforward. Unlike actionable subsidies, it is not necessary to demonstrate specificity or adverse effects, making prohibited subsidies easier to prove than actionable subsidies. Moreover, if a subsidy appears on the Illustrative List of Export Subsidies (Annex I of SCM), demonstrating the existence of a subsidy within the meaning of Article 3.1 (a), could be bypassed altogether. As noted earlier in the paper, it is doubtful that members would put into effect subsidies obviously violating WTO law, thus making finding proof of *de jure* contingency unlikely. However, although more difficult to prove, it is still possible that *de facto* proof could be found since, as case law indicates, a finding of export contingency could be based on the totality of the facts of the case, which in our analysis might include a fossil fuel production subsidy (either direct or pass through) in a member supporting more production than necessary for its own consumption.

Fossil fuel subsidies have enormous impact on the global energy market. It is often the subsidies of undiversified economies that distort the international energy market most. The difficulty in defining a market benchmark or a like product may thwart attempts to challenge fossil fuel subsidies. Yet, as this paper illustrates, there is some, although limited, potential for challenging fossil fuel subsidies in the WTO. We have shown that even in a pass-through/indirect subsidy scenario, where a subsidized input is used in the production of a downstream product, a complaint against a fossil fuel subsidy can be made that might satisfy the thresholds dictated by provisions of the SCM.

Nevertheless, other options such as authoritative interpretations and amendments to WTO rules, improvements in transparency, and joint commitments to phase out fossil fuel subsidies are just some of the proposals of scholars and NGOs. Some of these solutions may be more difficult to implement than others, but none are simple, and all require global cooperation.

We hope this paper provides some clarity as to the current WTO framework, where the main opportunities lay and where the current provisions fall short. We do so in the hope of assisting endeavors to phase out the use of fossil fuels, and replace them with cleaner, more environment friendly energy.