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NAVIGATING THE INTRICACIES OF FOSSIL FUEL SUBSIDIES: ANALYSING THE WTO FRAMEWORK AND DOHA ROUND NEGOTIATIONS

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This is to certify that Ms. Rajeshwari Arun, Reg. No. LM0223010, has submitted her dissertation titled "**Navigating the Intricacies of Fossil Fuel Subsidies: Analysing the WTO Framework and Doha Round Negotiations**" in partial fulfilment of the requirement for the award of Degree of Master of Laws in International Trade Law to the National University of Advanced Legal Studies, Kochi under my guidance and supervision. It is also affirmed that the dissertation submitted by her is original, bona fide and genuine.

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LIST OF ABBREVIATIONS

- **AB –** Appellate Body
- **APEC –** Asia Pacific Economic Cooperation
- **ASCM –** Agreement on Subsidies and Countervailing Measures
- **BaU –** Business as Usual
- **CBD –** Convention on Biological Diversity
- **CSD –** Commission on Sustainable Development
- **CTE –** Committee on Trade and Environment
- **CTESS –** Committee on Trade and Environment Special Session
- **CVD –** Countervailing Duties
- **DDA** – Doha Development Agenda
- **DOE** – Department of Energy
- **EC** – European Community
- **EU** – European Union
- **FFS** – Fossil Fuel Subsidy
- **FFSR** – Fossil Fuel Subsidy Reform
- **GATT** – General Agreement on Tariff and Trade
- **GDP** – Gross Domestic Product
- **ICTSD –** International Centre for Trade and Sustainable Development
- **IDC –** Intangible Drilling Cost
- **IEA –** International Energy Agency
- **IISD –** International Institute for Sustainable Development
- **IMF –** International Monetary Fund
- **IPR –** Intellectual Property Right
- **LDC –** Least Developed Countries
- **LPG –** Liquified Petroleum Gas
- **MC –** Ministerial Conference
- **MENA –** Middle East and North Africa
- **MEA-** Multilateral Environmental Agreement
- **NAMA –** Non-Agricultural Market Access
- **OECD –** Organisation for Economic Co-operation and Development
- **OPEC –** Organisation of the Petroleum Exporting Countries
- **PPM –** Process and Production Method
- **PMS –** Petroleum Motor Spirit
- **R & D –** Research and Development
- **TRIMS –** Trade-Related Investment Measures
- **TRIPS –** Trade Related Aspects of Intellectual Property Rights
- **UN** – United Nations
- **UNCED –** United Nations Conference on Environment and Development
- **UNCTAD** - United Nations Conference on Trade and Development
- **UNEP** - United Nations Environment Programme
- **UNFCCC** - United Nations Framework Convention on Climate Change
- **US –** United States
- **USD** – United States Dollar
- **WTO** – World Trade Organisation

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- Appellate Body Report, Canada—Measures Affecting the Export of Civilian Aircraft, WTO Doc. WT/ DS70/AB/R, (adopted Aug. 20, 1999).
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- Appellate Body Report, United States—Subsidies on Upland Cotton, WTO Doc. WT/DS267/AB/R (adopted 21 March 2005)
- Appellate Body Report, European Communities and Certain Member States—Measures Affecting Trade in Large Civil Aircraft, WTO Doc. WT/DS316/AB/R (adopted June 1, 2011).
- Appellate Body Report, United States—Measures Affecting Trade in Large Civil Aircraft (Second Complaint), WTO Doc. WT/DS353/AB/R (adopted Mar. 23, 2012)
- Appellate Body Report, Canada—Certain Measures Affecting the Renewable Energy Generation Sector, WTO Doc. WT/DS412/AB/R (adopted May 24, 2013).
- Panel Report, European Communities and Certain Member States—Measures Affecting Trade in Large Civil Aircraft, WTO Doc. WT/DS316/R, (adopted June 1, 2011).

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Chapter 1: Introduction

Fossil fuel subsidies are government financial support mechanisms provided to producers and consumers of fossil fuels, including coal, oil, and natural gas. These subsidies can take various forms, such as direct cash transfers, tax breaks, price controls, and support for fossil fuel infrastructure. The primary aim of these subsidies is to lower the cost of fossil fuel production and consumption, thereby making energy more affordable and stimulating economic activity.

However, fossil fuel subsidies have significant economic and environmental implications. Economically, they can lead to market distortions by making fossil fuels artificially cheap compared to renewable energy sources, thus hindering investments in cleaner technologies. This can result in an inefficient allocation of resources, where capital is diverted from potentially more productive and sustainable sectors. Environmentally, these subsidies exacerbate global greenhouse gas emissions, contributing to climate change. By promoting the use of fossil fuels, they lead to higher levels of air pollution, environmental degradation, and adverse health impacts on communities.

The World Trade Organization (WTO), an international body established in 1995, regulates global trade by providing a framework for negotiating trade agreements and a dispute resolution process to enforce participants' adherence to WTO agreements. It aims to facilitate smooth and free trade across nations by reducing trade barriers, promoting fair competition, and ensuring that trade flows as predictably and freely as possible. Despite its critical role in regulating international trade, the WTO framework has limitations when it comes to addressing fossil fuel subsidies. One significant limitation is that the WTO's rules on subsidies, primarily outlined in the Agreement on Subsidies and Countervailing Measures (SCM Agreement), were not explicitly designed to tackle environmental issues. These rules generally focus on subsidies that distort trade by giving unfair advantages to domestic producers over foreign competitors. However, fossil fuel subsidies often do not fall neatly into this category, as their primary effect is environmental rather than trade-distorting. Additionally, there is a lack of clear definitions and criteria within the WTO framework for identifying and categorizing fossil fuel subsidies. This ambiguity makes it challenging to enforce any rules or disciplines on these subsidies. Furthermore, the complex political and economic interests of member countries often lead to

resistance against stringent measures to phase out such subsidies, as many nations rely on fossil fuels for their energy security and economic development.

The Doha Round of negotiations, launched in 2001, represents a critical effort by the WTO to address various issues at the intersection of trade and environment. Officially known as the Doha Development Agenda (DDA), these negotiations aimed to achieve major reforms of the international trading system through the introduction of lower trade barriers and revised trade rules, with a focus on improving the trading prospects of developing countries.

One of the significant aspects of the Doha Round was its mandate to include environmental considerations in trade discussions. This included exploring the reduction or elimination of tariff and non-tariff barriers to environmental goods and services, the relationship between Multilateral Environmental Agreements and Trade as well as the issue of Trade related aspects of Intellectual Property Rights (TRIPS) and Convention on Biological Diversity (CBD). The inclusion of these topics was seen as a recognition of the growing importance of sustainable development and the need to align trade policies with environmental objectives.

Despite its ambitious goals, the Doha Round faced numerous challenges and ultimately stalled, leaving many of its objectives unfulfilled. However, the discussions held during these negotiations laid the groundwork for future efforts to integrate environmental concerns into the global trade framework. Despite this, fossil fuel subsidies failed to emerge as one of the environmental issues in the Doha Development Agenda.

The dissertation focuses on exploring the challenges and missed opportunity in addressing fossil fuel subsidies through the World Trade Organization (WTO), with a particular emphasis on the Doha Round negotiations. This dissertation delves into the lost chances of curbing fossil fuel subsidies within the World Trade Organization (WTO), casting a spotlight on the Doha Round's entangled negotiations. It seeks to unravel how the WTO's intrinsic constraints, coupled with the clashing economic aims and urgencies of the world's rich and rising nations, grew a bundle of failures, preventing the birth of a thorough framework to address the trade-warping shadows of fossil fuel subsidies.

1.1 Importance of the Study

- The study attempts to critically analyse the different aspects of the Doha Rounds and how it incorporated the different environmental concerns into the negotiation platform. This helps us to understand the resultant outcome showcasing the failure on the parts of WTO to incorporate the negotiations on Fossil Fuel Subsidies and determine the factors that lead to casting a blind eye towards it.

1.2 Research Objectives

1. Categorize and examine the impacts of different types of fossil fuel subsidies.
2. Evaluate the WTO's role in global trade regulation and its current limitations in addressing fossil fuel subsidies.
3. Investigate the Doha Round's historical context, objectives, and how fossil fuel subsidies were debated, including the positions of developed and developing countries.
4. Discuss the challenges in defining and regulating fossil fuel subsidies within the WTO
5. To highlight that Doha Round portrayed a missed opportunity to integrate the issue of fossil fuel subsidies.

1.3 Research Questions

1. How do the inherent limitations of the WTO framework hinder the organization's ability to address trade-distorting fossil fuel subsidies?
2. Did the Doha Round negotiations represent a missed opportunity to establish a framework for tackling fossil fuel subsidies within the WTO, and if so, how did the negotiating positions of developed and developing countries contribute to this outcome?
3. What were the key challenges that led to the failure of the Doha Round negotiations to establish a framework for tackling fossil fuel subsidies within the WTO?

1.4 Research Hypothesis

- The failure of the Doha Round to address fossil fuel subsidies within the WTO was primarily due to structural limitations inhibiting consensus-building, compounded by conflicting priorities between developed and developing countries on trade liberalization, environmental protection, and economic development

1.5 Research Methodology

- The proposed research is a Doctrinal Research.
  Hence, this dissertation will be purely based on Primary and Secondary resources.

- The sources include reports from the WTO, books, articles, newspaper reports, statistical data from organisations like OECD, IMF and IEA.

1.6 Chapterisation

- Chapter 1 – Introduction
- Chapter 2 – The Challenges of Fossil Fuel Subsidies in the WTO
- Chapter 3 – The Doha Round and Trade & Environment
- Chapter 4 – Fossil Fuel Subsidies: The Antecedent Agenda Overshadowed in Doha
- Chapter 5 – The Unrealized Potential in the Doha Round
- Chapter 6 – Key Findings and Conclusion

1.7 Literature Review

"*The Trade and Environment Debate on the Regulation of Energy Subsidies in the WTO: What Kept Fossil Fuel Subsidies Off the Radar Screen?*" (2017) by H. B. Asmelash notes that a significant portion of the scholarly and policy discussions on fossil fuel subsidy reform occurs outside the WTO, often disconnected from the broader debate on trade and environmental issues, including the regulation of renewable energy subsidies. This raises the question of why

fossil fuel subsidy reform receives minimal attention within the extensive discourse on trade and the environment.

The International Institute for Sustainable Development (IISD) in "*Making the International Trade System Work for Climate Change: Five Ways to Address Fossil Fuel Subsidies through the WTO and International Trade Agreements*" (2017) reiterated how the WTO missed an opportunity in encompassing fossil fuel subsidies into the trade regime to tackle the lack of action, partly due to the fact that many WTO members do not fully report their FFS, either because of insufficient data and understanding of energy subsidies and their trade impacts or due to deficiencies in the Agreement on Subsidies and Countervailing Measures (ASCM).

Henok Asmelash in "*The regulation of environmentally harmful fossil fuel subsidies: from obscurity to prominence in the multilateral trading system*" (2018) highlighted that the World Trade Organization (WTO) has initiated efforts to address detrimental subsidies in the fisheries industry. The potential environmental repercussions of fisheries subsidies should prompt a similar scrutiny of subsidies for fossil fuels. This matter was acknowledged by the WTO, with the former director general expressing regret in 2013. The director general highlighted the inconsistency: "Given that WTO members have chosen to confront environmentally harmful subsidies in fisheries within the Doha Round, the absence of attention to this issue by the WTO can be viewed as a missed opportunity."

Chapter 2: The Challenge of Fossil Fuel Subsidies in the WTO

2.1 Introduction

Subsidies has been a forerunner for decades for various purposes such as building infrastructures, enhancing research and development, supporting emerging industries as well as assisting poor consumers. Although certain objectives can be met efficiently with subsidies, there are subsidies that distort trade by providing an edge through artificial competitive advantages to exporters or industries competing with imports.

In the context of international trade, trading partners become more concerned about subsidy practices when they perceive that these interventions significantly affect a specific sector's trade. Subsidies that give beneficiaries a competitive edge and pose a threat in global markets are especially contentious. Even if such subsidies can be justified for national welfare reasons, their adverse trade effects may outweigh any benefits they provide.

Defining subsidies is challenging, as the definitions are often customized for specific purposes and can vary significantly in scope. The term "subsidy" has no universal definition.[1] Thus, the term "fossil fuel subsidy" reflects the complexity and variety of governmental interventions aimed at supporting the fossil fuel sector. At its core, a fossil fuel subsidy can be seen as any government action that benefits either consumers or producers of fossil fuels. This broad interpretation encompasses several forms of support, leading to significant variations in how different organizations measure and understand these subsidies.

Fossil fuel subsidies are generally divided into two types. The first – Consumer subsidies are common in developing countries and reduce the cost of fossil fuels for consumers by lowering prices for fuel, gas, and electricity.[2] These subsidies aim to alleviate energy poverty and support economic stability but can increase fossil fuel consumption and dependency, hindering the shift to renewable energy sources. The second – Producer subsidies, found in both developed and developing countries, benefit fossil fuel producers by raising market prices or lowering production costs.[3] These can include direct financial transfers, tax breaks, or advantageous

[1] World Trade Organization (WTO), "World Trade Report 2006: exploring the links between subsidies", Trade and the WTO, 2006.
[2] Toshiyuki Shirai & Zakia Adam, "Commentary: Fossil-Fuel Consumption Subsidies are Down, but not Out", International Energy Agency, 20 December 2017.
[3] Elizabeth Bast et al., "Empty Promises: G20 Subsidies to Oil, Gas and Coal Production", Overseas Development Institute and Oil Change International 58, November 2015.

access to resources. They aim to maintain domestic production, ensure energy supply, and support employment. Similar to consumption subsidies, these subsidies distort the market by facilitating the entry and operation of firms in the fossil fuel exploration, production, and processing sector.

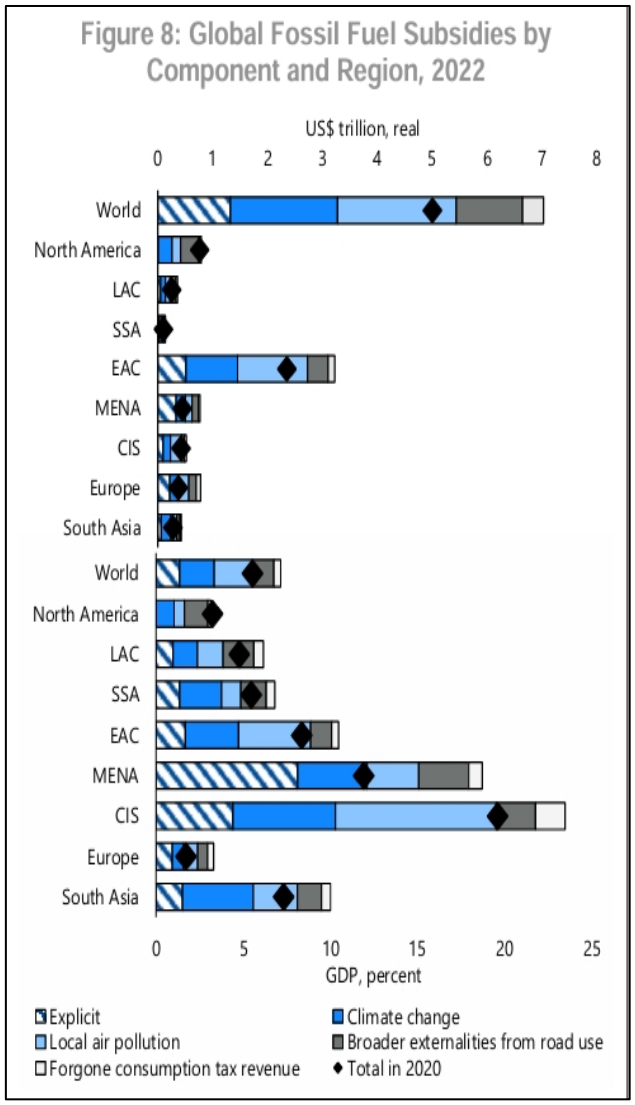
The most extensive research on the scale of global fossil fuel subsidies has been conducted by the International Energy Agency (IEA), the International Monetary Fund (IMF), and the Organisation for Economic Co-operation and Development (OECD).

In 2022, fossil fuel prices were extremely high and volatile due to Russia's invasion of Ukraine and the resulting reduction in Russian natural gas deliveries to Europe. Despite this, consumer prices for fossil fuels remained relatively low in many countries due to various policy interventions, which kept fossil fuels artificially competitive with low-emissions alternatives. The IEA has been estimating global fossil-fuel consumption subsidies for over a decade using a "price-gap" approach, which measures the difference between reference prices (full supply costs or free market prices) and consumer prices.[4] According to the IEA, global fossil fuel consumption subsidies surged to over USD 1 trillion in 2022, the highest ever recorded.[5] These subsidies, which ensure consumer prices are below market values, more than doubled for natural gas and electricity and increased by around 85% for oil compared to 2021. The majority of these subsidies are found in emerging markets, developing economies, and fossil-fuel exporting countries. Although the approach sounds appealing, it excludes producer subsidies that form at least an additional US $70 billion per year in G20 countries.[6] Furthermore, the approach fails to account for government interventions that do not change observed energy prices but still provide benefits to fossil fuel producers or consumers.[7]

The OECD calculates subsidies by creating an inventory of specific government policies that provide support to consumers or producers of energy. It is an “inventory” of individual policies that constitute government support. Support is defined as “a result of a government action that confers an advantage on consumers or producers [of energy], in order to supplement their income or lower their costs.”[8] The OECD Inventory of Support Measures for Fossil Fuels found that in 2022, direct transfers and tax expenditures related to support measures for fossil fuels

[4] International Energy Agency, World Energy Outlook, p.318, 2014.
[5] IEA, Fossil Fuels Consumption Subsidies 2022.
[6] Bast et al., supra note 3, at 40–41 (counting only national subsidies, and excluding investments by state-owned enterprises and public finance from government-owned financial institutions).
[7] Doug Koplow, “Measuring Energy Subsidies Using the Price-Gap Approach: What Does It Leave Out?”, International Institute for Sustainable Development, 2009.
[8] OECD, Environmentally Harmful Subsidies: Policy Issues and Challenges, 2005.

totalled USD 427.9 billion. In the countries surveyed, the majority of support was directed towards consumers (both firms and households), accounting for 81% of the total fiscal cost. Support to fossil fuel producers made up 16% of the total, while general services received 3% of the total fiscal support.[9]



Source: IMF staff calculations. Note: abbreviations are as follows: Commonwealth of Independent States (CIS), East Asia and Pacific (EAP), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), and Sub – Saharan Africa (SSA).

[9] OECD, Inventory of Support Measures for Fossil Fuels 2023, 2023.

In 2022 IMF working paper, global fossil fuel subsidies were estimated at $7 trillion, or 7.1 percent of GDP, with explicit subsidies making up 18 percent and implicit subsidies 82 percent of the total. Explicit subsidies are predominantly concentrated in the East Asia and Pacific (EAP), Middle East and North Africa (MENA), and Europe regions, comprising 38, 26, and 16 percent of the total subsidy in 2022, respectively. Specifically, subsidies have nearly doubled in Europe, primarily due to subsidized natural gas and electricity, and in the Middle East and North Africa (MENA) region, largely because of subsidized oil products. China tops the list of individual countries contributing to total subsidies in 2022, with a substantial $2.2 trillion. Following China are the United States with $760 billion, Russia with $420 billion, India with $350 billion, and the European Union with $310 billion.[10]

2.2 ASCM and WTO

Several agreements within the WTO legal framework are pertinent to regulating subsidies. Key among these are the 1994 General Agreement on Tariffs and Trade (GATT) and the Agreement on Subsidies and Countervailing Measures (ASCM), which elaborates on GATT's provisions. From a WTO law perspective, subsidies are deemed objectionable primarily if they distort trade, without necessarily considering climate change or other environmental and socioeconomic concerns. Although the discussion centers on current WTO subsidy rules, there are numerous contentions been made that these regulations should be updated to address the pressing needs of climate science.[11] The WTO's approach to subsidies, articulated through the ASCM, offers a widely accepted definition of subsidies. This definition serves as a reference point for various organizations, including the OECD, facilitating a more standardized understanding of subsidies across different contexts.

Similar to the 1994 GATT, the ASCM was part of the agreements resulting from the Uruguay Round negotiations. It supplements the GATT by further detailing its provisions on subsidies and applies exclusively to trade in goods, not services.

Under the ASCM, a member can seek the removal of a subsidy or its adverse effects through the WTO's dispute settlement mechanism or carry out its own investigation and impose

[10] IMF, Fossil Fuel Subsidies Data: 2023

[11] See, e.g., Aaron Cosbey & Petros C. Mavroidis, "A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO", Journal of International Economic Law, 2014; Luca Rubini, "The Wide and the Narrow Gate': Benchmarking in the SCM Agreement after the Canada– Renewable Energy/FIT Ruling", World Trade Review, p.211, 2015.

countervailing duties (CVDs) on subsidized imports to counteract their trade-distorting impacts. To establish a violation of the ASCM, several cumulative conditions must be satisfied. These include meeting the ASCM's "three-part test" to ascertain if a measure qualifies as a subsidy under the Agreement and demonstrating either the existence of a prohibited subsidy or adverse effects on another member's interests.

The ASCM explicitly defines the term "subsidy" in its first Article. According to the Agreement, a subsidy is (i) a financial contribution by a government that (ii) provides a benefit. Moreover, its disciplines are further restricted to those subsidies that are deemed or determined to be "specific."[12] A measure ought to be a financial contribution within the territory of the Member country. The ASCM provides an exhaustive list of measures this may entail: (i) a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion) or potential direct transfers of funds or liabilities (e.g. loan guarantees); (ii) government revenue that is otherwise due is forgone or not collected (e.g. fiscal incentives such as tax credits); (iii) a government provides goods or services other than general infrastructure, or purchases goods; and (iv) a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions above.[13]

In order to be considered a subsidy, the measure must confer a benefit to the receipt.[14] Article 14 of the ASCM provides guidance on determining the benefit amount for the recipient in the context of countervailing duty (CVD) investigations. Following Article 14, the Appellate Body (AB) in *Canada—Aircraft*[15] introduced the "private market test" to determine the presence of a benefit. According to this test, a benefit is conferred when "the recipient has received a financial contribution on terms more favourable than those available to it in the market." The ASCM Article 14 simplifies the process of identifying a benefit in cases where government revenue is forgone (such as tax breaks), as these are automatically considered beneficial. For other types of government support, like direct financial transfers or providing/purchasing goods, a more detailed analysis using the "private market test" is required. Article 14 specifies that the appropriate market benchmark is the prevailing market conditions at the time the

[12] Agreement on Subsidies and Countervailing Measures, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, Art. 1.1, Art. 1.2., 15 April 1994.
[13] Id. Art. 1.1(a)(1).
[14] Id. Art. 1.1(b).
[15] Appellate Body Report, Canada—Measures Affecting the Export of Civilian Aircraft, WTO Doc. WT/DS70/AB/R, (adopted Aug. 20, 1999).

financial contribution was made.[16] This benchmark ensures the assessment is grounded in the economic reality at the time of the support. What has to be kept in mind is that the contributions that is received from other (private) actors are not relevant for the purpose of analysing the benefit.

In some cases, a financial contribution itself distorts private market conditions, such as by suppressing prices. This led the Appellate Body (AB) *in US—Softwood Lumber IV* to acknowledge that benchmarks other than the private market might be necessary for calculating a benefit. However, the AB emphasized that the use of these alternative benchmarks should be very limited.[17] Additionally, in *Canada—Renewable Energy*,[18] the AB ruled that an alternative benchmark should be used when a government creates a market that would not otherwise exist through its financial contribution. This idea, however, has sparked significant debate, as it challenges traditional market assessment principles by considering markets that only exist due to government intervention.

According to ASCM Article 2, only subsidies that are "specific" are subject to the regulations outlined in the Agreement. Various forms of specificity are identified, wherein access to a subsidy is restricted to:

- a particular enterprise or enterprises (i.e. enterprise specificity);
- a particular industry or industries (i.e. industry specificity); or
- recipients in a certain region within the granting authority's jurisdiction (i.e. regional specificity).[19]

The Agreement stipulates that such specificity may be either explicitly stated in law (de jure) or observed in practice (de facto). To determine de jure specificity, AB in *US—Large Civil Aircraft* developed a two-step process. This involves identifying (i) the relevant subsidy scheme and (ii) whether this scheme is restricted by the granting authority or legislation to certain enterprises. If there are doubts about the initial determination of specificity, further investigation is necessary to ascertain the true nature of the subsidy's specificity. This approach

[16] Appellate Body Report, European Communities and Certain Member States—Measures Affecting Trade in Large Civil Aircraft, WTO Doc. WT/DS316/AB/R (adopted June 1, 2011).
[17] Appellate Body Report, United States—Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada, WTO Doc. WT/DS257/AB/R, (adopted Feb. 17, 2004).
[18] Appellate Body Report, Canada—Certain Measures Affecting the Renewable Energy Generation Sector, WTO Doc. WT/DS412/AB/R (adopted May 24, 2013).
[19] ASCM, supra note 12, Art. 2.1–2.2.

ensures a thorough assessment of subsidy schemes to determine their compliance with WTO regulations.

A positive determination of specificity may be undermined if "objective criteria or conditions" are established for eligibility and the amount of a subsidy. However, this aspect hasn't been successfully applied yet. Even if a subsidy doesn't meet the de jure criteria for specificity, it may still be considered de facto specific based on various factors like its usage by specific enterprises or the disproportionate allocation of the subsidy. However, when assessing this matter, consideration should be given to the diversity of economic activities within the jurisdiction of the granting authority, as well as the duration of time the subsidy has been in operation.[20] Except in cases involving prohibited subsidies, where specificity is always assumed, it is the responsibility of the complainant to demonstrate specificity. This could pose a significant challenge to a successful challenge, as complaining members may have limited access to pertinent information.[21]

2.3 Types of Subsidies

According to the Agreement, not every subsidy is automatically deemed illegal on account of fulfilling the above-mentioned conditions. Throughout its history, the ASCM has identified three categories of subsidies, each subject to distinct regulations: prohibited (commonly known as "red light"), actionable (referred to as "yellow" or "amber light"), and non-actionable ("green light").[22]

Initially, the ASCM allowed for non-actionable subsidies (“green light”) to support the adaptation of facilities to meet new environmental standards.[23] However, after the initial five-year period expired without any reported subsidies in this category, it was not renewed.[24] This means that there are no longer exemptions for subsidies aimed at certain policy objectives.

The ASCM's category of "prohibited subsidies" includes two types of measures: export subsidies and local content subsidies. Export subsidies are defined as those that are contingent,

[20] ASCM, supra note 12, Art. 2.1(c).
[21] Dominic Coppens, “WTO Disciplines on Subsidies and Countervailing Measures: Balancing Policy Space and Legal Constraints”, p. 101, 2014.
[22] Matsuo Matsushita et al., “The World Trade Organization: Law, Practice, and Policy”, p. 329, 2015.

[23] ASCM, supra note 12, Art. 8.2 (c).
[24] Coppens, supra note 21, at 116.

whether legally or in practice, upon export performance.[25] ASCM Annex I provide 12 examples of measures that qualify as export subsidies which are categorized as "Illustrative List". Complainants can prove the existence of an export subsidy either by showing that the measure meets the criteria outlined in Article 1 and Article 3.1(a), or by identifying the specific measure in the Illustrative List. The second approach allows complainants to bypass the need to prove export contingency or subsidy existence separately. On the other hand, the determination of local content subsidies depends on the utilization of domestic products rather than foreign ones.

If a prohibited subsidy is identified, it must be terminated promptly.[26] Since both export and local content subsidies are recognized as distorting trade and inherently specific, there is no need to prove harm or specificity for prohibited subsidies. As a result, the legal requirements for establishing a claim of prohibited subsidy are generally less stringent than for an actionable subsidy.[27]

In contrast to prohibited subsidies, actionable subsidies are generally allowed under the ASCM, except when they result in negative consequences for the interests of other members. The primary responsibility to prove their presence lies with the complaining Member, which can be both challenging and costly.[28] The detrimental trade impacts can manifest in the three manners as explained below –

1. *Serious prejudice to the interests of another Member*

The first form of adverse effects is serious prejudice, or the potential for it. In cases involving serious prejudice, the complainant must show that a specific type of subsidy exists, while the defendant must counter this by demonstrating that serious prejudice, as defined by the Agreement, did not occur.[29]

Currently, ASCM Article 6.3 defines several situations impacting the trade interests of a WTO Member based on sales volumes or pricing as "serious prejudice" –

i. the effect of the subsidy is to displace or impede the imports of a like product of another Member into the market of the subsidising Member;

[25] ASCM, supra note 12, Art. 3.1(a).
[26] ASCM, supra note 12, Art. 4.7.
[27] Coppens, supra note 21, at 148.
[28] Chris Wold et al., "Leveraging Climate Change Benefits through the World Trade Organization: Are Fossil Fuel Subsidies Actionable?", 43 GEO. J. INT'l L. 635 (2012).
[29] ASCM, supra note 12, Art. 6.1 – 6.2.

ii. the effect of the subsidy is to displace or impede the exports of a like product of another Member from a third-country market;
iii. the effect of the subsidy is a significant price undercutting by the subsidised product as compared with the price of a like product of another Member in the same market or significant price suppression, price depression or lost sales in the same market;
iv. the effect of the subsidy is an increase in the world market share of the subsidising Member in a subsidised primary product or commodity compared to the average share of the previous three years, and the trend is consistent when subsidies are granted.[30]

The responsibility lies with the complainant to showcase these impacts. To substantiate a claim of serious prejudice, it must establish the presence of any of these effects and, in the majority of instances, demonstrate that they result directly from the subsidy itself.

In addition to specific evidentiary requirements for each type of serious prejudice, there are several general conditions that must be met. Firstly, as per ASCM Article 6.3, it is essential to demonstrate the existence of current adverse effects. It's important to note that the focus is on the effects rather than the ongoing presence of the measure or the benefit conferred.[31] Secondly, the complainant must establish that these effects are impacting products originating from its own territory.[32] Thirdly, certain effects must be attributed to subsidies provided to a "like product". This "like product" is described as one that is "identical," "alike in all respects," or possesses characteristics closely resembling the product experiencing harm.[33] In this context, while the physical attributes of the product are significant, other factors such as its end uses and consumer preferences are also pertinent. Wold in their comprehensive examination of the concept of "likeness" concerning fossil fuels and renewable energy, they determine that while renewable energy items like wind turbines and solar panels do not resemble fossil fuels, certain products, like biodiesel mixed with petrodiesels, may share similarities.[34] Electricity generated from both renewable and non-renewable energy sources could potentially be classified as "like products" according to the ASCM. Fourthly, in accordance with ASCM Article 6.3, it must be demonstrated that the affected product competes in the same market as the subsidized product, with consideration given to both demand-side and supply-side substitutability.

[30] ASCM, supra note 12, Art. 6.3.
[31] Coppens, supra note 21, at 149.
[32] Panel Report, Indonesia—Certain Measures Affecting the Automobile Industry, WTO Doc. WT/DS54,55,59,64/R (adopted July 23, 1998).
[33] ASCM, supra note 12, fn. 46.
[34] Wold et al., supra note 28, at 664.

2. Injury to the Domestic Industry of another Member

The term "injury to the domestic industry" covers instances of actual harm to the industry of the complaining Member, as well as situations where there is a potential threat of such harm or a significant obstacle to the establishment of such an industry.[35] If a subsidy is deemed responsible for any of these effects, the affected Member can choose to either start a CVD investigation on its own or seek resolution through the WTO's Dispute Resolution process.

Adopting a method akin to that employed in CVD investigations, the Panel in the *EC—Large Civil Aircraft*[36] case aimed to establish the presence of injury through a two-step process. The first step involved showing material injury during a specified reference period, indicating a decline in various aspects of the industry's performance or relevant factors over this period. The ASCM outlines numerous economic factors and indicators that are relevant to assessing the industry's condition, including decreases in output, sales, market share, profits, productivity, return on investments, or utilization of capacity, factors affecting domestic prices, actual and potential negative effects on cash flow, inventories, employment, wages, growth, and ability to raise capital or investments.[37] These factors are crucial in determining whether injury has occurred. The Agreement explicitly states that the list is not exhaustive providing that not one or several of these factors can necessarily give decisive guidance.[38] The materiality of the injury depends on the specifics of each case with regard to the nature of the product and the industry in question.

As a subsequent stage, it is necessary to establish causation by demonstrating that the subsidized imports are responsible for the material injury through their impact on volume and prices. This criterion is less stringent compared to the requirement to prove that the adverse effects stem directly from the challenged subsidies themselves, as is the case with serious prejudice.

When assessing the possibility of "threat of" material injury, it is crucial to base the evaluation on concrete evidence rather than unfounded claims or hypothetical scenarios. The Agreement specifies key factors to be taken into account, such as the nature of the subsidies and their anticipated impact on trade, a notable increase in subsidized imports into the domestic market,

[35] ASCM, Art. 15, fn. 45.
[36] Panel Report, European Communities and Certain Member States—Measures Affecting Trade in Large Civil Aircraft, WTO Doc. WT/DS316/R, (adopted June 1, 2011).
[37] ASCM, supra note 12, Art. 15.4.
[38] Id.

and the pricing of these imports, which may exert significant downward pressure on domestic prices and potentially spur additional imports.[39]

3. *Nullification or impairment of benefits accruing directly or indirectly to other Members under the GATT in particular the benefits of concessions bound under GATT Article II*

This last type of adverse effects indicates the potential for subsidies to diminish the advantages enjoyed by a Member under the GATT. For example, if a country reduces its tariff on certain commodity that would benefit the exporting country but then subsidizes its own domestic market for the same commodity, it may nullify the expected benefits of the exporting country.[40] Here the market of the subsidizing country is suffered that leads to harm to the complainant's export industry.

The ASCM utilizes the term "nullification or impairment" in a manner akin to non-violation complaints under the GATT, as established by practice. To establish nullification or impairment, the complainant must demonstrate: (i) the utilization of a subsidy, (ii) the existence of a benefit under the GATT, particularly in terms of trade concessions, and (iii) the nullification or impairment of this benefit due to subsidy employment. Proving that the subsidy causes nullification or impairment presents a significant challenge for complainants, requiring evidence that tariff concessions are consistently counteracted by subsidy schemes.[41] This necessitates showing a direct causal link between the subsidy and the nullification or impairment, distinguishing it from cases of injury where the focus is on the product itself rather than its subsidy.

2.4 Why FFS evade Litigation?

The concept of Fossil fuel subsidies has rarely found a platform in the WTO as a result of various political and legal reasons. These discrepancies ought to be acknowledged to gain responsiveness towards climate change concerns. But it is advised not to make premature conclusions about the potential for fossil fuel subsidy disputes at the WTO due to the diverse

[39] ASCM, supra note 12, Art. 15.7.
[40] In this context, the term "benefit" pertains to market-opening concessions, particularly multilateral tariff bindings, and should not be conflated with its usage under the ASCM's subsidy evaluation.
[41] Coppens, supra note 21, at 146.

nature of such subsidies, emphasizing the importance of careful consideration of details in legal matters.

- Political aspects –

One of the reasons for the passive response to fossil fuel subsidies is that the fossil fuel industry is dominated by large multinational corporations that receive subsidies from multiple countries. These corporations may not push against subsidies because they benefit from them in different markets, leading to less pressure on governments to challenge fossil fuel subsidies.[42] On the other hand, the renewable energy equipment producers have been particularly successful in lobbying for actions that motivate governments to investigate or dispute another country's actions, using their influence to push for investigations or disputes.[43] Apart from this as the fossil fuel subsidies that have been long standing and therefore they are already factored into investors' decisions, making them less likely to provoke challenges. Another reason for the lack of WTO disputes over fossil fuel subsidies is that many major fossil fuel exporters only joined the WTO relatively recently, so disputes involving them have not yet arisen.[44] Additionally, governments may prefer to handle energy trade issues in specialized forums like the Energy Charter Treaty.[45]

One of the noteworthy aspects of WTO's rules is that on standing, it allows countries without a direct trade interest, such as low-lying islands vulnerable to climate change, to challenge fossil fuel subsidies of major producers, even if these subsidies do not directly affect their domestic industries.

Another reason for the discrepancy is that WTO Members are more inclined to challenge measures in diversified economies, which include significant renewable energy players, but exclude major fossil fuel producers. WTO judgments are typically enforced by limiting imports of unrelated products from the offending country. Therefore, a diversified economy, which has

[42] Dirk De Bièvre et al., "No Iceberg in Sight: On the Absence of WTO Disputes Challenging Fossil Fuel Subsidies", 17 INT'L' ENVT'L. AGREEMENTS: POL., L. & ECON. 411 (2017).
[43] Henok Birhanu Asmelash, "Energy Subsidies and WTO Dispute Settlement: Why Only Renewable Energy Subsidies Are Challenged", 18 J. INT'L ECON. L. 261, 282–84 (2015).
[44] Tim Meyer, "Explaining Energy Disputes at the World Trade Organization", 17 INT'L ENVTL. AGREEMENTS: POL., L. & ECON. 391 (2017).
[45] Id. at 393.

multiple sectors to target, is a more appealing subject for litigation compared to economies primarily focused on fossil fuel production.

The decision to launch a dispute might also hinge on the complainant's ability to retaliate against the defendant. The credibility of retaliation threats for non-compliance could influence how WTO members select their dispute targets. Generally, countries with larger markets are better positioned to threaten significant retaliation, like closing markets, against defendants who consistently fail to comply. However, the capacity for retaliation doesn't consistently predict which disputes are initiated.

- Legal aspects –

Majority of the explanations for the lack of fossil fuel subsidy disputes at the WTO revolve around legal considerations.

Despite the environmental urgency to tackle fossil fuel subsidies, WTO law currently tends to inadequately address these subsidies compared to those for renewable energy. As a result, governments are less likely to challenge fossil fuel subsidies, believing they have a lower chance of success.[46] This rationale applies to both prohibited and actionable subsidies under the ASCM.

As we have already discussed earlier, prohibited subsidies—those tied to export performance or local content use—are generally easier to challenge under the ASCM. Unlike other subsidies, these do not require proof of specificity or harmful effects; they are automatically assumed to be problematic. Additionally, case law suggests that local content requirements can be contested under the GATT and the Agreement on Trade-Related Investment Measures (TRIMs), bypassing the ASCM's more stringent criteria for demonstrating financial contribution or support benefiting specific entities. This is exemplified by the *India—Solar* case, where the U.S. abandoned its ASCM claims, opting to rely on the GATT and TRIMs Agreement for sufficient legal grounds.[47]

In the energy sector, it has been observed that support schemes for renewable energy are more likely to include local content requirements that conflict with WTO rules, compared to fossil fuel support measures. It has been noted that promoting "green" initiatives as a stimulus

[46] Asmelash, supra note 43.
[47] Id. at 278.

measure is often a way to address consumer concerns about rising electricity costs by creating jobs and increasing the use of renewable energy.[48] However, incorporating local content requirements makes these support measures more susceptible to WTO challenges. This argument is strongly supported by the fact that, despite the global prevalence of feed-in tariffs, only those with local content requirements have faced WTO challenges so far.

A similar issue of insufficient coverage for fossil fuel subsidies has been noted in the ASCM's category of "actionable subsidies." Commentators argue that the ASCM's requirement for specificity, which is necessary for any subsidy to be considered actionable, poses a barrier to challenging fossil fuel support measures.[49] While subsidies for renewable energy are typically directed at producers, for instance, a subsidy directly supporting solar panel manufacturers clearly targets a specific industry, making it relatively easy to demonstrate specificity, many fossil fuel subsidies are given to energy consumers. An example is dual pricing schemes, where domestic prices are set lower than export prices. In these cases, specificity might not be evident. However, some argue that a subset of these subsidies could be considered de facto specific if they disproportionately benefit energy-intensive industries, even if they are not explicitly targeted at them.[50]

Furthermore, even if fossil fuel subsidies are shown to be specific, overcoming the ASCM's requirement to prove adverse trade effects remains a significant obstacle for a successful challenge as it leaves the question undecided regarding whether they meet the criteria for actionable subsidies under ASCM regulations.[51]

2.5 Challenges

As we have already witnessed that there are a lot of complexities involved in determining whether a particular fossil fuel support measure constitutes a subsidy under the ASCM, and if so, whether it qualifies as a prohibited or actionable subsidy. These challenges mostly stem from the lack of readily available information and the unique characteristics of fossil fuel

[48] Marie Wilke, "Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Review", ICTSD 1 (2011).
[49] Asmelash, supra note 43, at 281.
[50] Yulia Selivanova, "The WTO and Energy: WTO Rules and Agreements of Relevance to the Energy Sector", ICTSD 30 (2017).
[51] De Bièvre et al., supra note 42.

support measures. Let us delve into a few of these challenges through the analysis of certain case studies.

2.5.1 Challenges in Establishing the Existence of a Subsidy under the ASCM

The first step in determining whether a fossil fuel support measure constitutes a subsidy under the ASCM is to establish the existence of a financial contribution by a government or public body. In the case of Compensation for Below-Market Prices for Fuels in Indonesia, Indonesia has historically provided compensation to state-owned enterprises to sell fuels at below-market prices. This policy aims to stabilize domestic fuel prices and support consumers, but it results in significant government expenditure. It was unclear whether the measure constituted a direct transfer of funds, the provision of goods or services, or income or price support. Similarly, Fuel Tax Credit for Agriculture and Fisheries in Mexico,[52] Mexico provides tax credits for fuel used in the agriculture and fisheries sectors. This policy aims to support these critical sectors by reducing their operating costs. The tax credit represents government revenue forgone, as it reduces the tax liability of eligible recipients. While the measure appeared to represent forgone or not-collected government revenue, the analysis faced challenges in executing the three-step legal test established by WTO jurisprudence to determine the existence of such a financial contribution. It's worth mentioning that the ASCM Article 1.1(a)(1) explicitly cites "fiscal incentives such as tax credits" as an example of revenue that the government chooses not to collect. This inclusion suggests that this particular measure is more likely to be considered acceptable under this criterion.

Even if a financial contribution is established, the measure must also confer a benefit to qualify as a subsidy under the ASCM. For instance, in the case of the expensing of exploration and development costs in the U.S., The U.S. allows independent crude oil and natural gas producers to deduct intangible drilling costs (IDC) fully in the year they are incurred. Integrated oil and gas companies can deduct 70% of these costs immediately and recover the remaining 30% over five years.[53] This measure deviates from normal income-tax rules, which would typically treat such pre-production costs as capital costs, deductible only as resources are extracted. Deciding

[52] OECD, Mexico, Inventory of Support Measures for Fossil Fuels, (available at http://stats.oecd.org/Index.aspx?DataSetCode=FFS_MEX).
[53] OECD, United States, Expensing of Exploration and Development Costs (available at http://stats.oecd.org/Index.aspx?DataSetCode=FFS_USA).

if this measure qualifies as a subsidy requires evaluating whether it represents government revenue forgone. The ability to deduct IDCs fully or partially deviates from the norm, potentially indicating a financial contribution by the government. However, identifying the "reasons" for this tax treatment and comparing it to a benchmark tax treatment is complex and requires detailed examination of the tax regime's internal principles.

2.5.2 Challenges in Establishing the Existence of a Prohibited Subsidy

As we have already seen the ASCM prohibits two types of subsidies: export subsidies and subsidies contingent upon the use of domestic over imported goods (local content requirements). In the case of Support to Queensland Rail's Coal and Freight Services in Australia, Australia provides financial support to Queensland Rail for its coal and freight services. This support aims to enhance the efficiency and competitiveness of the rail network, crucial for transporting coal and other goods. Whether it constitutes a prohibited subsidy depends on further analysis of its contingent nature and trade effects. While it primarily supports domestic transportation, its broader impact on coal exports could raise concerns under the ASCM.

2.5.3 Challenges in Establishing the Actionability of a Subsidy

Even if a fossil fuel support measure is found to constitute a subsidy under the ASCM, it must also meet the specificity requirement to be considered an actionable subsidy. In the case of the fuel tax credit for agriculture and fisheries in Mexico, the analysis found it unlikely that the measure would be considered specific, as it extended to both the agriculture and fisheries sectors. This is also highlighted in the Panel's decision in the US—Upland Cotton case where it was implied that subsidies accessible to the entire agriculture sector, covering all crops, livestock, and related industries, cannot be deemed specific.

Although the measure in the case of the expensing of exploration and development costs in the U.S seems mainly targeted at the oil and gas sectors, the OECD highlights that similar regulations also apply to specific exploration and development expenses for other energy minerals like coal and uranium.[54] This brings into question whether the measure's scope is too

[54] Id.

wide to meet the ASCM's specificity requirement. But the Panel's reasoning in the US—Softwood Lumber IV case that the interpretation of specificity has been relatively broad in WTO case law, with industries such as "wood products" or "a subset of basic agricultural products" being considered sufficiently specific as they cater to "limited" group of industries. Therefore, determining the specificity of a particular fossil fuel support measure often requires a detailed examination of the scope and application of the measure.

Even if a fossil fuel support measure is found to be an actionable subsidy, the complainant must still demonstrate that it causes adverse effects to the interests of other WTO members. For instance, in the case of the expensing of exploration and development costs in the U.S., subsidies like the IDC in the U.S. help make around half of new oil projects profitable, possibly leading to a significant increase in U.S. oil production by roughly 17 billion barrels.55 Considering this, it's conceivable that the IDC measure has spurred the growth of U.S. fossil fuel production, resulting in significant harm or disruption to the benefits of other countries. It could not conclusively determine whether the measures caused adverse effects due to the lack of specific information on their impacts on production levels, trade flows, and affected producers or third countries.

They also pose a challenge towards the consumer and producer subsidies within the market. The analysis of consumer and producer support measures for fossil fuels revealed differing outcomes. Consumer subsidies, like the compensation provided for petroleum below-market prices in Indonesia, are unlikely to be covered by the ASCM because they lack specificity. The ASCM's specificity criterion focuses on individual businesses and industries rather than broader sectors or consumer groups. In contrast, producer subsidies such as the deduction of exploration and development expenses in the U.S. and support for Queensland Rail's coal and freight services in Australia are more likely to meet the specificity requirement and could potentially fall under the ASCM's scope. However, proving the presence of financial contribution, provision of benefits, and adverse effects can be challenging for these types of subsidies, as discussed earlier.

[55] Peter Erickson et al., "Effect of Subsidies to Fossil Fuel Companies on United States Crude Oil Production", NATURE ENERGY 891, 894 (2017).

In conclusion, while the WTO's Agreement on Subsidies and Countervailing Measures provides a framework for regulating subsidies that distort international trade, there are significant challenges in applying these rules to fossil fuel subsidies. The political landscape, with influential fossil fuel companies benefiting from subsidies across multiple countries, has reduced pressure on governments to pursue disputes over such subsidies. Legally, the criteria around specificity, adverse effects, and the complexity of fossil fuel support measures make it difficult to conclusively establish violations under the ASCM. Furthermore, the agreement's focus on trade distortions may not adequately address environmental and climate change concerns related to fossil fuel subsidies. Nonetheless, as calls to phase out environmentally harmful subsidies grow louder, the WTO may need to revisit its subsidy rules to better tackle the unique challenges posed by fossil fuel subsidies. Clarifying the interpretation of key provisions and ensuring sufficient information disclosure could facilitate more effective regulation of these subsidies through the WTO's existing legal framework. Ultimately, addressing fossil fuel subsidies will likely require a combination of multilateral efforts through the WTO and complementary measures by individual countries and regional blocs to align subsidy policies with environmental imperatives.

Chapter 3: The Doha Round and Trade & Environment

3.1 Doha Rounds and WTO

The WTO was established in 1995, marking a significant milestone in the history of multilateralism. Its primary objective is to facilitate and enhance trade between countries without discrimination, including special provisions to assist both least developed countries (LDCs) and developing nations in leveraging the benefits of global trade in line with their economic development needs. The seamless operation of the WTO faces several challenges. One significant hurdle arises from the reluctance of developing countries, such as India, to fully embrace the WTO's policies. These nations aim to safeguard their agricultural sectors, which employ a substantial portion of their population, from potential adverse impacts of global competition. Developing countries strive to find an equilibrium between harnessing the advantages of international trade and preserving the livelihoods of their farmers who may face difficulties in competing with more industrialized and large-scale agricultural practices prevalent in other parts of the world.

The WTO's objective of promoting free trade often clashes with the concerns of developing nations regarding their vulnerable sectors. This tension between the WTO's goals and the priorities of developing countries has created obstacles in the organization's smooth functioning, making it challenging to reach consensus and implement policies that accommodate the diverse interests of all member nations.

The Doha Development Agenda (hereinafter referred to as DDA), initially launched in Doha, Qatar, in November 2001, aimed to establish fair trade rules between developed and developing nations. The DDA is an ambitious and far-reaching endeavour that encompasses a wide array of economic issues critical to enabling the global community to reap economic benefits through multilateral trade.[56] However, the DDA has become a significant obstacle for the WTO in achieving its goals. The December 2011 WTO meeting in Geneva turned into a deadlock for the Doha negotiations, resulting in a stalemate similar to the collapse of the 2008 Round.[57] Despite efforts to reach an equitable agreement, the negotiations have repeatedly stalled,

[56] Yasukata Fukahori, "The Doha Development Round of the WTO Negotiations: A Possible Future Direction", AALCO Journal of International Law, Vol. 2, Issue 1, 2013.
[57] Stephen W. Hartman, "The WTO, the Doha Round Impasse, PTAs, and FTAs/ RTAs", The International Trade Journal, 27:5, 411-430, 2013.

highlighting the challenges in reconciling the diverse interests and priorities of different member countries. The inability to reach a consensus on the DDA has hindered the WTO's progress in facilitating global trade and addressing the concerns of both developed and developing nations. The repeated failures of the Doha Rounds have become a major roadblock for the WTO, underscoring the complexities involved in balancing the needs of nations at various stages of economic development while promoting a fair and open international trading system.

3.1.1 Background

The failure of the establishment of International Trade Organisation (ITO), proposed in 1944 Bretton Woods Conference over the national sovereignty concerns, led to the creation of the General Agreement on Tariffs and Trade (GATT) in 1947 with 23 contracting parties to facilitate a multilateral trade system. Unlike the IMF and World Bank, GATT was provisional, and its parties were not considered formal members, which made it acceptable to the United States.[58] The GATT was a post-World War II institution that was intended to promote non-discrimination in trade among countries, with the view that open trade was crucial for economic stability and peace.[59] Nevertheless, GATT still faced several significant weaknesses. Its provisional status and lack of member recognition undermined its legitimacy as an international trade body. The lack of formal enforcement mechanisms and the inconsistencies in adhering to GATT rules caused it to be considered "more like a gentlemen's club than a legal regime. Its objective was to settle trade problems, not to create or clarify trade law".[60] These drawbacks led to the creation of the WTO in 1995 as an improved successor to GATT.

As a result of the Uruguay Round (1986–1994), the WTO was established as a structured international organization with universally accepted membership.[61] It reformed the GATT's dispute resolution process by introducing the Single Undertaking rule, requiring unanimous membership approval. Additionally, the WTO included intellectual property protection, addressing a significant gap in the original GATT agreement. Since its creation, the WTO has

[58] Id.
[59] Lenore Sek, "World Trade Organization Negotiations: The Doha Development Agenda", Congressional Research Service, 2004.
[60] Pauwelyn Joost, The Transformation of World Trade, Duke Law School Legal Studies Research Paper No. 66, 2005.
[61] Hartman, supra note 57.

successfully implemented a comprehensive set of trade rules and an effective, respected dispute resolution system.

3.1.2 A Distraught Birth

The Doha Round of multilateral trade negotiations gestated through an unsettled pregnancy and endured a difficult birth.[62] Prior to the Doha Ministerial, negotiations on trade in agriculture and services were already underway, as required by the Uruguay Round of multilateral trade negotiations. However, some countries, including the United States, aimed to expand these talks to allow for trade-offs and thereby achieve greater trade liberalization.[63]

Further motivations for the negotiations arose just before the Doha Ministerial, as officials aimed to use the trade talks to foster political cohesion and strengthen a global economy weakened by recession and uncertainty following the September 11, 2001 terrorist attacks. The WTO reported that 2001 saw "the lowest growth in output in more than two decades," with a contraction in global trade during that year.[64]

Additionally, countries have increasingly pursued bilateral or regional trade agreements. As of June 5, 2024, 607 regional trade agreements had been reported to the WTO, with 369 currently active.[65] There exists a contentious debate surrounding the influence of regional agreements on the multilateral system. Proponents contend that such agreements offer a more accessible negotiation platform, facilitating enhanced liberalization and market access. Conversely, detractors assert that these accords contravene the WTO's foundational principle of non-discrimination, thereby marginalizing numerous economically disadvantaged nations while siphoning vital resources away from WTO negotiations.[66] Furthermore, the prospect of another impasse at Doha loomed ominously, threatening to severely undermine the integrity of the multilateral regime. Such an outcome could potentially pave the way for the ascendancy of more agile regional and bilateral trade arrangements, casting a shadow over the efficacy of the global trade framework.

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[62] Mark Halle, “Where Are We in the Doha Round?”, International Institute for Sustainable Development (IISD), August 2005.
[63] World Trade Organization Negotiations: The Doha Development Agenda, Congressional Research Service, November 2012.
[64] World Trade Organization, Annual Report 2002, p. 10.
[65] Regional Trade Agreement Database, WTO, (available at http://www.wto.org/english/tratop_e/region_e/region_e.htm)
[66] WTO Negotiations, supra note 63.

At the Doha Ministerial, there was a notable shift in the role of developing countries, departing from the historically predominant influence of developed nations since the inception of the GATT. Insisting on upfront concessions and agenda inclusion, they shaped the Doha round, leading to its characterization as the DDA, emblematic of their heightened role in global trade discussions.

3.1.3 Key Milestones and the Road to Collapse: A Story of Missed Opportunities

The 4th Ministerial Conference of the WTO held in November 2001 in Doha, widely referred to as the "development round," pledges to prioritize development in trade negotiations and thoroughly consider the interests and concerns of developing countries. During the Doha conference, Trade Ministers generated three significant documents: (i) a Decision on Implementation-Related Issues and Concerns (referred to as the Decision), (ii) a Declaration on the TRIPS Agreement and Public Health (known as the Declaration), and (iii) a Ministerial Declaration that included the roadmap for the new round and future actions.

As the discussions continued, the tussle between the developed and developing countries rose to the brim which led to several consequences. The 5th ministerial conference of the DDA, held in Cancun, Mexico, from September 10-14, 2003, marked a significant milestone but ended without an agreement for future negotiations. There were still reconcilable differences over the Singapore issues[67] which highlights the divide between the developing and developed countries across all topics. This also adds doubt to the genuineness of some countries as they continued to reiterate their demands without engaging in trade-offs. One of the strong points of Cancun Ministerial is the creation of the Derbez Text[68] that served as a potential negotiation framework integrating elements from the U.S. – EU draft as well as the Group of 20[69] proposals, advocating for larger cuts in domestic support programs, a blended tariff approach with more favourable terms for developing countries, and the elimination of export subsidies for products

[67] The Singapore issues refer to topics introduced by the European Union at the 1996 Singapore Ministerial for the next round of negotiations. These topics included investment, government procurement, trade facilitation, and competition policy.
[68] The draft texts produced by the trade ministers to facilitate negotiations on the five topics – agriculture, non-agriculture market access, development issues, Singapore issues and other matters – that were compiled by the Ministerial chairman Derbez into a draft Ministerial Declaration.
[69] A coalition of 20 developing countries, occasionally joined by others, emerged as a negotiating bloc during the Doha talks.

important to developing nations. It wasn't until early 2004 that individual initiatives, such as those by U.S. Trade Representative Robert Zoellick,[70] proposed strategies for market access in agriculture, industrial goods, and services. These efforts paved the way for the adoption of the Framework Agreement by August 2004, which provided clear direction for future discussions on agriculture and other issues.

Taking a step moving forward, the 6th Ministerial in Hong Kong provided a potential opportunity to settle the key negotiating issues. This Conference moved away from the traditional green room meetings and ensured a more inclusive, bottom-up approach. Negotiations were conducted through the Chairman's Consultative Group (CCG), comprising representatives from all member alliances and interest groups facilitating broader participation. The Hong Kong Ministerial also saw the emergence of a 'grand coalition' known as the G-110, comprising various developing country groups. With 150 member countries and thousands of delegates, achieving consensus at the Hong Kong Ministerial was challenging, but progress was made and collapse was averted, as delegates, especially developing countries wary of a repeat of Cancun, recognized the potential harm to the Doha Round.[71] Anticipation for a deal was high, with significant efforts made to drive negotiations forward, particularly in agriculture and non-agricultural market access (NAMA). Despite stalled negotiations over tariff reduction formulas and the resistance of developing countries due to lack of reciprocity from developed countries, the final Ministerial Declaration of December 18, 2005, outlined agreements in agriculture, industrial tariffs, and duty-free access for least developed countries, although it included vague provisions and ambiguities.[72]

Thereafter, a number of attempts were made to resolve the issue of modalities but all deadlines lapsed till June 2006. On July 28, 2006, the WTO General Council, following the Director-General's recommendation, suspended negotiations due to irreconcilable differences over farm subsidies, farm tariffs, and industrial tariffs.[73] The absence of any newly announced negotiation timetable cast uncertainty over the future trajectory of the Doha Round.

An unexpected turn of events followed in mid – 2008 when “package of elements” was presented at Geneva by Director-General Pascal Lamy, a carefully considered compromise

[70] “Zoellick Letter to Trade Ministers,” on 11 January 2004.
[71] Calvin Manduna, “A review of the results of the 6th WTO Hong Kong Ministerial Conference - considerations for African, Caribbean and Pacific countries”, June 2006, (available at https://www.researchgate.net/publication/237303794)
[72] The Final Ministerial Declaration (WT/MIN (05)/DEC), December 18, 2005,
[73] Talks Suspended: ‘Today There Are Only Losers,’ World Trade Organization, July 24, 2006.

proposal grounded in the latest draft modalities for agriculture and NAMA.[74] It provided considerable reductions on specific farm subsidies and industrial tariffs. This was considered a 'make or break' summit to reach the desired agreement based on the texts prepared during the spring.[75] Unfortunately, the talks turned stale over the contentious issue of a "Special Safeguard Mechanism" (SSM) for agriculture products between India and USA. It was rather disappointing to witness the recalcitrant stance as significant progress had been achieved for majority of the sticking issues. Jagdish Bhagwati blamed the United States as the "central spoiler" of the 2008 Geneva Ministerial Conference.[76] Following the Geneva setback in the summer of 2008, the Doha Round negotiations entered another period of dormancy.

After almost 4 years, the 7th Ministerial Conference was held between 30th November to 2nd December 2009 where "regular" broader objectives of the WTO were discussed which were not directly connected to trade bargaining or "Doha Rounds".[77] Nonetheless, ministers "reaffirmed the goal of concluding the Round in 2010 and agreed to conduct a stock-taking exercise in the first quarter of that year."[78] Unfortunately, the lack of breakthroughs was acknowledged and the differences were described insurmountable due to profound divergence in sectors. Consequently, the December 2011 WTO 8th Ministerial Conference at Geneva did not make significant progress on the Doha Round, as had been expected. The 'Elements for Political Guidance'[79] document lacks specificity on substantive issues related to the DDA. While some commitments reached during negotiations, including a "services waiver," for preferential treatment for services suppliers from LDCs, could potentially benefit the WTO's poorest members, the LDCs, most of these remain unrealized as their operationalisation and execution hinges on the conclusion of the Round.[80]

Henceforth, the first multilateral trade agreement was reached at the 9th Ministerial Conference of WTO held in Bali, 2013. The significance of the "Bali Package" is that it is seen as a lifeline for the WTO, breaking the longstanding deadlock in the DDA negotiations, bringing the

[74] World Trade Organization, Lamy Presents "Package of Elements" from Consultations with Ministers, July 26, 2008.
[75] WTO Negotiations, supra note 63.
[76] Jagdish Bhagwati, "The Selfish Hegemon Must Offer a New Deal on Trade", FIN. Times, Aug. 20, 2008, at 11. (last accessed on Mar. 24, 2024)
[77] Steffen Grammling, "The Seventh Ministerial Conference: a "housekeeping" exercise", Fact Sheet, FES Geneva, December 2009.
[78] Seventh Ministerial Conference, Chairman's Summary of Andres Velasco, December 2, 2009, (available at http://www.wto.org/english/news_e/news09_e/mn09a_02dec09_e.htm)
[79] "Elements for Political Guidance," Doc. WT/Min (11)/W/2, December 1, 2011.
[80] Carolyn Deere Birkbeck and Emily Jones, "The Eighth Ministerial Conference of the WTO: A Forward-Looking Agenda for Development", Commonwealth Trade Hot Topics, Issue 92, December 2011.

attention towards a better integration of the LDCs into the global trade through three broad areas: trade facilitation, agriculture and special and differential treatment for least developed countries. While hailed as a breakthrough, the Bali Package left core Doha issues like agriculture subsidies and services market access unresolved leaving ground for the revival of the fuller development dimensions of the DDA to be an uphill battle, given the divergent interests and diminishing collective bargaining power of developing country coalitions at the WTO.[81]

However, abandoning the Doha Round was not in the interests of WTO members. Even then, the commitment to fully pursue trade liberalization has waned, with recent achievements largely aimed at justifying concessions and deviations from existing commitments and rules. In essence, the Doha Round is widely seen as a casualty of indecision, stubbornness, and conflicting interests among the G7 countries (Australia, Brazil, China, the EU, India, Japan, and the USA).[82]

3.2 Trade and Environment in Doha Rounds

The Doha Rounds were imperative for 2 main reasons, namely, to breathe life into the tariff and subsidy reforms etched in the draft texts, capturing the significant gains that lie within reach as well as to safeguard the essence of the rules-based multilateral trading system. If the multilateral solutions falter, national governments, swayed by domestic pressures, will chart their own paths through unilateral measures or bilateral and regional pacts. Thus, it was considered crucial for the Doha Rounds to stay afloat to maintain WTO's credibility as a beacon of negotiation, without unhinging the bedrock of global trade harmony. On the face of it, environment was not a controversial segment that craved attention in the minds of the world trading partners. Even then, there was a palpable need for its incorporation in the negotiation rounds.

[81] Rorden Wilkinson, Erin Hannah and James Scott, "The WTO in Bali: what MC9 means for the Doha Development Agenda and why it matters", Third World Quarterly, Vol. 35, N0. 6, 2014.

[82] Surendra Bhandari, "Doha Round Negotiations: Problems, Potential Outcomes and Possible Implications", Trade L.& Dev., Vol. 4, No. 2, 2012.

3.2.1 Background

Environmental concerns were not initially viewed as contentious issues within the multilateral trading framework. The origins of recognizing environmental considerations within the multilateral trading system can be traced back to the GATT that arose from the Havana Conference in 1948 acknowledged that international trade should not lead to the depletion of natural resources or endanger vulnerable species.[83] The agreement explicitly allowed governments to deviate from the standard principles of free trade when there was a probable risk of environmental harm. This provision demonstrated an early recognition by the architects of the post-war trading system that preserving the environment could, at times, necessitate carefully calibrated trade measures as exceptions to liberalized policies. Thus, reflecting an underlying principle that while promoting open markets and economic interdependence, the trading rules needed to account for the sustainable utilization of the ecological capital and biodiversity conservation.

The existence of GATT mainly focused on the different aspects towards minimizing trade barriers in international trade. Therefore, they aligned their interests exclusively on the treatment of manufactured goods across borders. The linkages between trade policies and environmental implications gained prominence at the 1972 United Nations Conference on the Human Environment in Stockholm. A study initiated by GATT Secretariat for the conference highlighted concerns that environmental protection measures could potentially act as barriers to trade flows and manifest as protectionism under the guise of "green protectionism."

This led GATT members to establish the Group on Environmental Measures and International Trade (EMIT Group) in 1971, though it remained inactive for 20 years until revived in 1991 at the request of the European Free Trade Association ahead of the 1992 UN Conference on Environment and Development (UNCED). From 1970s – 90s, a lot of contributions were made to tackle the issue of environmental concerns in order to ensure “substantiable development” that was coined and advocated during the Brundtland Report in 1987. The Tokyo Round's Agreement on Technical Barriers to Trade grappled with how environmental regulations and standards could impact trade flows. Environmental considerations were further mainstreamed during the Uruguay Round (1986-1994), being incorporated into agreements covering agriculture, services, sanitary and phytosanitary measures, subsidies, and intellectual property

[83] Mark Halle, “Trade and Environment: Looking beneath the Sands of Doha?”, International Institute for Sustainable Development, JEEPL, 2006.

rights. While the trade-environment debate gained momentum over several decades, a pivotal turning point was the decisions of the GATT dispute settlement panels in the Tuna-Dolphin case of the early 1990s. The principle of non-discrimination is sacrosanct within the trading world, thereby measures resulting in discriminatory practices are entertained only in the most exceptional cases under extreme circumstances after exhausting all other avenues. The panel ruling in the United States – Restriction on imports of Tuna case states the following – "that GATT rules did not allow one country to take trade action for the purpose of attempting to enforce its own domestic laws in another country — even to protect animal health or exhaustible natural resources."[84] This ruling served as a clarion call for environmental advocates, jolting them into recognizing the potential for trade rules to circumscribe national policies aimed at ecological preservation. The case highlights the perception and implications that proved consequential for the fundamental tensions between liberalized trade principles and environmental protection goals.

As the notion of "sustainable development" forged an inextricable connection between safeguarding the environment and the broader goals of economic and social progress across nations, it crystalized the need for a multilateral framework to coherently integrate trade and environmental considerations without compromising core principles on either side. This paved way for the recognition of sustainable development within the preamble of WTO as well as the adoption of Committee on Trade and Environment in 1995.[85]

3.2.2 Pre – Doha Rounds

The Committee on Trade and Environment (CTE), convened regularly with all WTO Members, had a clear mission: to explore the intricate interplay between trade policies and environmental measures, and to propose any necessary adjustments to WTO regulations. The Committee had presented their reports in the initial conferences held in the WTO but the reports didn't bear any fruit under the negotiations. Despite its noble purpose, the Committee has faced challenges in fully executing its duties. Critics have lamented its inability to transcend mere dialogue, accusing it of falling short of meaningful action, relegating it to the realm of mere rhetoric.[86] It is important to recognize that the CTE's significance extends beyond achieving negotiated

[84] Mexico etc versus US: 'tuna-dolphin', Environment – Disputes 4, WTO.
[85] Early years: emerging environment debate in GATT/WTO, Environment – History, WTO.
[86] 'Trade and Environment: A Resource Book', by IISD and ICTSD.

outcomes. The primary value of the CTE lies in enhancing transparency in WTO decision – making and facilitating both interstate and intrastate coordination of trade-environment policies. By allowing the exchange of views and clarification of issues, the CTE can sometimes resolve concerns without formal agreements. The CTE organized symposia that invited NGOs to interact with the secretariat and the state delegates in public forums, alleviating developing countries' fear of isolation. Apart from this, the CTE ensured transparency in environmental issues for trade officials and trading interests. States have used the CTE to monitor and subject developments in international environmental forums to greater oversight, aiding them in defending WTO principles and rules at home during inter-agency debates and legislative deliberations. Although there was an attempt to "GATT the Greens", it failed miserably under the domestic pressures. Consequently, the acceptance of environmental measures with extraterritorial trade effects and trade distorting provisions continue to expand as witnessed in the WTO Shrimp – Turtle dispute.[87]

3.2.3 Doha and the Mandate for Environmental Negotiations

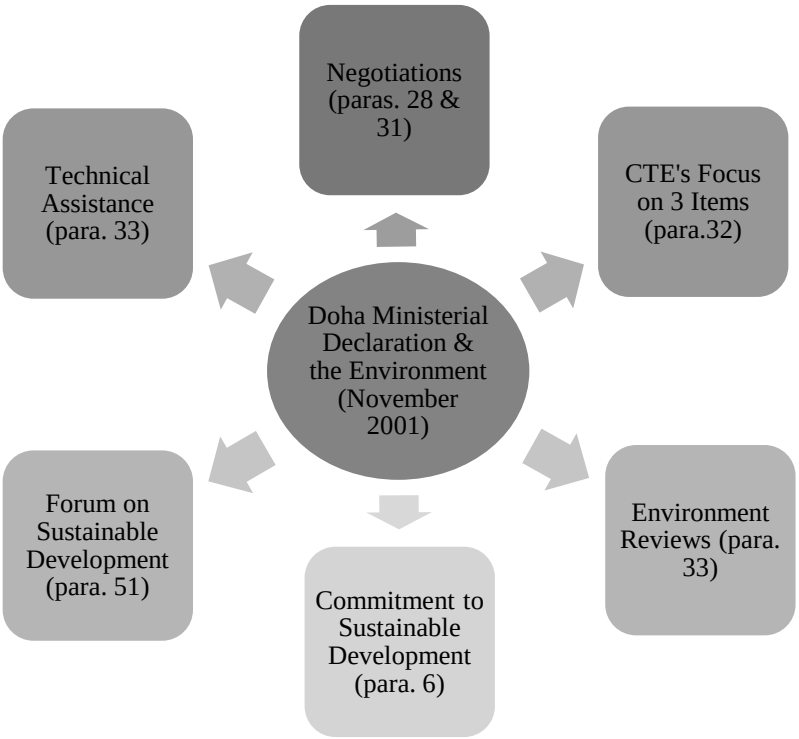
Historically, the environment was not a significant issue during the first forty years of the GATT. It gained prominence due to the political impact of the Rio Earth Summit and the shift in trade policy focus to domestic measures, including environmental ones. Initially, environmental issues were highly contentious within the WTO, causing deep suspicions and divisions between developed and developing countries. Five years of discussions in the CTE failed to resolve these issues or clarify negotiation parameters, except for fish subsidies.

At Doha, the environment became a negotiation topic mainly due to the European Union's strong advocacy. The European Commission emphasized environmental quality, reflecting European voters' concerns about trade liberalization compromising environmental standards.[88] Additionally, with impending pressure for agricultural concessions, the EU aimed to broaden the agenda to enhance trade-offs. Developing countries also had significant motivations, seeing potential trade-offs, particularly in securing access to Northern markets for their agricultural products, and seeking to prevent environmental measures from becoming trade barriers.

[87] Gregory C. Shaffer, "The World Trade Organisation Under Challenge: Democracy and The Law and Politics of the WTO's Treatment of Trade and Environment Matters", Harvard Environmental Law Review, Vol.25, 2001.
[88] Arlo Poletti & Daniela Sicurelli, "The EU as Promoter of Environmental Norms in the Doha Round", West European Politics, 35:4, 911-932, 2012.

Despite these motivations, the Doha mandate on the environment seemed hastily put together by fatigued negotiators.

By the time the WTO's fourth Ministerial Conference convened in November 2001, the nine substantive issues on CTE's agenda had been vigorously examined from different perspectives. Despite increased mutual understanding among members, none of the issues had been formally resolved, and it remained unclear which, if any, required a negotiated solution or would benefit from the WTO's rule-making process. Nevertheless, in the early hours of November 14, ministers adopted a declaration that included a mandate for comprehensive multilateral trade negotiations and a chapter on Trade and Environment.[89] The Doha Declaration tasked the CTE with focusing on three key items and, together with the Committee on Trade and Development, serving as a forum for these discussions. The Doha mandate has split the WTO's trade and environment efforts into two tracks: the CTE Special Session (CTESS) focuses on negotiations specified in paragraph 31 of the Doha Ministerial Declaration, while the CTE Regular deals with non-negotiating issues outlined in paragraphs 32, 33, and 51 of the declaration, along with continuing its original agenda from the 1994 Marrakesh Decision on Trade and Environment.[90]



[89] 'Ministerial Declaration', (WT/MIN (01)/DEC/W1), WTO, 14 November 2001.
[90] Marrakesh Decision on Trade and Environment, Doc. MTN/TNC/45(MIN), 15 April 1994.

Paragraph 31 of the Doha Declaration addressed the relationship between WTO rules and specific trade obligations in Multilateral Environmental Agreements (MEAs), observer status for MEA secretariats, and the liberalization of trade in environmental goods and services. These topics primarily reflected the priorities of developed countries, appearing as a concession for developing countries, who were not the main proponents of these issues. Other linkages on trade and environment are demonstrated, such as in agriculture where the Declaration underscores "the need to protect the environment" as a non-trade concern that should be considered in negotiations. The relationship between TRIPS Agreement and the Convention on Biological Diversity (CBD) has also become a focal point in the Declaration.

Initially, there were concerns regarding the potential for conflicts between WTO rules and environmental agreements, but these concerns were dispelled when no such conflicts arose, leading to the belief that WTO rules would not necessarily supersede environmental agreements. However, the Doha mandate restricts negotiations to the application of WTO rules among parties to the MEAs, without affecting the rights of non-party countries, which could pose challenges. Additionally, efforts to liberalize trade in environmental goods and services are hindered by the difficulty in defining these goods and services, and there were apprehensions about the disproportionate burden the liberalization may place on developing nations.

3.2.4 Priorities and Conflicts

The key advocates for trade-environment relationship have been European countries and United States.

The position in the EU is driven by its support for global environmental solutions and the influence of environmental advocacy groups. Their trade strategy efforts included promoting sustainable trade through sustainable impact assessments and offering technical assistance to the developing countries. It remains unclear whether such a stance aims to safeguard their domestic regulatory status quo by expanding legitimate exceptions to negative integration commitments of the WTO. The EU's enthusiasm was viewed with skepticism, particularly regarding the precautionary principle and efforts related to eco-labelling and clarifying the relationship between MEAs and the WTO. It could be perceived that the call for the change in WTO rules under the guise of making WTO 'greener' is an attempt to immunize the domestic

regulations from the negative integration commitments of the WTO, thereby engaging in covert protectionist activities.[91]

The United States has showcased a tricky stance regarding trade and environmental issues. On one side, its advocacy for Process and Production Methods (PPM)-based trade measures at the WTO, efforts to reform fisheries subsidies, and the integration of environmental provisions in regional and bilateral trade agreements indicate a commitment to harmonizing trade policy with robust environmental regulations. On the contrary, its reluctance to adhere to key MEAs concerning biodiversity, climate change, and biosafety has fuelled skepticism among its trading partners about its true environmental intentions. At the Doha negotiations, the U.S. displayed less enthusiasm than the EU for incorporating trade and environment into the agenda. It ensured that the negotiations did not expand the scope for the precautionary principle within WTO rules and has aligned with developing countries in advocating for a narrow interpretation of the MEA-WTO mandate. This can be witnessed through the restricted Doha mandate on environmental agenda with the US effectively adding a provision stipulating that forthcoming negotiations regarding WTO-MEA relations would exclusively impact the parties involved in MEAs.

On the other hand, developing countries have traditionally taken a defensive stance, fearing that trade-related environmental measures could impede their exports.[92] They have long been engaged in trade and environmental discussions within the GATT and later the WTO, with concerns dating back to the 1980s. Initially, they raised issues regarding the export of products prohibited in developed nations due to environmental hazards or health risks, emphasizing their inability to make informed decisions about imports lacking adequate information. These discussions didn't find a footing in the Doha Rounds as had expected. They oppose any flexibility in WTO rules allowing unilateral or extraterritorial trade measures to enforce environmental standards, advocating instead for the right to set their own priorities based on development levels. All the while they raised concerns such as reconciling the TRIPS Agreement with the CBD and emphasizing the need for financial resources and technical assistance so as to incorporate the strong regulatory standards of the North. The main concern for the developing countries was the issue of expanding the regulatory space for environmental provisions that could constrain their exports.

[91] Poletti & Sicurelli, supra note 88.
[92] Hugo Cameron, "The Evolution of the Trade and Environment Debate at the WTO", Section I, Trade and Environment, A Resource Book, International Institute for Sustainable Development, 2007.

In summary, the Doha Development Agenda attempted to create equitable trade regulations between developed and developing countries, but it encountered many difficulties in balancing the disparate goals and interests of its constituent nations. The Doha Rounds' recurring failures brought to light the difficulties in striking a balance between the interests of countries at different stages of economic development and the advancement of an equitable and transparent international trading system. The progression of environmental factors in the framework of multilateral trade, starting from their acknowledgement in the GATT and increasing in importance throughout the Uruguay Round. The Doha mandate on trade and environment focused on key items: the relationship between WTO rules and specific trade obligations in MEAs, observer status for MEA secretariats, liberalization of trade in environmental goods and services as well as trade facilitation.

However, the incorporation of environmental issues into the negotiation rounds was marked by conflicting priorities and interests among different groups of countries. Developed countries, particularly the EU and the US, pushed for stronger environmental regulations and harmonization of trade policies with environmental goals, while developing countries feared that trade-related environmental measures could impede their exports and constrain their regulatory space.

Despite efforts to reconcile these differences, the Doha Rounds ultimately failed to achieve significant progress on the trade and environment agenda, reflecting the broader challenges in reaching consensus on the DDA as a whole. The repeated failures underscored the difficulties in balancing the diverse interests of member nations and integrating environmental considerations into the multilateral trading system. Consequently, the Doha Round may not have achieved a definitive outcome on trade and environment, but it served as a crucial catalyst for a global conversation on this critical issue.

Chapter 4: Fossil Fuel Subsidies - The Antecedent Agenda Overshadowed in Doha

4.1 Introduction

Trade liberalisation's promise of economic growth is a double-edged sword, offering the bright prospect of alleviating poverty while casting darker shadows of environmental toll. As economies expand, the drive to increase production and consumption often spurs environmental pollution and resource depletion. The complex dance between progress and preservation continues to challenge us, reminding us that the battle against economic instability must also safeguard the planet's fragile balance.

The impact of trade on the environment is influenced by multiple factors, with the specific combination of benefits and costs varying across countries, their stages of economic development, and the policy and market conditions present. Consequently, the environmental benefits of removing trade barriers and distortions are expected to be indirect, and difficult to pinpoint precisely, especially since trade policies are just one of many factors affecting economic activity.[93] Trade liberalization can be a powerful force for environmental conservation when market prices accurately reflect the true value of environmental resources. However, if environmental resources are undervalued leading to a compromised market price, the increase in economic activity, spurred by free trade, is likely to accelerate the degradation and depletion of those resources.[94] In such cases where environmental externalities are not accounted for, policy interventions become necessary to realign incentives and ensure trade promotes sustainable use of natural resources rather than their overexploitation. Consequently, in the race to protect the environment, the creation of the Committee on Trade and Environment (CTE) under the WTO has facilitated extensive negotiations to explore the interrelation between trade and environment and its implications in the global stage.

[93] World Trade Organisation, Environmental Benefits of Removing Trade Restrictions and Distortions, Note by the Secretariat, Doc. WT/CTE/W/1, 1995.
[94] M. Cropper et. al., "Environmental Economics: A Survey", Journal of Economic Literature, Vol. XXX, 1992.

4.2 Environmental Benefits of Removing Trade Distortions

One of the potential environmental benefits enabled by trade liberalisation can be attributed to the increased income levels alleviating poverty, an indispensable requirement for sustainable development as reiterated in Rio Declaration and Agenda 21. While the level of per capita income required to realize environmental benefits varies based on the specific sector, country, and environmental quality indicator being considered, the overarching proposition holds that higher income growth is generally linked to environmental improvements.[95] In addition to the environmental benefits stemming from higher per capita incomes, there are also specific benefits associated with eliminating trade distortions that lead to an inefficient allocation of environmental resources across economic sectors. Even then, one has to bear in mind that removing trade restrictions do not guarantee improved environmental outcomes.

Environmental benefits from trade policies can take the form of absolute or relative improvements in areas like reduced pollution levels, slower resource depletion, increased replenishment rates, or lower biodiversity losses. However, quantifying such benefits is inherently depended on the various indicators that assess the value based on the market frameworks. It is asserted that removing trade distortions that favour the narrow-vested interests can be facilitated by bolstering the institutional, regulatory, monitoring and enforcement capabilities of environmental agencies. This can be achieved by adopting an economy-wide perspective that factors in the overall welfare gains to the society, including environmental improvements, instead of succumbing to resistance from domestic interest groups. Additionally, it relieves the uncertainty, which is often considered as a major non-tariff barrier, in international trade and improves the functioning of markets. An advantage of an open trading system is that it enhances the market for environmentally friendly goods, services, and technologies. This includes energy-efficient machinery, pollution control equipment, and advanced waste treatment processes, and as economies grow and develop, the adoption of such green technologies accelerates.[96]

[95] Grossman, Gene M. and Krueger, Alan B., "Economic Growth and the Environment", National Bureau of Economic Research (NBER), UK, February 1994.
[96] Trade Issues and the Transfer of Clean Technologies, OECD Paris, 1992.

4.3 Fossil Fuel Subsidies Deliberations in the CTE

Before the dawn of the Doha Round, whispers of the adverse impacts of harmful trade-distorting subsidies began to stir within the CTE. The CTE serves as the principal platform for trade and environment discussions within the WTO. Pursuant to Item 6 of the Marrakesh Decision,[97] a background information study was conducted of the positive impacts on the environment resulting from the elimination of trade restrictions across diverse product categories.[98] Among the focal points was the examination of subsidies and the beneficial effects on elimination. The subsidies revolved around the Agreement on Subsidies and Countervailing Measures, specifically those that are prohibited or actionable as scrutinized in Chapter II. The subsidies are tailored to specific industries and are linked to output, thereby affecting the composition, location, and scale of production. As a result, the potential environmental benefits of reducing or eliminating these subsidies lies in structural effects, causing misallocation of productive resources, leading consumers towards artificially low-priced, environmentally harmful products and benefitting polluting industries. Product effects are also observed through trade in environmentally harmful or sensitive products, where the full environmental costs throughout their life cycle are not accounted for, can result in higher pollution levels than considered optimal. Furthermore, scale effects of trade liberalisation also account for adverse outcomes exacerbated by insufficient investment in environmental management infrastructure, resulting in negative impacts on both the environment and resource utilisation. The removal of these subsidies can yield direct environmental gains, particularly when they support more polluting products or production methods. Furthermore, removing bias against foreign producers also help mitigate environmentally damaging activities, facilitating better resource allocation towards environmental protection and sustainable development.

From an environmental standpoint, subsidies that promote less harmful products or methods may appear more advantageous than pollution taxes, as they prioritize preventative measures over regulatory responses. However, theoretical support for this argument is not unequivocal. There is a fear that subsidies can unintentionally support unprofitable producers, resulting in higher overall industry output and pollution.[99] Moreover, subsidizing relatively less polluting production in one area may cause greater environmental harm if it displaces even cleaner

[97] Marrakesh Decision, supra note 90.
[98] Note by Secretary, supra note 93.
[99] OECD, Recommendation of the Council on the Implementation of the Polluter-Pays Principle, OECD Doc. C (74)223 (Nov. 14, 1974).

production elsewhere. Besides, The OECD's Polluter Pays Principle (PPP) rejects the use of trade-distorting subsidies for environmental purposes for both environmental and economic rationales, which advocates for the internalization of environmental costs and equitable distribution of pollution abatement expenses. Though exceptions to the PPP are offered, the OECD notes that there are claims suggesting some governments might provide their firms with competitive advantages internationally by broadly interpreting exceptions to finance pollution control costs.[100] The empirical study conducted then suggested that financial assistance for pollution control in OECD countries is minimal, posing no substantial concerns regarding trade distortion. Nonetheless, it emphasized government aid for pollution control "should not lead to significant distortions in international trade and investment." The available evidence indicates that subsidies causing trade distortions can lead to significant environmental harm, particularly affecting primary sector production and its related processing activities. These subsidies are typically not designed with environmental goals in mind, and their environmental impacts are often secondary and unforeseen. Overall, the study examined the complex interplay between trade policies, environmental considerations, and subsidy practices, highlighting the need for coherent and effective policy frameworks to address the issue of subsidization of agricultural inputs and exports and energy production such as coal and hydroelectric power.

4.3.1 Prior to Doha Round

I. Following this, a subsequent report was compiled in the year 1997 with the intention of further exploring the ecological advantages associated with the elimination of trade barriers. The primary focus was to assess the potential favourable consequences on both the global trading framework and the natural environment.[101] For the aims of this research, our focus will be directed towards the energy industry, specifically examining the impact of energy subsidies on the excessive consumption of energy. This in turn leads to the inadvertent support of natural resource extraction operations, resulting in inefficiencies and environmental issues.

[100] OECD, The Environmental Effects of Trade, 1994.
[101] World Trade Organisation, Environmental Benefits of Removing Trade Restrictions and Distortions, Note by the Secretariat, Doc. WT/CTE/W/67, 1997.

- Energy Production

Between 1986 and 1995, global primary energy production experienced varied growth rates across key sources. Petroleum remained the dominant energy source, constituting 40% of total production in 1995. During this period, petroleum production increased by 7.5 million barrels per day, a 12.5% rise, while global demand reached 70 million barrels per day.[102] Coal, on the other hand, ranked second, comprising 25.3% of primary energy production in 1995, with global production totalling 5.1 billion short tonnes. Despite a modest 1.4% increase since 1986, coal exhibited the slowest growth rate among primary energy sources.[103] Natural gas followed closely behind, contributing 21.4% to global production in 1995. Output reached 78.3 trillion cubic feet, marking a significant 23% increase since 1986 and continuing to grow rapidly into the late 1990s. Russia, holding the largest natural gas reserves globally, had approximately 50,000 billion cubic meters in reserves, which accounted for roughly one-third of the world's total. By 2020, this figure had increased to 37.39 trillion cubic meters, continuing to hold the reins.[104] Solid fuels such as lignite and peat constituted 27% of commercial energy output, primarily utilized in the countries where they are produced owing to the significant expenses associated with transportation. Electricity's role in global energy consumption, at 10%, witnessed hydroelectric power leading among renewables, delivering 2.5 trillion kilowatt-hours by 1995—a 22.8% surge since 1986. Nuclear power contributed 6.5% to production, with geothermal, solar, and wind adding a mere 0.4% to the mix.[105] Since 1986, renewable energy sources such as geothermal, solar, and wind power have seen a substantial increase as well, generating 111 billion kilowatt hours by 1995, marking a 225% rise. Despite their modest contribution to global energy production, solar and wind power have experienced significant growth due to factors like declining costs, enhanced demand-side management, greater adoption of renewable energy, and heightened environmental consciousness. In 1995, the United States, Russia, China, Saudi Arabia, and Canada were the top five generators of primary electricity, contributing to over 50% of global energy output. Following them were the United Kingdom, Iran, Norway, India, and Venezuela as the next major generators.[106]

[102] International Energy Agency, World Energy Outlook, 1996.
[103] U.S. Department of Energy (DOE), International Energy Annual 1995, Washington, 1996.
[104] Our World in Data, Gas Reserves 2020, Energy Institute - Statistical Review of World Energy (2023).
[105] U.S. Department of Energy (DOE), International Energy Annual, Energy Information Administration, Washington, 1996.
[106] Id.

- Energy Consumption

The primary energy consumption was highest in the United States, China, Russia, Japan, and Germany during 1995. They were followed by Canada, India, the United Kingdom, France, and Italy. Collectively, these nations accounted for nearly 65% of the global primary energy usage.

Energy consumption in countries undergoing economic transitions has experienced a noteworthy rise since 1973, notwithstanding a reduction in consumption between 1989 and 1992. To illustrate, both the former Soviet Union and Central European nations witnessed a 17 percent decline in energy consumption during this timeframe. The escalation in energy consumption persists in developing nations in recent times, although many of these countries are starting from a comparably low baseline. Despite a threefold surge in total energy consumption since 1973, developing countries collectively contribute to about one-third of the overall energy consumption. Among developing nations, those situated in the Asia Pacific region are responsible for roughly 60 percent of the total global energy demand within this group, driving the majority of the recent surge in demand. Latin America has seen a twofold increase in energy consumption since 1973, while Africa has tripled its energy usage. However, Africa's share of total energy consumption across all developing nations stands at 11 percent, a proportion that diminishes further when viewed in the context of global energy consumption percentages.[107]

The International Energy Agency has delineated three notable trends in global energy demand. The first trend involves the continual escalation of world primary energy demand, a trend that was anticipated to endure until 2010, reflecting ongoing industrialization and urbanization globally. The second trend pertains to fossil fuels, which are forecasted to constitute 90 percent of the globe's energy demand, highlighting persistent reliance on traditional energy sources despite efforts towards sustainability. Lastly, the third trend suggests an imminent alteration in energy utilization patterns. This change is characterized by a decrease in the proportion of energy consumed by developed nations, declining from approximately 55 percent in 1995 to below 50 percent by 2010. In contrast, there was an expected rise in the percentage of energy utilized by developing countries, expected to increase from about 28 percent to roughly 40

[107] Arnulf Grubler, Michael Jefferson, Nebojsa Nakicenovic, “Global Energy Perspectives: A summary of the Joint Study by IIASA and World Energy Council”, International Institute for Applied Systems Analysis, July 1996.

percent by the year 2010.[108] These trends underscore the dual challenge of meeting growing energy needs while transitioning to cleaner energy sources and addressing climate change concerns through coordinated international efforts in policy, technology innovation, and sustainable development initiatives.

Having examined the production and consumption patterns within the energy sector, the analysis will facilitate our comprehension of the relationship between trade limitations and the energy sector, alongside its excessive utilization.

- Trade Distortions in the Energy Sector

It has been emphasized in the document that production in the energy sector, unlike other sectors discussed in this document, is not a standalone objective, rather, energy serves as a crucial component for nearly all economic endeavours. The restructuring of energy policies will have repercussions on practically every facet of economic operations. Assessing the impact of alterations in energy costs on diverse economic undertakings is a challenging task due to the varying energy input needs within and between sectors, as well as among nations.

Energy production is subject to various forms of subsidies, both direct and indirect. Energy subsidies contribute to the overuse of energy and provide indirect financial support to mineral production activities, leading to inefficiencies and environmental concerns. Given the interconnectedness of the energy sector with essentially all facets of economic activity, identifying the presence and nature of subsidies is a complex undertaking. Consequently, a thorough understanding of the subsidies' existence and characteristics is crucial for assessing their ramifications across various spheres.

The type of direct subsidies involves direct financial transfers from governments to energy producers or consumers. Tax concessions or exemptions offer preferential tax treatment to energy-related activities. Low-cost long-term land concessions facilitate energy exploration and production by providing access to land at reduced costs. Energy infrastructure subsidies, including low-cost power transmission lines, land concessions, and import/export facilities, reduce the costs of energy transportation and distribution. Other forms of subsidies include the provision of loan guarantees, grants or tax incentives for developing energy-related technologies. Additionally, governments may provide grants or tax incentives to lower

[108] IEA, supra note 102.

operating costs in energy-intensive commercial activities or offer transfers to reduce household heating bills, thereby subsidizing energy consumption.

The document highlights significant energy subsidies across both developed and developing nations. In developed countries, annual energy subsidies are estimated to be in the range of US$70 to US$80 billion.[109] The situation is more pronounced in developing countries, where overall energy subsidies are estimated to exceed US$150 billion per year. Of this amount, more than $100 billion is allocated to subsidizing electricity consumption.[110] A survey conducted across 60 developing countries revealed that electricity prices average $0.038 per kilowatt-hour, significantly lower than rates observed in developed countries, which are more than double this amount. Moreover, for 80 percent of the utilities surveyed, these rates do not cover the long-term costs of providing electricity.[111] These figures demonstrate that energy sectors receive large subsidies that keep energy prices artificially low, which in turn can distort market signals.

As we have observed, subsidies vary based on the specific needs of different sectors, making their quantification a complex task. This section presents a study focusing on prominent coal sector in various OECD members and selected non-OECD members. It was inferred that coal subsidies have played a role in upholding inadequate domestic production and decreasing the importation of alternative fuels. Furthermore, subsidies have increased coal resource utilization and its use in electricity generation, as the ECON Centre for Economic Analysis notes, leading to the historical construction and sustained operation of more coal-fired power plants due to subsidized and protected domestic coal production.[112] International and domestic coal prices exhibit disparities as a result of a variety of trade limitations as well. These include restrictions on imports to boost domestic prices, direct subsidies provided to coal producers, and requirements for electricity providers to procure set quantities of coal from local mines at prices higher than the global market rates.

[109] A. de Moor, "Subsidizing Unsustainable Development", Institute for Research and Public Expenditure, Amsterdam, 1997.
[110] World Bank, Expanding the Measure of Wealth: Indicators of Environmentally Sustainable Development, environmentally sustainable development studies and monographs series, No. 17*ESSD, (1997).
[111] World Bank, Review of Electricity Tariffs in Developing Countries During the 1980s, Energy Series, Paper No. 32 (1990).
[112] ECON Senter for Okonomisk Analyse, "Energy Taxes; Trends and Structures in OECD and Selected Non-OECD Countries", Report No. 44/96 (1996).

- Ecological Advantages

From the period of 1970s, numerous environmental policies have focused on mitigating the adverse ecological effects of energy production and consumption. Different energy sources pose unique environmental challenges. As a result, comprehensive national and global policies have been established to address these issues. These policies include command-and-control strategies and economic measures to decrease emissions of various pollutants from specific combustion processes. International efforts are also observed such as agreements like 1979 Geneva Convention on Long-Range Transboundary Air Pollution and the 1992 Climate Change Convention. The UN's 1997 Special Session established an expert group on sustainable energy emphasizing the need to phase out subsidies hindering sustainable energy, especially for developing nations, according to the special treatment provisions under the Uruguay Round ASCM.

The environmental repercussions of energy generation have been scrutinized, especially through the conduction of environmental impact evaluations. These evaluations have brought to light the enduring effects of hydroelectric facilities, including disturbances to ecosystems, reduction in biodiversity, and problems related to silt accumulation. Various other energy industries also present notable environmental hurdles. For instance, activities associated with oil extraction can result in soil deterioration and environmental contamination, whereas coal mining operations can impact land utilization and the quality of water resources. Nuclear power generation also evokes apprehensions regarding operational hazards and the management of nuclear waste. As energy subsidies distort prices, it worsens environmental issues associated with energy production and consumption. They can promote inefficient resource use, discourage energy conservation, and hinder the adoption of renewable energy sources. Additionally, subsidies may perpetuate outdated and environmentally harmful technologies, such as older coal-fired plants operating below optimal efficiency.

Two crucial determinants influencing the environmental consequences of energy subsidy revisions include how sensitive is the energy input utilization to alterations in subsidies and the ecological damage induced by each energy unit consumed. Despite the common understanding that cutting energy subsidies would lead to decreased energy usage and enhanced environmental circumstances, the situation is intricate. Therefore, it is important to exercise caution when making conclusions about the environmental effects of energy policy

restructuring.[113] This is because the elimination of subsidies could trigger wider economic repercussions, influencing energy consumption throughout all industries. To add to that, if alternative energy sources can be utilized interchangeably, reduced subsidies might modify the assortment of fuels employed rather than substantially reducing total energy consumption, potentially impacting environmental results based on the environmental implications of the remaining fuels. Hence, forecasting the environmental ramifications of subsidy alterations is complex and relies on diverse economic and technological elements. Even then, a study conducted by world bank indicates significant benefits from removing trade barriers for primary fossil fuels during 1990-2000.[114] The reform effects are compared to a scenario of no reform known as "Business as Usual" (BaU). In the BaU scenario, crude oil depletion starts in 2030, being replaced by carbon-intensive synthetic fuel. OECD sees a rise in carbon dioxide emissions post-2030 due to the shift to synthetic fuel emitting more carbon dioxide. Non-OECD nations do not experience this shift as oil subsidies make synthetic fuel unprofitable.[115] When the existing trade restrictions and distortions are eliminated, energy demand in non-OECD countries decreases by 28 percent compared to the BaU scenario, following the removal of subsidies. Conversely, energy demand in OECD countries rises by 21 percent due to the elimination of taxes. According to the model outlined in this study, in 2050, 19.3 billion tons of carbon would be emitted in the BaU scenario, whereas only 15.9 billion tons would be released under a comprehensive reform. Therefore, quantitative studies suggest that reforming these subsidies could reduce energy consumption and promote more efficient and environmentally sustainable minerals production, highlighting the importance of addressing trade distortions in the energy sector.

II. Comments by Members

Discussions held within the CTE have brought to the forefront a range of principles and issues concerning the convergence of trade policies and environmental preservation. These dialogues serve to underscore the dedication of WTO Members to sustainable development, all the while recognizing the varied economic requirements and stages of development among nations. One crucial principle that has been highlighted in these discussions is the importance of sustainable

[113] World Bank, supra note 110.
[114] Id.
[115] Id.

development, with a focus on optimizing the utilization of global resources while ensuring the protection of the environment.

In the fourth meeting of the Committee on Trade and Environment, which took place on September 12, 1995, Item 6 from the Ministerial work program was highlighted.[116] In accordance with recognizing the advantages to the environment from eliminating trade restrictions and distortions to promote sustainable development, Mexico did not directly concentrate on natural resource products but highlighted that such measures aim to achieve environmental benefits by favouring less polluting imported products over more polluting subsidized ones, thereby alleviating resource constraints for environmental protection. The Committee's focus should include addressing adverse environmental impacts of protective policies, especially in environmentally sensitive sectors like agriculture.

Australia's delegate, on the other hand, proposed that the Committee prioritize several areas for advancing sustainable development within the multilateral trading system. These areas encompass the reduction of tariff escalation for processed goods, as well as the implementation of further reforms to tackle trade barriers, trade-distorting subsidies, and access restrictions concerning agricultural and natural resource-derived products.

In the Meeting convened on March 25 and 26, 1996,[117] The Switzerland representative provided initial commentary regarding Argentina's proposal WT/CTE/W/24,[118] proposing that the discussion scope in this agenda item should cover trade policy aspects with notable environmental effects, such as subsidies for energy inputs. Switzerland expressed disagreement with Argentina's emphasis on additional reforms in agricultural trade, pointing out that significant reforms had already been accomplished post the Uruguay Round, especially through the Agreement on Agriculture. Despite recognizing the advantages of trade liberalization, Switzerland stressed that it alone would not adequately tackle environmental expenses, advocating for supplementary measures. The Agreement on Agriculture was emphasized as pivotal for reshaping agricultural policies, specifically in diminishing price supports via direct payments. Switzerland highlighted its strategy of promoting sustainable development by utilizing direct payments connected to environmental services, endorsing biological farming

[116] World Trade Organisation, Report of the Meeting held on 12 September 1995, Note by the Secretariat, Doc. WT/CTE/M/4, 10 October 1995.
[117] World Trade Organisation, Report of the Meeting held on 25 and 26 March 1996, Note by the Secretariat, Doc. WT/CTE/M/8, 11 April 1996.
[118] World Trade Organisation, Communication from Argentina on item 6 of the Committee's work programme, the environmental benefits of removing trade restrictions and distortions, including tariff escalation, subsidies, state trading, and excessively high tariffs, Doc. WT/CTE/W/24, 20 March 1996.

and integrated production techniques. The importance of situating the CTE's efforts within a comprehensive framework that balances environmental considerations with trade liberalization endeavours was underscored, rather than solely focusing on agricultural trade revisions. Norway's delegate underscored the importance of assessing the environmental implications of the multilateral trade framework, stressing the potential of eliminating trade barriers to internalize environmental expenses. Although the liberalization of trade could deliver both economic expansion and environmental enhancements, this correlation was not automatic and mandated a meticulous examination of individual products. Emphasis should be placed on industries that offer such dual benefits, particularly the energy sector, which is vital for worldwide economic and environmental well-being. It was crucial to improve energy efficiency and accurately factor in environmental costs to ensure sustainable progress. Presently, subsidies for coal conflicted with substantial levies on oil and gas, prompting appeals to align incentives with environmental objectives. Norway proposed the implementation of World Trade Organization regulations that promote eco-friendly goods and discourage harmful ones, hinting at the possible need for adjustments and suggested that the Singapore gathering could recommend discouraging the promotion of environmentally damaging goods. While the WTO cannot serve as a replacement for climate pacts, it must not facilitate policies that contradict sustainable development goals. Norway noted that the WTO's authorization of environmentally harmful coal subsidies hindered internalizing environmental costs, leading to a suggestion for the CTE to address this issue after the Singapore meeting.[119]

In the Meeting held on May 1996,[120] Nigeria welcomed Australia’s non-paper for broadening discussion on the potential role of the WTO in addressing the concerns of low-income, commodity-dependent countries and promoting sustainable agricultural practices. Moreover, Nigeria showed interest in Norway's WTO proposal on energy subsidies, especially from harmful sources. Nigeria emphasized the need for proposal to consider energy generation complexities and environmental protection. Decision-making on energy sources should be unbiased, considering factors like production efficiency, resource availability, costs, social impacts, and environmental effects. Nigeria supported an analysis allowing informed judgments based on different circumstances and energy source preferences.

[119] World Trade Organisation, Report of the Meeting held on 28-29 May 1996, Note by the Secretariat, Doc. WT/CTE/M/9, 11 June 1996.
[120] Id.

Norway's representative further highlighted that the critical issue in the energy sector revolved around achieving a worldwide reduction in harmful emissions to comply with natural limitations. It was deemed logical to provide incentives for utilizing environmentally-friendly energy sources while imposing disincentives for less eco-friendly options. Nevertheless, it was noted that the prevailing situation in many nations was characterized by the absence of taxes on coal usage, along with tax benefits for coal utilization in industrial and power sectors. Conversely, oil and gas faced substantial taxation, whereas coal production received subsidies. It was remarked that the Agreement on Subsidies and Countervailing Measures bans subsidies that are dependent on using domestic rather than imported goods and includes incentives that support environmental initiatives. However, it is contradictory because it allows subsidies that help businesses adjust to new environmental regulations but does not restrict subsidies for harmful products when less harmful alternatives are available.[121] Japan, referring to the 1995 OECD Ministerial Report, observed that the implementation of trade liberalization has the potential to generate positive effects on the environment, provided that suitable environmental measures are in place. The effectiveness of trade liberalization concerning environmental aspects is contingent upon a multitude of factors such as unique national circumstances, impacted sectors, and specific contextual settings. Thus, they emphasized that the formulation of a holistic future plan by the CTE is imperative, transcending the realms of agriculture.[122] Their stance was reiterated in the meeting held on September 1996.[123]

Nigeria's delegate also expressed appreciation for the non-paper submitted by Norway, which delved into pertinent subjects necessitating additional elucidation. He endorsed Norway's aspiration for WTO to advance eco-friendly goods through advantageous incentives, especially within the realm of energy. Nevertheless, he requested more information regarding the nature of these incentives, their specific objectives, and the potential inclusion of technical aid and technology transfer under favourable conditions, taking into account intellectual property rights (IPRs). Proposing a more comprehensive approach, he recommended the assessment of all traded items based on environmental standards utilizing the Harmonized System. Nigeria underscored the necessity for further elaboration and extensive examination of Norway's suggestions before the CTE could formulate any recommendations.[124] Switzerland was of the

[121] World Trade Organisation, Report of the Meeting held on 20-21 June 1996, Note by the Secretariat, Doc. WT/CTE/M/10, 12 July 1996.
[122] Id.
[123] World Trade Organisation, Report of the Meeting held on 11-13 September 1996, Note by the Secretariat, Doc. WT/CTE/M/12, 21 October 1996.
[124] WTO, supra note 121.

opinion that the incentives could potentially be categorized within specific agreements of the World Trade Organization. They noted that enhancing the regulations in these agreements may serve to advance the cause of sustainable development.[125]

Argentina's delegate in the meeting held on September 1996 emphasized the paradox of claiming that free trade and environmental conservation are mutually beneficial, despite overlooking the adverse environmental consequences of trade imbalances. Argentina indicated a readiness to expand dialogues beyond the scope of agriculture within this specific agenda item.[126] Australia also shared the consensus regarding future initiatives to explore additional sectors.

In the light of events such as the UN General Assembly Special Session and the December 1997 Climate Change Conference of the parties,[127] European Community underscored the significance of the energy sector. While national agendas may occasionally hinder competitiveness, there are cases in which environmental objectives coincide with globally acknowledged targets, such as the combat against climate change.[128] Thereafter, the evaluation conducted by the representative of the European Communities on document WT/CTE/W/67[129] raised significant concerns regarding its lack of comprehensive analysis and oversight across various domains. Primarily, although the document addresses the reduction of subsidies and taxes associated with fossil fuels to enhance environmental quality, it failed to provide a thorough exploration of the intricacies involved. It was stated that merely eliminating subsidies for energy sources such as coal could yield immediate advantages, yet supplementary approaches are necessary to ensure that environmental expenses are adequately reflected in energy pricing. The growing global importance of environmental challenges, particularly the impact of fossil fuel utilization on climate change, is inadequately acknowledged. The failure to reference the Kyoto Protocol was seen as a glaring omission, given its delineation of commitments by Annex I nations to eradicate market distortions and financial incentives that counteract the objectives of the Climate Change Convention. These nations have also vowed to leverage market mechanisms and engage in collaborative efforts to enhance policy efficacy,

[125] Id.
[126] WTO, supra note 123.
[127] The Kyoto Protocol was adopted at the third Conference of the Parties to the UNFCCC (COP 3) in Kyoto, Japan, on 11 December 1997. The Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities" to reduce GHG emissions.
[128] World Trade Organisation, Report of the Meeting held on 22-24 September 1997, Note by the Secretariat, Doc. WT/CTE/M/15, 20 November 1997.
[129] WTO, supra note 101.

a critical element that the document fails to underscore.[130] The EC reiterated the same in their comments on the Secretariat's note on eliminating the trade restrictions. While expressing their dissent towards certain aspects and findings, it was mentioned that discussing their energy market liberalization could add context and relevance to the section.[131] India, however, articulated apprehension regarding the necessity of assessing the substantial environmental advantages associated with the elimination of energy subsidies in developing nations.[132] The delegate from Canada, on the other hand, raised apprehensions regarding the persistent and rising coal subsidies in certain nations subsequent to the ratification of the Kyoto Protocol. It was underscored that a fundamental aspect of the Kyoto Protocol would be its capacity to universally advocate for alternative energy sources with reduced carbon emissions. He pointed out that subsidies might hinder the dissemination of these crucial market indicators.[133]

On the advancement of the dialogues within the CTE in anticipation of the approaching MC3 in Seattle, the energy sector was emphasized by the Turkish representative as a domain with notable environmental ramifications, impacting production, transportation, preservation, and utilization both directly and other sectors indirectly. A call was made for the revision of fiscal incentives, taxes, and fees to uphold the environmentally sound policies within the energy sector. Turkey's efforts in advancing alternative and renewable energy sources to alleviate the repercussions of climate change and environmental deterioration stemming from polluting energy sources was also highly recognized.[134]

Acknowledging the data limitations, particularly for non-coal sub-sectors, in the WTO Secretariat's note WT/CTE/W/67, EC communicated a request for an update highlighting the evolving landscape post-1994, suggesting the inclusion of broader distortions and incorporating recent insights from the OECD and IEA.[135] Energy pricing is influenced by factors like regulations, subsidies, and inadequate environmental cost internalization, which can undermine WTO rules, foster wasteful energy use, distort competition, and conflict with

[130] World Trade Organisation, Report of the Meeting held on 19-20 March 1998, Note by the Secretariat, Doc. WT/CTE/M/17, 9 April 1998.
[131] World Trade Organisation, European Community comments on the Note by the Secretariat of the WTO's Committee on Trade and Environment, Environmental benefits of removing trade restrictions and distortions (WT/CTE/W/67), Note from the European Community, Doc. WT/CTE/W/83, 10 June 1998.

[132] WTO, supra note 130.
[133] Id.
[134] World Trade Organisation, Report of the Meeting held on 18-19 February 1999, Note by the Secretariat, Doc. WT/CTE/M/20, 19 March 1999.
[135] World Trade Organisation, environmentally harmful and trade distorting measures and policies in energy markets, Communication from the European Communities, Doc. WT/CTE/W/185, 13 February 2001.

sustainable development goals. The Kyoto Protocol highlights the need to phase out subsidies and enhance market instruments for greenhouse gas reduction. It was noted that addressing these challenges necessitates revisiting and updating analyses like Doc. WT/CTE/W/67 to encompass a broader array of energy sector distortions and their environmental impacts, ensuring a comprehensive approach that aligns with both trade and environmental objectives.

The update should maintain the structure of WT/CTE/W/67, focusing on the unique characteristics of energy as an intermediary good, and exploring issues such as energy trade and the environmental impacts of electricity liberalization and the unique challenges posed by climate change. The EC had stressed the necessity for consistent focus on this sector.

The representative of Mexico queried the feasibility of updating all sectors covered in WT/CTE/W/67, while the representative of Venezuela recognized the intricacies of energy issues concerning the Kyoto Protocol and expressed intentions to consult with her capital regarding the EC's proposal in this context.[136] Thereafter, Venezuela stressed the importance of updating the energy section of WT/CTE/W/67 with studies from institutions like Massachusetts Institute of Technology (MIT) and OPEC, focusing on the environmental impacts of removing trade distortions in the energy sector. Venezuela also recommended including a methodology section on internalizing environmental externalities and highlighted the need for technology and financial transfers to support developing countries, particularly in the context of the UNFCCC and Kyoto Protocol negotiations. The UNEP's joint efforts with IEA on workshops concerning energy subsidy recommended targeted, time-limited, transparent subsidies and gradual reforms to mitigate socio-economic impacts, and effective communication to overcome political resistance. They remarked that this aligns with sustainable development principles in the WTO Agreement preamble and mitigate adverse impacts on vulnerable populations, with continued collaboration and dissemination of findings among stakeholders and policymakers.[137]

[136] World Trade Organisation, Report of the Meeting held on 13-14 February 2001, Note by the Secretariat, Doc. WT/CTE/M/26, 30 March 2001.
[137] World Trade Organisation, Report of the Meeting held on 27-28 June 2001, Note by the Secretariat, Doc. WT/CTE/M/27, 8 August 2001.

III. Update on the Energy Sector

Before the advent of the 4th Ministerial Conference in Doha in November 2001, the Secretariat disseminated the latest information regarding the energy industry in response to the request made by the European Community and other Members, aiming to gain a comprehensive understanding of the issue.[138]

- Outline of Energy Sector

The document provides an overview of the energy sector to avail the full picture of the sector. The main primary energy sources are fossil fuels (oil, coal, and natural gas), nuclear energy, and renewables (solar and hydroelectric power). The International Energy Agency projects a 2% annual increase in global primary energy demand from 1997 to 2020, totalling a 57% rise by 2020.[139] Despite this growth, the World Energy Council reports that energy resources are sufficient for global economic growth.

Proven reserves of oil are predominantly situated in the Middle East (64%), whereas coal reserves are chiefly found in six nations, with the United States commanding the largest portion (25%). The primary concentration of natural gas reserves is in Europe (36.9%) and the Middle East (34.1%). The global count of operational commercial nuclear units stands at 435, with the United States, France, and Japan collectively possessing the most significant proportions. Hydroelectric power, recognized as the most widely deployed renewable energy source, is harnessed in 158 countries, contributing to 19% of overall commercial energy output worldwide, with notable capacity present in Europe and North America.

The projections by the IEA suggest that the primary energy mix will witness oil dominance (40%), succeeded by natural gas (26%), coal (24%), nuclear power (5%), and renewables by the year 2020. Oil demand is anticipated to grow annually at a rate of 1.9% from 1997 to 2020, retaining its predominant position as a fuel source. Within OECD nations, the surge in oil demand will be solely steered by the transportation sector, while other sectors will witness a shift towards alternative fuels like gas. Non-OECD countries will observe transportation as the primary catalyst for increased oil demand, alongside contributions from household, industry,

[138] World Trade Organisation, Environmental benefits of removing trade restrictions and distortions: the energy sector, Note by the Secretariat, Doc. WT/CTE/W/200, 18 September 2001.

[139] International Energy Agency, World Energy Outlook 2000, (2000).

and power generation sectors, with China and India collectively responsible for a significant portion of the rise.

Following non-hydro renewables, natural gas is slated to be the second-fastest-growing energy source in the primary energy mix, with a yearly demand escalation of 2.7% from 1997 to 2020, augmenting its share from 22% to 26%. This growth trajectory will come at the expense of nuclear power and coal, propelled by advancements in combined-cycle gas turbines (CCGTs) and gas's comparative environmental friendliness, especially in power generation contexts.

Coal demand is expected to increase by 1.7% annually, causing its proportion to dwindle from 26% to 24% by 2020. The bulk of this demand within OECD countries will be geared towards power generation, whereas China and India are forecasted to contribute significantly to the global upsurge due to their abundant coal reservoirs and escalating electricity requirements. The primary utilization of coal will revolve around power generation, constituting 85% of the rise, with a marginal uptick in industrial usage and a decline in residential and commercial applications.

The share of nuclear power in primary energy demand is anticipated to peak around 2010 at 7% and then descend to 5% by 2020, primarily due to reactor retirements and safety apprehensions, particularly post-Chernobyl. Hydropower's slice of the pie will shrink from 3% in 1997 to 2% by 2020 owing to optimal site exploitation in OECD countries and environmental and social considerations. Other renewables such as geothermal, solar, wind, and biomass are predicted to emerge as the swiftest-growing energy sources, with a 2.8% annual progression rate, fuelled by environmental imperatives and power generation activities in OECD nations.[140]

The power sector's portion of primary energy demand is poised to climb from 36% in 1997 to 38% in 2020, with global electricity production expanding at a yearly rate of 2.7%. Coal is set to retain its status as the predominant electricity generation source, despite a drop in its proportion in OECD countries and an increase in developing nations, encompassing 75% of China's and 70% of India's electricity production. Natural gas-fired power generation will surge to over three and a half times its present capacity, with nearly half of this augmentation occurring in OECD countries. The contribution of oil to power generation will experience a minor reduction, while nuclear power's role will witness a notable decline.

[140] Id., p. 48.

The IEA anticipates a substantial growth of close to 3000 GW in fresh global capacity for electricity production signifying a transition towards more competitive markets within the power generation industry, as a result of reforms aimed at improving economic efficiency and aligning prices with production costs. Developing nations are expected to propel 68% of the rise in worldwide primary energy demand in this period, in stark contrast to the 23% contribution from OECD countries.[141] Despite the surge in energy demand, the Commission on Sustainable Development (CSD) warns that this may not necessarily result in a more equitable access to energy between developed and developing nations. Energy usage per person in Africa and many Asian nations remains notably lower than in North America. Latin America has displayed minimal advancements in energy access, while China and Western Asia have made significant progress in providing contemporary energy services.

When examining final energy demand (comprising primary energy plus electricity and heat), oil presently holds the largest share, followed by natural gas, electricity, coal, heat, and renewables. By 2020, it is projected that the share of electricity will surpass that of natural gas, increasing from 17% to 20%, while coal and heat will see a decrease in their shares, and renewables are expected to be more widely utilized. The demand for electricity is forecasted to increase by 2.8% annually, bolstered by both OECD and non-OECD countries, although growth in OECD nations will be slower due to market saturation.[142] Regarding electricity accessibility, the CSD points out significant gaps, with the least developed countries consuming substantially less per person compared to OECD averages.[143]

The IEA classifies energy consumption into four primary categories: electrical services, mobility (transportation fuels), stationary services (primarily fossil fuels for heating), and power generation. Focusing specifically on oil demand, the transportation sector is expected to propel most of the growth in the next twenty years, in both OECD and non-OECD nations.[144] The UNEP attributes this growth to increased personal mobility in developed countries since the 20th century, facilitated by affordable oil, widespread car ownership, and a lifestyle centered on commuting and leisure activities. The global vehicle fleet has expanded

[141] Id. p. 51.
[142] Id., p. 62.
[143] CSD, acting as the preparatory Committee for the World Summit on Sustainable Development, Report of the Secretary-General, E/CN.17/2001/PC/20, at p. 2, 2 March 2001.
[144] IEA, supra note 139, p. 72.

significantly since World War II and is projected to surpass one billion by 2025, with air transportation also witnessing rapid growth.[145]

The projections suggest a future energy landscape still heavily reliant on finite fossil fuel reserves, with oil, natural gas, and coal collectively commanding over 90% of the primary energy mix by 2020. Renewables, despite being the fastest-growing sources, remain a marginal contributor. Furthermore, the overview highlights the stark disparities in energy access between developed and developing nations, with the latter accounting for a disproportionate share of the demand increase, underscoring the need for inclusive energy policies and investments in infrastructure. As global energy markets advance towards increased competitiveness and sustainability, concerted international cooperation will be crucial to tackle these challenges and foster a harmonized energy future that promotes economic growth while minimizing environmental harm.

- Trade Dynamics

The document further illustrated the trade dynamics of fossil fuels of the forthcoming two decades. It delineates the predominant role of fossil fuels in the global energy supply and consumption, emphasizing the supremacy of oil in international trade. The majority of traded energy comprises crude oil and petroleum products, with oil serving as a primary source of CO_2 emissions due to its consumption rates. Forecasts from the IEA indicate a significant escalation in energy commerce in the forthcoming two decades, particularly in oil and gas, steered by transportation expenses and market deregulation.[146] The energy efficiency of various fuels differs substantially. Projections suggest that net inter-regional oil trading will surge from 28 million barrels per day in 1997 to surpass 60 million barrels per day by 2020, heightening OECD's reliance on imports to 70%. As a result of dwindling oil production in OECD territories, the import reliance of OECD is expected to escalate from approximately 58% in 1996 to 70% in 2020. Beyond the OECD sphere, Asia is poised to increasingly rely on imports. Despite China transitioning to a net oil importer only in 1993, it is anticipated to import more than three-quarters of its oil requirements by 2020. Other regions will persist as net exporters. The Middle Eastern OPEC members are set to augment their market influence. The trading of gas will flourish, chiefly through pipelines and LNG, with Europe and Asia-Pacific emerging

[145] UNEP, Global Environment Outlook 2000 (1999).
[146] IEA, supra note 139, p. 50.

as primary importers. The coal trading sector will witness modest growth, with escalated imports in the Asia-Pacific area, and Japan retaining its status as the largest global importer. Nevertheless, there is a likelihood that imports could displace subsidized domestic coal in Germany and Spain. Projections indicate an expansion in European electricity trading due to market deregulation and grid integration initiatives led by the EU. Despite these advancements, global energy trading will continue to heavily rely on regional and transnational transactions, with Europe and Latin America displaying notable progress.[147]

- Trade Restrictions and Distortions

Governments have intervened in the energy sector through various mechanisms such as regulations, taxes, charges, budgetary transfers, tariffs, and quotas. The primary goal of these interventions is to ensure energy security, sustain employment, foster regional development, ensure minimum access to energy, prevent inefficiencies in unregulated natural monopolies, generate revenue, and safeguard the environment.[148] According to UNCTAD, trade policy in the energy sector has been subservient to energy security considerations. Countries that both import and export energy have utilized trade policy to safeguard energy security, often exempting the sector from conventional trade regulations for political, strategic, or diplomatic reasons.[149] The literature examining trade measures that are environmentally detrimental primarily focuses on energy subsidies, encompassing differential taxation and other governmental interventions.

Diverse studies define and assess subsidies in the energy sector using methodologies like producer/consumer subsidy equivalents and price gap approaches. The IEA broadly characterizes “an energy subsidy as any government action primarily related to the energy sector that reduces energy production costs, increases energy producers' prices, or decreases energy consumers' prices." Subsidies serve different purposes in OECD and non-OECD countries: OECD nations mainly employ producer subsidies to stimulate energy production and safeguard domestic industries, whereas non-OECD countries utilize consumer subsidies to enhance energy accessibility. Estimates of global energy subsidies vary, with a 1992 study approximating fossil fuel consumption subsidies at $230 billion annually, predominantly in the

[147] Id., p. 50 and p. 71-108.
[148] IEA. Looking at Energy Subsidies: Getting the Prices Right, World Energy Outlook, 1999.
[149] UNCTAD. Trade Agreements, Petroleum and Energy Policies, UNCTAD/ITCD/TSB/9, 2000.

former Soviet Union and non-OECD countries. Recent findings from the IEA reveal substantial under-pricing in major energy-consuming non-OECD nations. Despite notable advancements in energy sector reform, end-use prices in these countries remain approximately 20% lower than their opportunity-cost and market-based reference levels.[150] OECD energy production subsidies are calculated at $82 billion annually.[151] A study conducted by the OECD on 27 leading fossil fuel nations identified widespread price distortions amounting to nearly $60 billion each year, particularly in the form of subsidies for coal and natural gas. The study indicates that while major energy exporters commonly subsidize domestic fuel consumption, significant energy importers typically maintain artificially high domestic fuel prices.

1. OECD Countries

Over the last twenty years, the majority of OECD nations have decreased or eliminated direct energy subsidies and removed price controls, with a focus on market-driven strategies. The remaining subsidies primarily bolster domestic industries and employment, particularly in coal mining (Germany, Japan and Spain), peat (Finland and Ireland), and biofuels (France), while some promote eco-friendly energy sources and technologies.[152] These subsidies encompass grants, credit mechanisms, regulations (mandating or incentivizing consumers to buy a specific type of fuel from a designated source, often domestic, sometimes at a controlled price), differing taxation, public R&D funding, and price controls. The United States offers subsidies through direct payments, tax deductions, and R&D investment, amounting to $4 billion in 1999, down from $5 billion in 1992. Natural gas experienced the most advantages compared to oil and coal among the primary energy sources.[153] Annual OECD energy production subsidies total around $82 billion, with substantial backing for coal and nuclear energy. Although coal subsidies have been notably reduced, for instance, in IEA countries, subsidies dropped by 66% from 1991 to 1999, mainly due to planned reductions in domestic coal production and the total removal of subsidies in the United Kingdom, Belgium, and Portugal, they remain significant, with Germany representing two-thirds of subsidized production and 75% of PSE aid, and Spain contributing to 17% of subsidized production and 11% of PSE.[154]

[150] IEA, supra note 148.
[151] UNEP, supra note 145.
[152] IEA, supra note 148, p. 46-47.
[153] United States DOE, Energy Information Administration, "Federal Financial Interventions and Subsidies in Energy Markets 1999: Primary Energy", September 1999.
[154] IEA, Energy Policies of IEA Countries, 2000 Review (2000).

R&D spending in IEA nations decreased from $9 billion in 1990 to $7.1 billion in 1998, with nuclear technologies still receiving the most funding and the least fell on coal. It is also noted that the uneven application of fossil fuel taxes effectively subsidizes coal, which is taxed less than cleaner alternatives. This stems from the historical purpose of taxation being revenue generation rather than internalizing negative environmental impacts.[155] Energy levies in Europe surpass those in other OECD regions, with oil facing the highest tax burden. In 1999, taxes on oil constituted 45% of the total revenue generated from oil sales.

2. Non-OECD Countries

In numerous non-OECD nations, the energy industry is controlled by state-owned monopolies that implement government directives, often masking the extent of governmental involvement.[156] An IEA examination revealed that end-user energy prices in the eight largest energy-consuming non-OECD countries are approximately 20% lower than market rates, with the most distortions observed in Iran, followed by Venezuela, Russia, Indonesia, Kazakhstan, India, China, and South Africa. China and India heavily subsidize coal whereby it distorted price of coking coal by 73% and 42% respectively.[157] The World Bank highlights that such subsidies frequently do not effectively assist the intended poorer populations, instead benefiting wealthier individuals and leading to financial challenges in state-controlled energy enterprises.

An OECD analysis of the 27 largest energy-consuming and producing nations underscores substantial subsidies in major energy producers such as Saudi Arabia, Iran, Russia, Venezuela, and Mexico, which maintain prices below global levels. Non-payment and energy theft, particularly in Russia, Ukraine, and India, further strain these sectors to the point of bankruptcy.[158] Energy taxation in non-OECD nations generally mirrors that of the OECD, with a focus on cleaner fuels, albeit at lower rates. In countries like Brazil, China, India, Indonesia, and Russia, the power and industrial sectors face relatively modest taxes, while gasoline and diesel duties serve as significant revenue streams.[159]

Market-oriented reforms are reported by the IEA in OECD and non-OECD countries, with increased competition in electricity and natural gas markets, allowing consumer choice. Non-

[155] Id, p.20-21.
[156] ECON Senter for Okonomisk Analyse, supra note 112.
[157] IEA, supra note 148.
[158] IEA, supra note 154.
[159] ECON Centre for Economic Analysis, Carbon Based Energy Taxes in Developing Countries, January 1998.

OECD countries are demonopolizing state-owned utilities, deregulating prices, and privatizing, facing challenges in price decontrol due to potential social hardships. The IEA summarizes energy sector reforms in various non-OECD countries, highlighting progress in China and challenges in India, Brazil, South Africa, Argentina, Chile, and Indonesia with respect to price controls and reduction of subsidies.[160]

- Environmental Benefits

As we have already seen, Energy production and consumption have harmful environmental effects such as pollution and ecosystem degradation, impacting human health. The impact varies by fuel type and considering the entire fuel cycle is crucial. Coal mining causes deforestation, land loss, and pollution. Oil and gas drilling harm habitats and can lead to spills. Natural gas is a potent greenhouse gas. Nuclear energy poses risks of accidents and radioactive waste disposal. Renewable energy can also alter ecosystems and cause displacement of people. According to IEA, by 2020, emission rates in the developing countries will contribute 50%, OECD countries 40%, and transition economies 10%.

The document illustrated the results of the outcomes of multiple simulations regarding trade policy reform and its impact on CO_2 emissions. A study conducted by the IEA explores the consequences of eliminating all energy end-use subsidies in eight prominent energy-consuming developing nations.[161] The analysis reveals that the removal of these subsidies, primarily targeted at consumption, leads to a 13% decline in energy consumption and a 16% reduction in CO_2 emissions. This decrease is partly attributed to the discontinuation of substantial coal subsidies. The study emphasizes that eliminating subsidies enhances economic efficiency by rectifying price distortions and decreasing economically inefficient choices. Moreover, there is a decrease in energy import demand in previously importing countries, thereby bolstering global energy security. Nevertheless, the study does not specify the resultant fuel composition in these countries post-subsidy removal.

An examination of the impact of liberalizing fossil fuel trade in OECD and non-OECD countries, through three scenarios, reveals intriguing insights.[162] The scenarios include only

[160] IEA, supra note 148, p. 16-17.
[161] IEA, supra note 148, p. 62-69.
[162] OECD, Environmental Effects of Liberalizing Fossil Fuels Trade: Results from the OECD Green Model, COM/TD/ENV (2000)38/Final, September 2001.

OECD liberalization, only non-OECD liberalization, and universal liberalization across all countries. The results indicate that liberalization can lead to a reduction in GHG emissions in certain countries while causing an increase in others, such as Japan. In the "OECD-only" scenario, there is a surge in fossil fuel demand and imports, yet CO_2 emissions remain constant. Conversely, the "non-OECD-only" scenario triggers a rise in energy prices, resulting in reduced consumption and emissions. The "all countries liberalize" scenario shows a modest decrease in CO_2 emissions. As a consequence, trade patterns shift, with OECD nations amplifying imports due to price drops, and non-OECD nations diminishing consumption and imports due to price hikes. The model suggested an overall 4.4% surge in fossil fuel trade by 2010, without specifying alterations in global fossil fuel consumption or the fossil fuel mix. It is important to note that non-fossil fuel energy sources are not taken into account.

In a separate simulation, the elimination of fossil fuel subsidies in OECD countries is combined with the implementation of an ad valorem tax on fuel usage.[163] The ad valorem tax escalates annually by 2 percentage points for coal, 1.6 percentage points for crude oil, and 1.2 percentage points for natural gas, achieving a cumulative tax rate of 50%, 40%, and 30% of pre-tax prices by 2020. The tax increase is associated with the carbon content of the respective fuels. Consequently, there is a drop in global coal, oil, and natural gas consumption, with significant environmental ramifications stemming from the subsidy removal and tax imposition. This policy adjustment results in a 25% decrease in both SO_2 and CO_2 emissions, leading to improved local air quality and a mitigation of global warming effects. Despite a marginal 0.1% decline in the gross domestic product of OECD nations (potentially due to the contraction of energy production), the environmental benefits are substantial.

While the OECD model illustrates that independent OECD liberalization leads to a long-term increase in CO_2 emissions, the final simulation underscores the pivotal role of accompanying environmental policies. The introduction of taxes in the last scenario demonstrates their capacity to reduce overall energy consumption levels. There are various tools available to internalize negative environmental externalities, many of which are already being utilized. These instruments are crucial in assigning value to environmental resources.

[163] OECD, Environmental Outlook, 2001.

4.3.2 Post Doha Round

In September 2002, a submission made by Saudi Arabia examined the role of CTE and the Negotiating Group on Market Access in addressing the impact of trade and environmental policies on energy-producing and exporting countries within the Doha Work Programme.[164] It emphasizes the interconnectedness of global trade and environmental policies managed by the WTO to resolve conflicts. The paper explores how one country's environmental measures can affect another's economic interests, especially for developing energy exporters like Saudi Arabia. It analyses the implications of the WTO's trade and environment agenda on energy exports, focusing on the effects of developed countries' energy and environmental policies on developing nations.

The Doha WTO agreement of November 2001 reiterated the dedication to safeguarding the environment, ensuring that regulations do not hinder trade or show bias towards specific nations, and underscored the necessity of trade and environmental policies that complement each other. Deliberations at Doha were centered on enhancing market accessibility, particularly examining the impact of environmental measures on developing nations and the advantages of eliminating trade barriers, which is vital for developing countries reliant on energy exports.

- Energy Policies

Carbon taxes, implemented by OECD countries, are designed to levy charges on goods based on their greenhouse gas emissions, aiming to curb emissions while generating government revenue. Currently, these taxes vary widely across OECD nations, particularly targeting heavily taxed petroleum products like gasoline and automotive diesel in the EU, where taxes can constitute a significant portion of the end-use price. Despite their primary goal of reducing CO_2 emissions, these measures have primarily boosted government income without effectively lowering overall emissions as intended. This disparity has raised concerns, especially regarding potential adverse trade impacts on developing countries.

In OECD nations, the coal markets within domestic boundaries are notably distorted due to the persistent presence of subsidies and tax privileges. According to the IEA's 1998 document

[164] World Trade Organisation, Energy taxation, subsidies and incentives in OECD countries and their economic and trade implications on developing countries, in particular developing oil producing and exporting countries, Submission by Saudi Arabia, Doc. WT/CTE/W/215, TN/TE/W/9, 23 September 2002.

"Coal Information," approximately 5.5% of coal production in IEA member states benefited from government assistance, notably in countries such as Japan, Germany, Turkey, Spain, and France, with France being the sole nation committed to discontinuing all subsidized coal production. Given that coal is predominantly utilized for electricity generation, discontinuing these subsidies would likely encourage the adoption of alternative fuels, like natural gas, benefiting hydrocarbon-exporting countries such as Saudi Arabia by potentially boosting the demand for their exports.

COAL SUBSIDIES

US $ Million

	Production	Other	Total
Germany	5,579	467	6,046
Spain	798	413	1,211
France	100	671	771
UK	0	581	581
Japan	528	0	528
Total	7,005	2,132	9,137

Subsidies for nuclear power in OECD countries are being gradually phased out but still receive substantial support. Renewable energy is now a key part of climate change strategies in OECD nations, especially through the EU's efforts. The UK plans to increase renewable energy share from 2% to 10% by 2010. EU programs include financial support, technology research, commitments, and legislation for renewable energy. IEA predicts renewables will make up 3% of total energy consumption by 2020, but there are concerns that financial aid favours renewables over other forms of energy.

- Economic Consequences for Developing Countries

Article 2 of the Kyoto Protocol under the UNFCCC delineates strategies to combat climate change through policies and measures. Significant concerns for developing countries that produce and export oil revolve around the potential decline in global energy demand for their resources and the adverse impacts on their economic progress. The evaluation proposes the following strategies as advantageous for all stakeholders:

- Elimination of prevailing distortions in the energy market, including coal subsidies and discriminatory tax systems in OECD nations.

- Promotion of technology transfer, investments, and research, particularly in technologies that enhance the efficiency and emissions performance of oil-based products.

Fossil fuels serve as the primary source of export revenue for oil-producing developing nations. In 1998, Saudi Arabia's energy exports amounted to around $30 billion, constituting nearly 40% of its GDP, whereas non-energy exports were less than $3 billion. In contrast, energy-exporting OECD countries like Australia and Canada derive less than 5% of their GDP from energy exports.

The crucial economic impacts on developing exporters encompass adverse tax policies that reduce demand and revenues from oil, along with constraints on global industrial expansion and GDP growth. There's also a loss of market share to alternative energy sources as fossil fuels are increasingly substituted by renewable and nuclear energy options. The projected GDP reductions for these nations range from 3% to 5.1% by 2010, significantly impacting their national progress and societal well-being due to their heightened reliance on energy exports compared to developed nations. Certain studies such as those using the GREEN and IEA World Outlook models indicate that implementing carbon taxes at rates like $300/t and $700/t could result in significant economic impacts and welfare losses. Specifically, developing countries heavily reliant on exporting fossil fuels would experience substantial declines in GDP growth and welfare, ranging from 4.2% to 12.5% by 2010 compared to business-as-usual scenarios. These taxes reduce global demand for fossil fuels, lowering export volumes and prices, thus diminishing revenues from fossil fuel exports. Moreover, the unequal distribution of abatement costs would disproportionately burden developing nations over time, shifting from OECD countries initially to developing economies later.

- Impacts Beyond Borders

Developing nations, especially those reliant on oil exports, have the potential to alleviate economic repercussions if advanced economies phase out prevailing energy and fuel taxes as well as subsidies. The transmission of effects hinges on four primary alterations in trade dynamics: the alterations in trade conditions resulting from these measures would cause imports from developed countries to become pricier due to increased energy expenses there. Simultaneously, the export of energy from developing countries would garner lower prices due to diminished demand. Furthermore, the export of non-energy-intensive goods to developed nations would witness a decline in prices owing to a general reduction in import demand by developed countries. Conversely, the export of energy-intensive products from all nations would experience price hikes. These transitions lead to substantial wealth redistribution, predominantly affecting developing oil producers and less affluent developing nations while advantaging developed nations and major developing oil importers.

In particular, the imposition of carbon emission constraints and heightened oil levies in developed countries would curtail their oil demand, resulting in a decline in global oil prices. Consequently, there is a reduction in oil output and export revenues for oil-exporting developing nations, compounded by increased import expenditures from developed states and reduced demand for other exports due to decreased economic activity in developed nations. Nations such as Saudi Arabia, heavily reliant on oil exports, face the most severe consequences as their terms of trade deteriorate: export prices decrease while import prices escalate, placing strain on their economies. This initiates an adverse economic cycle for poorer developing countries, constraining their capacity to generate revenue from exports and elevating their import outlays.

- Recommendation

As international trade and environmental strategies become more intertwined, the implementation of measures to mitigate the repercussions on these nations and enhance their market entry becomes imperative. Nevertheless, apprehensions exist regarding the potential conflict between environmental policies, such as those addressing climate change, and WTO commitments, which could safeguard domestic interests and possibly impede energy exports from developing nations.

The document illustrated that the energy tariffs in OECD countries disproportionately disadvantage developing oil-exporting nations by heavily taxing oil and petroleum products. The extensive subsidies for coal and nuclear energy within OECD nations create market distortions, favouring inefficient and environmentally harmful energy sources. Removing these subsidies would benefit developing oil exporters. However, the introduction of a carbon tax poses significant economic risks, especially for developing countries heavily reliant on fossil fuel exports, potentially leading to reduced GDP growth, welfare losses, and decreased imports demand from developing regions. This tax would particularly impact energy-exporting nations due to plummeting fossil fuel prices. Moreover, the regressive nature of a carbon tax without compensatory measures could exacerbate inequality, particularly affecting lower-income segments and conflicting with developmental goals. Disparities in tax and subsidy levels could also create trade barriers, hindering the participation of developing countries in global trade and further impeding their economic development.

While efforts aimed at reducing distortions in the energy market and implementing carbon taxation aim to address environmental issues, they also present notable economic and equity challenges for developing oil-exporting nations. To bolster development strategies and sustainable expansion, it was suggested that reforms should strive for a more balanced and fair approach, avoiding measures that disproportionately impact vulnerable economies.

The document appears to place greater emphasis on the impact of trade measures due to environmental regulations, advocating for the removal of subsidies to facilitate economic development in developing countries. Their focus is primarily on the economic welfare and developmental aspects of developing countries that are exporters of fossil fuels. They highlighted the importance of the tax regime under the developed countries. Although, the document acknowledges the interconnection between trade and the environment, it suggests that the WTO's role lies in mitigating disputes among countries concerning MEAs, rather than policing trade-related environmental policies. Consequently, the document emphasizes the need to depart from discriminatory tax and subsidy policies to uphold the economic development of these nations, aligning with global demands. These disparities limit the participation of developing nations in global trade and impeding their economic development trajectories. Thus, the rationale appears to be centered on critical need for policy frameworks that reconcile environmental imperatives with the developmental needs of these nations, ensuring that trade measures do not inadvertently undermine their economic stability.

The pivotal role played by the energy sector in the global economy has been clearly observed, as it serves as a fundamental element for nearly all economic processes. The use of fossil fuels, however, presents significant obstacles in terms of resource allocation and energy preservation. It is argued that the elimination of trade barriers could indirectly result in environmental advantages by accurately assessing environmental resources and implementing suitable policy measures. Consequently, it has been illustrated that the reduction of energy subsidies can bring about a decrease in energy consumption and emissions, consequently aiding in environmental preservation. Nevertheless, this process is not devoid of complexities, including the impact of broader economic consequences, fuel substitution trends, and technological aspects. Furthermore, it is imperative that these reforms are gradually introduced alongside specific financial support to address the potential social repercussions on vulnerable groups in developing nations. The examination highlights the significance of a comprehensive strategy that harmonizes economic development, energy security, and environmental sustainability, encouraging global collaboration and all-encompassing policy frameworks to address these intricate challenges.

Chapter 5: The Unrealized Potential in the Doha Round

5.1 Introduction

The scope of IEA and OECD has expanded significantly since the Doha Round. Their estimations suggest that a considerable proportion of these subsidies were allocated to petroleum products prior to the outbreak of the pandemic, a time characterized by elevated fossil fuel prices.[165] The delineation of fuel commodities offers an overview of the aggregate subsidies allocated to each commodity. These subsidies can be categorized as follows: Coal received 30% of the total subsidies (largely attributed to the under-pricing of carbon and pollution damages), petroleum accounted for 47% (primarily due to inadequate excise taxes), natural gas received 18% (with half being implicit), and electricity received 5% of the total subsidies.[166] Although coal was prominently discussed during the early stages of WTO negotiations, it is clear that advancements in technology have significantly increased the utilization of fossil fuels. The initial decline in fuel consumption brought about by the pandemic led to a decrease in the overall monetary value of these subsidies. Nevertheless, with fossil fuel prices reverting to pre-pandemic levels, it is probable that the subsidies are once again on the rise, despite the widely acknowledged fact that such subsidies can run counter to environmental objectives if not effectively regulated.

While the regulation of energy subsidies has been a key focus in the long-standing debate on the interaction between international trade rules and environmental protection measures (the 'trade and environment' debate within the WTO), the issue of fossil fuel subsidies has frequently been neglected. A sweeping reform of fossil fuel subsidies promises to slash global fossil fuel CO_2 emissions, carving them down by 43% from the projected 2030 levels, or 34% below the marks set in 2019. This ambitious cut aligns with the urgent call to trim greenhouse gases by 25-50% by 2030, a vital step to keep the planet's warming within the gentle embrace of 1.5-2°C as well as raising the global economic welfare by USD 4.4 trillion. Even a partial reform carries a powerful promise, trimming emissions by 32% from the looming 2030 projections.[167] But the disparity in fossil fuel subsidies and trade & environment raises inquiries regarding the

[165] Joachim Monkelbaan and Ronald Steenblik, "Fossil fuel subsidy reform: what role for the World Trade Organization? Working Paper No. 3 in Trade and Environmental", Sustainability Series, 2021.

[166] IMF, supra note 10.

[167] Id.

limited focus on the substantial subsidization of fossil fuels over the years, given that the primary goal of its reformation is to diminish dependence on fossil fuels and achieve the emission reduction objective outlined in the UNFCCC, while also promoting sustainable development.

The prevalence of fossil fuel subsidies and the necessity of their reform were highlighted by the then WTO Director-General, Pascal Lamy in 2013. During a workshop organized by the Energy Charter Secretariat, Lamy emphasized the constructive need to discuss the intersection of trade and energy, stating that:

"*The surge in world energy prices in recent years has drawn high-level attention to fossil fuel subsidies, including by the G-20. The link between* subsidies*, consumption of energy and climate change has added a new dimension to the debate. Given that WTO members have decided to tackle the issue of environmentally harmful subsidies in the fisheries sector as part of the Doha Round, the absence of this topic from the WTO radar screen can be considered as a missed opportunity.*"[168]

Fossil fuel subsidies did not bloom out of the blue for the Members of WTO, rather they been in the spotlight and gained attention through practises such as dual pricing system which were even debated during the WTO accession talks of energy giants like Saudi Arabia and Russia. The USA and the EU were particularly insistent that these nations pledge to reform their dual-pricing practices.[169] It is baffling to know that there is a dearth of decisive action and policy to address fossil fuel subsidies within the WTO.

5.2 Shortcomings of the Doha Round

The necessity of eliminating fossil fuel subsidies is crucial for ensuring the environmental advantages linked to sustainable development. Many studies on sustainable development begin with acknowledging an "environmental paradox," highlighting the disparity between human demands on Earth and its capacity to meet those demands. This paradox forms the basis of discussions on achieving sustainable development, with various schools of thought proposing

[168] Lamy P, Lamy calls for dialogue on trade and energy in the WTO, Energy policies and the WTO, Workshop on intergovernmental agreements in energy policy, April 2013.
[169] Henok Asmelash, "The Regulation of Environmentally Harmful Fossil Fuel Subsidies: From Obscurity to Prominence in the Multilateral Trading System", EJIL, Vol. 33 No. 3, 993–1023, 2022.

methods to bridge the demand-supply gap. One perspective views nature primarily as a resource that humans have the right to dominate, with economic growth seen as a measure of 'progress,' implying nature exists for human benefit. This view of sustainable development seeks to comprehend nature for control and management. It reflects an optimistic belief that environmental issues can be resolved through technological advancements, with a core belief in the continuity of economic growth and resource utilization. In contrast, a more robust approach to sustainable development argues that the focus should not be on sustaining development rather it should endorse the environment, nature, and ecosystems. Advocates of this approach promote a biocentric egalitarianism that recognizes nature's intrinsic rights, irrespective of human exploitation. They call for a shift towards a more decentralized, small-scale way of life to create a socio-economic system that is less harmful to nature.[170]

A middle-ground stance integrates aspects of weak and strong sustainability, aiming to balance economic progress with environmental conservation. This perspective emphasizes the importance of technological innovations and efficient resource utilization, alongside advocating for changes in consumption patterns to align with Earth's finite resources. The concept of mutual supportiveness is reflected in the international sphere through Agenda 21, adopted by the UN Conference on Environment and Development. This agenda emphasizes the need for the international economy to create a conducive environment for achieving environmental and developmental objectives by ensuring that trade and environmental policies complement each other. States are urged to endorse policies, both domestically and internationally, that promote the harmonization of economic growth and environmental protection.

This served as the foundation for the discourse on Trade and Environment within the framework of the WTO, in which the CTE was directed to engage in endeavours "with the aim of making international trade and environmental policies mutually supportive."[171] This principle was reaffirmed in the Doha Ministerial Declaration, which emphasizes the belief of WTO Members "that the aims of upholding and safeguarding an open and non-discriminatory multilateral trading system, and working towards environmental protection and sustainable development, can and must be mutually supportive."[172]

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[170] Colin C. Williams and Andrew C. Millington, "The Diverse and Contested Meanings of Sustainable Development", The Geographical Journal, Vol. 170, No. 2, Environment and Development in the UK, June 2004.
[171] WTO, Committee on Trade and Environment, Doc. MTN/TNC/45(MIN), Decision of 14 Apr. 1994.
[172] Ministerial Declaration, supra note 89, at para. 6.

There exists a critical differentiation between expressing comprehensive backing for the reciprocal reinforcement of trade and sustainable development and pinpointing specific domains where this can be accomplished within the framework of the WTO. Lamy, in the forward to Gary Sampson's book on sustainable development in the WTO, recognizes the potential conflict between trade liberalization and objectives related to sustainable development, proposing that trade openness by itself is not inherently advantageous. It necessitates a regulations-based framework (the WTO) in conjunction with appropriate domestic measures, underscoring the responsibility of national authorities in steering sustainable development. In order for mutual support to be realized, the WTO must acknowledge national sovereignty in establishing regulations, provided that these do not contradict WTO commitments and are in harmony with the open and non-discriminatory essence of the multilateral trading system.[173] Consequently, the most beneficial role for the WTO often involves refraining from interference. This underscores the correlation between national regulations on sustainable development and WTO legislation. Governments need to institute fitting social welfare and environmental policies that align with WTO regulations, while steering clear of any conflicts. Nonetheless, there remains a chance that such policies could occasionally clash with WTO regulations, laying bare an incongruity between trade liberalization and sustainable development principles. Regulations on sustainable development might impede market entry, adversely affecting trade liberalization and giving rise to inherent inconsistencies within the concept of mutual support. In such instances, striking a balance between the regulatory independence of Member States for non-trade objectives and their trade-related duties under WTO legislation becomes imperative. This practical approach recognizes the necessity of making concessions between trade liberalization and sustainable development. In the realm of dispute resolution, this balancing act has incited discussions about the WTO's jurisdiction to adjudicate on matters that exceed its trade-focused mandate. Nevertheless, considering the overlap between trade liberalization and sustainable development, it is inevitable that the WTO's mechanism for resolving disputes will need to tackle scenarios requiring concessions between these objectives, as the relationship is not universally harmonious in every regulatory context.[174]

From the standpoint of sustainable development encompassing the three pillars of economic, social and environmental sustainability, the concerns regarding the intersection of trade and the

[173] Gary P. Sampson, "The WTO and Sustainable Development", United Nations University Press, 2005.
[174] Emily Barrett Lydgate, "Sustainable Development in the WTO: From Mutual Supportiveness to Balancing", World Trade Rev., 2012.

environment predominantly emerge when environmental policies come into opposition with global trade regulations. This signifies that the discourse on trade and the environment emphasizes the resolution of conflicts rather than the enhancement of mutual support within this domain. The alignment between these two principles is evident when global trade regulations prevent the distortion of trade and the detrimental effects of fossil fuel subsidies on the environment. Nevertheless, discord arises when these regulations prohibit subsidies for sustainable energy sources. Analysing the relationship between energy subsidies and global subsidy regulations through the lens of sustainable development underscores the prevalence of conflicts over mutual support.[175] Fossil fuel subsidies are a prime example where mutual supportiveness is difficult to achieve, necessitating a balancing act but the Doha Round failed to ensure this objective of mutual supportiveness as envisaged in Preamble of its Declaration. The subsidies are often trade-distorting and environmentally harmful, yet some countries justify them on the grounds of national welfare and energy security.

There is a presumption that non-participation of energy-exporting nations such as Saudi Arabia and Russia in the initial stages of multilateral trade discussions diminished the incentive for other members to address energy-related matters or establish specific trade regulations concerning energy.[176] This scenario was exacerbated by the lack of political focus on the liberalization of energy trade during that era, despite the historical significance of energy in geopolitics. The sector was predominantly controlled by state-run monopolies, leading to strict territorial divisions. Global trade of energy resources and products was characterized by high levels of concentration, cartelization, and domination by a limited number of multinational corporations. Consequently, the WTO did not specifically address energy as a separate sector. The prevailing belief was that the existing general regulations, including those related to state trading, were adequate in governing energy trade.[177] In that period, energy resources were abundant and cost-effective, influencing the formative phases of the multilateral trade framework developed in the late 1940s. Despite efforts to quantify yearly oil discoveries during 1947-2000, precise financial evaluations remain challenging, resembling the research expenses

[175] Henok Birhanu Asmelash, "The Trade and Environment Debate on the Regulation of Energy Subsidies in the WTO: What Kept Fossil Fuel Subsidies Off the Radar Screen?", Springer International Publishing AG, part of Springer Nature 2018.
[176] UNCTAD, Trade Agreements, Petroleum, and Energy Policies, UNCTAD/ITCD/TSB/9, 2000.
[177] Thomas Cottier et al., "Energy in WTO Law and Policy", NCCR Trade Regulation, Working Paper No. 2009/25, 2009.

in the pharmaceutical sector that often surpass direct cost-benefit analyses. Exploration activities predominantly result in unproductive wells, yet successful findings offset these setbacks, with the discoveries typically encompassing both oil and gas. Technological advancements like seismic tools and directional drilling have enhanced efficiency, thus lowering the expenses associated with locating and extracting crude oil, although specific statistics remain uncertain. Global data on production costs have become progressively scarce since the 1980s, constraining in-depth analysis and prompting inquiries about resource availability despite apparent technological progress. Nevertheless, if the expenses for development have indeed decreased, it indicates that the resource has become more, not less, abundant. Therefore, there is no substantial proof indicating diminishing discoveries of oil and gas. The available evidence tends to contradict this notion. However, this does not eliminate the possibility of oil potentially becoming scarcer in the 21st century.[178] Hence, energy was not considered a pressing issue at the time, despite the desire to remove fossil fuel subsidies. However, Saudi Arabia's submission regarding the impact of developed countries' energy product subsidization on developing energy exporters should have prompted a more comprehensive analysis of the energy sector among WTO Members, leading to the inclusion of fossil fuel subsidies in discussions rather than solely focusing on environmental goods and services.

Furthermore, while most negotiations on the use of fossil fuel subsidies were endorsed by developed countries such as European Union, Canada, Norway, etc., developing nations like India raised concerns about the necessity of assessing the substantial environmental benefits associated with eliminating energy subsidies in developing countries. As previously noted, developing nations frequently employ subsidies to improve energy access and ensure energy security. The elimination of these subsidies might result in increased energy costs, influencing economic expansion and industrial competitiveness, while potentially leading to societal challenges for susceptible groups. State-managed energy sectors in numerous non-OECD nations could encounter financial pressure, necessitating significant reorganization. Although there could be ecological advantages stemming from decreased energy usage and emissions, developing countries gave precedence to economic development over these issues. Effectively removing subsidies in these regions likely necessitates comprehensive strategies to alleviate

[178] Adelman, M. A., "World oil production & prices 1947–2000", The Quarterly Review of Economics and Finance, 42(2), 169–191, 2002.

adverse effects, assist impacted communities, and encourage energy efficiency and alternative energy options. In general, the procedure demands meticulous policy formulation and execution to harmonize economic, social, and environmental considerations. This highlights the lack of consensus among countries to thoroughly address the issue during the developmental rounds of the Doha negotiations.

Another plausible challenge faced is the "glass house" syndrome,[179] where most nations offer financial support for fossil fuels to varying degrees, and sparking a disagreement regarding these subsidies would resemble casting aspersions on others while being complicit in the same behaviour. Therefore, labelling another nation for the same would be deemed hypocritical, given that the accusing nation likely partakes in comparable activities. Consequently, this scenario deters countries from confronting one another, fearing the possibility of revealing their own policies to scrutiny and potential reprisal.

Moreover, it was considered that there was lack of comprehensive data on the extent and impact of fossil fuel subsidies which made it difficult to negotiate specific commitments. An investigation into the SCM committee's activities during the period of 2008-2013 revealed that members did indeed raise questions regarding the notification of fossil fuel subsidies.[180] Some inquiries focused on identifying the beneficiaries of these subsidies and the criteria for eligibility, information that should have been included in the WTO questionnaire. However, the committee had not engaged in a comprehensive discussion of fossil fuel subsidies. The table below highlights the same.

The limited number of notifications regarding fossil fuel subsidies and the paucity of inquiries within the committee unmistakably mirror the uncertainties encompassing the definition of subsidies, as previously deliberated. Members indeed report specific fossil fuel subsidies, potentially those deemed less susceptible to scrutiny, and they seek further elaboration on the documented support measures. Nonetheless, the data furnished on fossil fuel subsidies, akin to that pertaining to subsidies in a broader context, remains insufficient.

[179] Asmelash, supra note 175.
[180] Liesbeth Casier, Robin Fraser, Mark Halle & Robert Wolfe, Shining a Light on Fossil Fuel Subsidies at the WTO: How NGOs Can Contribute to WTO Notification and Surveillance, Int'l Inst. for Sustainable Development, January 2014.

Questions asked about Fossil Fuel Subsidies programs in the SCM Committee, 2008–2013[181]

COUNTRIES	QUESTIONS RECEIVED	QUESTIONS ASKED (OF OTHERS)
Australia	0	3
Brazil	1	1
Canada	0	2
European Union	2	2
India	1	3
Japan	1	0
Korea	1	0
Mexico	1	0
Taiwan	1	0
Turkey	0	1
Ukraine	1	0
United States	5	2
Total	14	14

A major failure on the part of WTO was to make substantial advancements in the Doha Round negotiations and stands as a notable challenge. A pivotal point for this stagnation has been the concept of the "Single Undertaking" strategy, which originated in the Uruguay Round, dictates that no individual agreement is finalized until all agreements are collectively reached. Paragraph 47 of the Doha Declaration articulates, “with the exception of the improvements and clarifications of the Dispute Settlement Understanding, the conduct, conclusion and entry into force of the outcome of the negotiations shall be treated as parts of a single undertaking.”[182]

[181] WTO, SCM Committee, G/SCM/M/62 through G/SCM/M/84.
[182] Ministerial Declaration, supra note 89.

This guideline has presented significant hurdles, particularly with the expansion of WTO membership from the original 23 contracting parties under the GATT to 143 member states, which has risen to 166 in present. The WTO now includes a diverse range of sovereign nations, encompassing both developed and a varied array of developing countries, each with unique national interests and intricate trade and economic ramifications. Therefore, achieving the essential consensus under the Single Undertaking rule proves exceedingly challenging, if not unattainable, especially within the context of the dynamic and constantly evolving international trade and economic milieu. The intricacy is further exacerbated by the differing priorities and economic circumstances of the member states. Developed nations often harbour dissimilar trade and economic objectives compared to developing countries, resulting in a complex negotiation landscape. This substantial divergence in national interests renders consensus-building under the Single Undertaking principle notably strenuous, consequently impeding the advancement of the Doha Round.

The imperative for complete unanimity among a highly diverse and expanding membership complicates the decision-making process, posing challenges in achieving the requisite agreements and propelling the negotiations forward effectively. The extensive negotiations within the Doha Round, which cover agriculture, Non-Agricultural Market Access (NAMA), trade facilitation, Trade-Related Aspects of Intellectual Property Rights (TRIPS), Trade in Environmental Goods and Services, and Multilateral Environmental Agreements (MEAs), combined with the Single Undertaking principle, make the incorporation of fossil fuel subsidies an especially complicated matter but ought to have been a deemed necessity.

5.3 Repercussions Over Ineffective FFS Negotiations: Case Studies

Subsidies represent a complex economic intervention with far-reaching implications for resource allocation, influencing costs and prices across economic, social, and environmental domains. The quantification of these multifaceted effects, particularly regarding social and environmental benefits, presents significant methodological challenges. A seminal 1999 IEA study estimated that consumer energy subsidies in the eight largest non-OECD economies

resulted in an annual net present value loss of $257 billion, thereby impeding economic growth trajectories.[183]

These subsidies frequently engender increased energy consumption, diminish incentives for efficiency improvements, and perpetuate the utilization of outdated technologies, as evidenced in various contexts. Furthermore, they exert considerable pressure on governmental fiscal resources and distort market mechanisms, leading to inefficiencies and potential import dependencies.

While ostensibly designed to ameliorate energy affordability for impoverished communities, subsidies often disproportionately benefit more affluent households and corporate entities, potentially exacerbating socioeconomic disparities. The environmental ramifications of subsidies are nuanced: while support for modern energy sources may mitigate indoor air pollution and deforestation, it generally contributes to increased greenhouse gas emissions and ecosystem degradation. However, the subsidization of fossil fuels seemed a never-ending process.

5.3.1 India and LPG Subsidies

The provision of subsidies by the Indian government for LPG in small cylinders and kerosene is sustained due to social considerations, despite the notable disruptions these subsidies induce in the energy market. The selling price of LPG in 2007 was approximately 60% lower than its production cost. Although subsidized LPG is predominantly accessible in larger urban centres, endeavours were made to broaden its distribution to smaller municipalities and rural regions. State-owned suppliers of LPG have been compelled to limit the allocation of supplies to cope with financial deficits stemming from escalating demand and global prices. The government offers only partial reimbursement to refineries and distributors for these deficits through oil securities. During the initial half of the 2007/08 fiscal year, the cumulative expense of LPG subsidies to state oil corporations and the government amounted to nearly 70 billion Rupees ($1.7 billion).[184]

[183] United Nations Environment Programme, Reforming Energy Subsidies: Opportunities to Contribute to the Climate Change Agenda, Division of Technology, Industry and Economics, 2008.
[184] Id.

Households with higher incomes, which exhibit a preference for LPG for culinary and heating purposes, derive the greatest advantage from these subsidies. Approximately 76% of the subsidy is channelled towards urban regions, which accommodate only a quarter of the populace. Within the urban subsidy framework, more than half of the benefits are concentrated on just around a quarter of households, indicating that close to 40% of the total LPG subsidy is directed to a mere 7% of the population. For this particular demographic segment, the subsidy constitutes less than 5% of their expenses, whereas individuals below the poverty threshold allocate a greater proportion of their earnings towards kerosene.

5.3.2 Venezuela and Gasoline Subsidies

Venezuela is distinguished in the Latin American region for its elevated per capita consumption of oil-derived fuel, making it the top carbon dioxide emitter per individual. Holding the largest proven crude oil reserves globally, Venezuela has actively engaged in mining and hydrocarbon endeavours, as well as the importation of vehicles supported by financial aid from China. These undertakings, coupled with governmental expenditure strategies, have encountered international scrutiny due to their purported disregard for environmental considerations.

Venezuela has upheld the status of providing the world's most inexpensive gasoline, maintaining prices unchanged since 1996 until February 18, despite previous endeavours to heighten them resulting in substantial civil unrest. In 2014, the average annual fuel consumption per person was 1,272 litres, with a cost of merely one US cent per litre. Even though the prices were elevated of the highest-octane fuel to 60 US cents per litre, the effective expense remains trivial owing to exchange rate constraints and illicit currency rates.

The notable price differential between local and international fuel prices has nurtured a flourishing illicit trade, with an estimated 30,000 to 100,000 barrels of fuel smuggled daily to neighbouring nations and Caribbean isles. Venezuela exhibits a substantial domestic demand for oil, resulting in significant CO_2 emissions, akin to levels observed in China and surpassing those of other Latin American nations.

A 2007 Initiative that cut ties of investment with the US exemplified the financial inflow from other countries, especially China. China has extended substantial financial aid to Venezuela, particularly through a $20 billion long-term loan pact primarily benefiting the state-owned oil enterprise Petróleos de Venezuela, S.A. (PDVSA). Financial backing from the China

Development Bank has also facilitated extensive infrastructure ventures, including enhancements to the Caracas Metro system and the construction of new bridges across the Orinoco River. Furthermore, China has furnished consumer goods and family vehicles to Venezuela, although challenges persist regarding parts supply and compliance with emission standards.[185]

The nation had not made significant strides towards transitioning from fossil fuels to cleaner alternatives, unlike its counterparts in the major oil industry. Environmental organizations have expressed apprehensions regarding the government's resource extraction schemes, frequently underwritten by China, which operate with limited supervision and transparency.

5.3.3 Mexico and Subsidies

Fossil fuel subsidies have played a significant role in the degradation of the environment, climate change, and exacerbation of air pollution in Mexico. Research conducted by the International Institute for Sustainable Development (IISD) demonstrated that Mexico allocated $16.6 billion in subsidies to the fossil fuel sector in 2018. Out of this sum, $2.6 billion were direct subsidies—monetary transfers from the government to the industry—while $14 billion were indirect subsidies, encompassing economic advantages derived from low tax rates, decreased fees, and other stimuli.

Mexico stands out as a prominent oil producer, with the state-owned entity Petróleos Mexicanos (Pemex) dominating the industry and heavily depending on government subsidies to ensure profitability. These subsidies, designed to maintain low fuel costs and bolster the local market, have instead contributed to Pemex's indebtedness and impeded the advancement of renewable energy. Noteworthy is the fact that only 12% of these subsidies benefit impoverished households, with the majority favouring affluent demographics that exhibit higher fuel consumption.

Despite commitments from the administration in Mexico to diminish fossil fuel subsidies and allocate more resources to renewable energy, advancements have been sluggish. In 2019, the

[185] Andrés Rojas Jiménez, “Fuel subsidies have contributed to Venezuela's economic crisis”, Dialogue Earth, March 29, 2016. (last accessed on Jun. 15, 2024).

government dispensed $8.1 billion in fossil fuel subsidies, marking a decrease from the preceding year but still a substantial figure.[186]

- Prominent illustrations of Mexico's fossil fuel subsidies involve:

In 2020, the Mexican government granted Pemex a $6.6 billion rescue package to settle debts and fund new oil initiatives. Initiatives like Progresa offer financial aid to low-income families for acquiring liquefied petroleum gas (LPG) for cooking and heating, thereby contributing to air pollution and climate change. Tax benefits facilitate the importation of gasoline and diesel, maintaining affordable prices for consumers. The state-owned Federal Electricity Commission (CFE) exports subsidized natural gas to the United States, thereby amplifying global greenhouse gas emissions. Additionally, subsidies also encompass tax waivers, reduced fees for licenses, and other incentives that curtail operational expenses for fossil fuel enterprises, thereby exacerbating economic and environmental consequences.

In essence, despite the endeavours to curtail these subsidies, a substantial amount of work remains to completely eliminate them and transition towards renewable energy sources.

5.3.4 Nigeria and Fossil Fuel Subsidies

The Nigerian economy has historically relied on a variety of subsidies, encompassing areas such as fuel, education, electricity, and foreign exchange. The initiation of fuel subsidies dates back to the 1970s and was officially established in 1977 through the Price Control Act, which governed the pricing of specific commodities, including petrol. Despite the well-meaning intent behind subsidies, their implementation in Nigeria has been tainted by instances of corruption and mismanagement.[187] Some of the critical issues associated with the fuel subsidy framework are outlined as follows:

- The financial ramifications of fuel subsidies are substantial. Notwithstanding the growth in Nigeria's total revenue from USD 10.8 billion in 2000 to USD 67.9 billion in 2010, the government allocated more than USD 30 billion towards fuel subsidies over an 18-year period. This allocation has constrained the availability of resources for crucial sectors like

[186] Pablo David Necoechea Porras, “Mexico spent $16.6 billion in direct and indirect fossil fuel subsidies in 2018”, Mexico News Brief and Action Alert, 9 May 2023. (last accessed on Jun. 15, 2024)
[187] Fuel subsidy in Nigeria - issues, challenges and the way forward, PWC, May 2023.

infrastructure, education, healthcare, and defence. In 2022, the government found it necessary to borrow N1 trillion to sustain fuel subsidies, thereby contributing to the escalating public debt of the nation.

- The subsidy model leads to economic distortions by favouring individuals who can afford fuel at market prices, rather than benefiting the most impoverished segments of society. Households within the lowest 40% of the income distribution represent less than 3% of all fuel transactions. Conversely, the majority of subsidized fuel is consumed by private enterprises, public transport services, governmental bodies, and commercial establishments. The disparity is evident in the usage of diesel-powered vehicles for mass transit and freight, which are deregulated, and household kerosene, predominantly utilized by lower-income groups and no longer subsidized. This inequity underscores the necessity for a reassessment and overhaul of the subsidy structure.
- The porous borders of Nigeria have fostered a flourishing smuggling industry. Subsidized gasoline is procured in significant quantities within Nigeria and subsequently sold at market rates in neighbouring nations. Reports suggest that in June 2022, the daily consumption of PMS in Nigeria surged to over 103 million litres, with 58 million litres being illicitly transported across borders. Smugglers and neighbouring West African countries reap greater benefits from Nigerian fuel subsidies compared to the Nigerian populace. Given the substantial price differential between Nigerian petrol and that of neighbouring countries, smuggling remains an exceedingly profitable venture.
- Corruption pervades the subsidy mechanism extensively. Subsidies are implemented at the point of import or distribution rather than at the pump for eligible beneficiaries, leading to opportunities for exploitation and other illicit activities.
- The downstream sector of Nigeria's oil and gas industry continues to be underdeveloped, despite approximately seven decades of crude oil discoveries. The prevailing subsidy structure and legislative framework dissuade foreign direct investment (FDI) in the downstream sector. In contrast to the midstream and upstream sectors, the downstream segment attracts the least FDI, impeding its progress and evolution.

It is evident that Nigeria's fuel subsidy scheme is beset by challenges related to financial sustainability, economic disparity, smuggling, corruption, and an impediment to investment, necessitating substantial reforms.

The challenges encountered by the Doha Round of WTO negotiations in dealing with fossil fuel subsidies were considerable. The increase in subsidies for coal, petroleum, natural gas, and electricity highlights an ongoing issue in aligning trade regulations with environmental objectives. The lack of effective regulation of these subsidies has impeded advancements towards global emission reduction goals and sustainable development aims. The adherence to the WTO's Single Undertaking principle, along with varying national interests among member states, has hindered the incorporation of fossil fuel subsidies. This has led to a persistent regulatory loophole that enables distorting subsidies to continue, hampering efforts to encourage cleaner energy options and address climate change.

Fossil fuel subsidies have complex impacts on economy, society, and environment globally, benefiting wealthy more than poor. Subsidies hinder market efficiency and promote outdated technologies in countries like India, Venezuela, Mexico, and Nigeria. They lead to increased greenhouse gas emissions and ecosystem degradation, despite some reduction in indoor air pollution. Reform efforts like Mexico's face challenges and require commitment to shift to sustainable energy sources, crucial for achieving global climate goals and ensuring fair energy access.

Chapter 6: Findings and Conclusion

Early civilizations viewed fire with a mixture of awe and reverence due to its dual role as the sole source of light in the darkness and a vital warmth against the cold. Since the era of burning wood, the landscape of energy consumption has undergone profound transformations over the last century. The initial wave saw the widespread adoption of electricity in industrialized nations, starting with Thomas Edison's pioneering power station in 1882. This was swiftly followed by the global expansion of petroleum trade facilitated by major oil conglomerates like the "Seven Sisters," alongside the emergence of natural gas as a plentiful and economical energy source on the global stage.[188]

As we have observed global energy consumption has quadrupled, primarily fuelled by the relentless demand from wealthy industrialized nations for oil. One significant driver of this seemingly unstoppable growth is the pivotal role that energy, particularly affordable and accessible energy, plays in fostering economic development. This connection is clearly seen in the breakdown of energy consumption across key sectors: electricity, industry, transportation, and residential use.

6.1 Key Findings

In 2022, the global expenditure on fossil fuel consumption subsidies surpassed USD 1 trillion, witnessing significant rises in natural gas and electricity allocations. These subsidies artificially maintain consumer prices below market rates, leading to escalated consumption and market distortions. The OECD evaluated direct transfers and tax exemptions pertaining to fossil fuel support schemes at USD 427.9 billion in 2022. This comprehensive inventory emphasizes substantial fiscal backing targeted towards consumers (81%), producers (16%), and general services (3%), highlighting the magnitude and influence of these subsidies on worldwide energy markets. This elucidates the scale of existing fossil fuel subsidies. These subsidies are principally categorized into consumer and producer subsidies - Consumer Subsidies: Predominantly observed in developing nations, these subsidies strive to diminish energy

[188] Andre de Moor and Peter Calamai, "Subsidizing Unsustainable Development: Undermining the Earth with public funds", Commissioned by Earth Council, 1997.

expenses for consumers. Producer Subsidies: Prevalent in both developed and developing countries, these subsidies benefit fossil fuel producers by elevating market prices or reducing production expenditures, with the aim of bolstering domestic production. Nonetheless, both types of subsidies disrupt market dynamics by favouring fossil fuels over alternative energy sources.

An initial concern regarding fossil fuel subsidies pertains to the inclusivity of the definition in the ASCM, ensuring it covers diverse forms of governmental assistance that could skew trade and competition in the global arena, where subsidies subject to WTO regulations must be specific to individual enterprises, sectors, or regions within the jurisdiction of the granting body. WTO members must establish both financial contributions and specificity to contest subsidies under ASCM regulations. WTO legislation encounters challenges in effectively addressing fossil fuel subsidies in comparison to support for renewable energy. The specificity criteria mandated by the ASCM, essential for actionable subsidies, present a significant obstacle in proving that fossil fuel subsidies confer advantages to particular entities or sectors. Demonstrating the adverse trade repercussions directly linked to fossil fuel subsidies is intricate and frequently necessitates thorough economic evaluations and data, which may not always be readily accessible or simple to compile. The assessment of fossil fuel support schemes under the ASCM exposes noteworthy hurdles in classifying them as subsidies. Instances such as Indonesia's compensations for sub-market fuel prices and Mexico's fuel tax benefits exemplify the complexities involved in verifying the requisite financial contribution according to WTO guidelines. Furthermore, subsidies like Australia's aid to Queensland Rail encounter scrutiny for their conditional nature and potential effects on global trade, complicating their classification as prohibited subsidies. The specificity requirements pose additional challenges, as evidenced by Mexico's wide-ranging tax benefits and U.S. deductions for exploration expenses, which might not align with ASCM standards due to their broad applicability. Demonstrating the detrimental effects of these subsidies, especially in terms of heightened production and trade ramifications, remains limited by data constraints. These discoveries underscore the legal and practical impediments in contesting fossil fuel subsidies within the WTO framework, crucial for stakeholders navigating international trade policies in the energy sector.

The DDA, initiated in 2001 to promote fair trade between developed and developing nations, faced significant challenges, especially in agriculture and services. Despite intermittent progress, the DDA negotiations frequently stalled, highlighting deep divisions between developed and developing countries. The eventual "Bali Package" in 2013 marked a breakthrough, but many core issues remained unresolved. Environmental considerations in the Doha Rounds represented a significant evolution in global trade policy. The establishment of the CTE and the inclusion of environmental issues in the Doha Declaration signalled a growing recognition of the interplay between trade and environmental protection. However, balancing trade liberalization with environmental goals proved complex. Developed nations like the EU and the U.S. championed stringent environmental standards, sometimes perceived as protective. The U.S. exhibited a dual stance, advocating for some environmental measures while avoiding broader commitments under MEAs. Developing countries, prioritizing economic growth, were wary of trade-related environmental measures as potential trade barriers and emphasized their right to set environmental priorities without external imposition. Overall, the dynamics of trade and environmental priorities within the WTO framework reveal a landscape of conflicting interests. Developed nations, driven by environmental advocacy, faced skepticism over potential protectionism, while developing countries sought to balance environmental responsibilities with economic development, emphasizing sovereignty and the need for financial and technical assistance.

Adding to the mix, the discussions within the WTO's CTE, particularly highlighted in meetings spanning from 1995 to 1996, reveal a complex landscape of divergent viewpoints and priorities among member states regarding the intersection of trade policies and environmental preservation. Developed countries, exemplified by Switzerland, Norway, and Australia, advocate for stringent environmental standards integrated into trade policies, emphasizing the reduction of subsidies on environmentally harmful products and promoting eco-friendly alternatives. They argue that such measures are essential for achieving sustainable development goals while acknowledging the need for comprehensive reforms in areas like agriculture and natural resources. However, developing countries, represented by nations like Nigeria and Argentina, express concerns over the potential adverse impacts of trade liberalization on their economies and environments. They stress the importance of policies that support their agricultural sectors and address energy subsidies in ways that consider local economic conditions and developmental priorities. The tensions underscored in these discussions reflect

broader challenges within the WTO framework in reconciling global trade imperatives with diverse environmental and developmental realities, emphasizing the ongoing need for balanced approaches

Saudi Arabia's 2002 submission to the WTO highlights concerns over the economic impact of environmental policies from developed countries, such as carbon taxes and subsidies for renewable energy, on developing nations that export fossil fuels. It emphasizes that these measures, aimed at reducing emissions in OECD countries, can reduce global demand for fossil fuels and diminish export revenues for developing nations. However, one can note that it is fairly being one-sided, focusing solely on the economic interests of energy-exporting developing countries while overlooking the global environmental benefits of reducing greenhouse gas emissions.

Lastly, the shortcomings of the Doha Round in addressing fossil fuel subsidies, emphasizes the environmental paradox inherent in sustainable development discussions. It contrasts different perspectives on sustainable development, from viewing nature as a resource for economic growth to advocating for nature's intrinsic rights. A middle-ground approach seeks to balance economic progress with environmental conservation through technological innovations and efficient resource use. The Doha Round aimed to make trade and environmental policies mutually supportive, but struggled with practical implementation. Key issues include the conflict between national regulations on sustainable development and WTO commitments, lack of consensus on fossil fuel subsidies, and the challenge of the Single Undertaking principle requiring unanimous agreement among 143 diverse member states. The persistence of fossil fuel subsidies, justified by national welfare and energy security, further complicated negotiations. The analysis of fossil fuel subsidies reveals a significant gap between rhetoric and action, where national interests often override global environmental concerns.

Additionally, limited comprehensive data and the "glass house" syndrome, where countries are reluctant to criticize others while practicing similar policies, hindered progress. It aptly captures the hypocrisy and strategic self-interest that can stymie international cooperation. The analysis suggests that these factors collectively stymied significant advancements in aligning trade liberalization with sustainable development in the Doha Round.

As a result, it presents intricate challenges across economic, social, and environmental dimensions. These subsidies strain governmental budgets and divert resources from critical sectors, impeding sustainable development. For instance, Nigeria's substantial expenditure on fuel subsidies has contributed to a ballooning public debt, highlighting a misallocation of resources that could otherwise foster sustainable economic growth. They distort market dynamics by discouraging investments in renewable energies and perpetuating reliance on environmentally detrimental technologies. Socially, subsidies often disproportionately benefit affluent households over low-income groups, exacerbating disparities in energy accessibility. In India, for example, a large portion of LPG subsidies goes to urban areas and wealthier households, exacerbating inequalities and failing to effectively target those most in need. Despite some subsidies aiming to mitigate indoor pollution, they overall contribute significantly to greenhouse gas emissions and environmental deterioration, undermining global climate objectives. Venezuela's cheap gasoline, for instance, has led to high per capita consumption and increased CO_2 emissions, undermining global efforts to combat climate change. Politically, subsidies may stabilize social conditions but face international scrutiny for obstructing efforts to address climate change comprehensively, as seen in Venezuela's long-standing policy of cheap gasoline to mitigate social unrest. Resolving these complexities demands a multifaceted strategy that phases out subsidies while fostering renewable energy investments and providing targeted support to marginalized communities, ensuring an equitable and sustainable energy transition.

6.2 Limitations

The dissertation has been employed keeping in mind certain limitations. Regarding its scope, the dissertation primarily concentrates on the negotiations of the Doha Round within the WTO. Although this focus offers a particular historical and institutional backdrop, it implies that broader international initiatives or mechanisms beyond the WTO, which also impact the reform of subsidies for fossil fuels, are not thoroughly examined. An additional constraint is the dearth of legal precedents and focused research within the WTO specifically addressing subsidies for fossil fuels. While the dissertation compares subsidies for fossil fuels with those for renewable energy, it might not completely integrate their synergies or conflicts within the wider discourse on trade and the environment. A more comprehensive analysis could offer an in-depth understanding of how both types of subsidies interact and influence global trade dynamics.

6.3 Conclusion

This research has delved into the intricacies and missed chances linked with dealing with subsidies for fossil fuels within the framework of the WTO, with a specific focus on the negotiations of the Doha Round. The results demonstrate that inherent constraints within the WTO, in conjunction with conflicting economic priorities between developed and developing countries, have impeded endeavours to establish a thorough framework for handling trade-distorting subsidies for fossil fuels. The Doha Round, perceived as a crucial opportunity to tackle these subsidies, did not advance significantly due to the intricate interplay of national interests and the broader global economic environment. The research highlights the pressing necessity for a well-rounded approach that harmonizes economic advancement with environmental sustainability. It advocates for revitalized initiatives to tackle the regulatory shortcomings within the WTO framework, advocating for a more consistent and efficacious approach to phasing out subsidies for fossil fuels in support of sustainable energy alternatives.

International fora such as the G20 and APEC took the initiative to phase out inefficient fossil fuel subsidies through voluntary peer reviews starting from 2009. In 2019, a small group including New Zealand, Costa Rica, Fiji, Iceland, Norway, and Switzerland commenced the Agreement on Climate Change, Trade and Sustainability (ACCTS) negotiations to establish regulations aimed at eliminating harmful fossil fuel subsidies, alongside other objectives. These endeavours underscore the commitment of nations in addressing the environmental impacts associated with such subsidies.

The effectiveness of these "soft law" governance mechanisms has varied, prompting consideration of resorting to "hard law" within the legal framework of the WTO to ensure comprehensive collaboration among global economies. The WTO's capacity to regulate subsidies gained attention during the initiation of FFSR talks within the CTE in 2014, with certain economies expressing reservations. While countries like Saudi Arabia, Venezuela, and Russia contested the CTE's jurisdiction, Canada, the EU, and others argued that the CTE's broad trade and environment mandate encompassed these subsidies, aligning with New Zealand and its allies.

Despite lingering reservations among countries regarding fossil fuel subsidy reforms, discussions within the CTE indicate an evolving consensus within the multilateral trading system which was lacking during the Doha Rounds.

The recent inclusion of FFSR in WTO Ministerial discussions underscores the urgent need to address the energy crisis amid resurfacing global conflicts such as the Russia-Ukraine war, emphasizing the imperative of ensuring economic sustainability and development. While progress towards reform is essential, it is a gradual process that cannot be expedited. Challenges persist, as highlighted in the Ministerial Statement on Fossil Fuel Subsidies (WT/MIN (24)/19) reporting a significant increase in government support for fossil fuels in 2022, surpassing USD 1.4 trillion during the global energy crisis.

An essential aspect of fossil fuel subsidy reform lies in defining the subsidies themselves. The specificity element in the SCM for subsidy definitions has contributed to disputes in the WTO's Dispute Settlement, emphasizing the distinction between trade-distorting subsidies and environmentally detrimental fossil fuel subsidies. Refining these definitions can aid in categorizing fossil fuel subsidies across economies, facilitating FFSR implementation within the WTO framework.

The concerns of developing nations remain pertinent, exemplified by Nigeria's economic struggles under international pressure to reform fossil fuel subsidies, underscoring the challenges in resource availability for effective reform implementation. The inflation is approaching 30 percent, with food prices, a significant portion of many people's expenses, increasing even more rapidly at 35.4 percent. The devaluation of the Nigerian currency has also led to higher costs for imported goods. In a nation where half the population is under 18, these escalating prices are resulting in the most severe economic hardship in recent memory. Despite the allure of these subsidies for implementation processes, the establishment of a robust institutional framework is crucial to mitigate the impacts of fossil fuel subsidy reforms.

In general, this analysis illuminates the intricacies and political dynamics that have impeded advancements in monitoring subsidies for fossil fuels, underscoring the significance of collaborative efforts and comprehensive policy structures to realize objectives of sustainable development.

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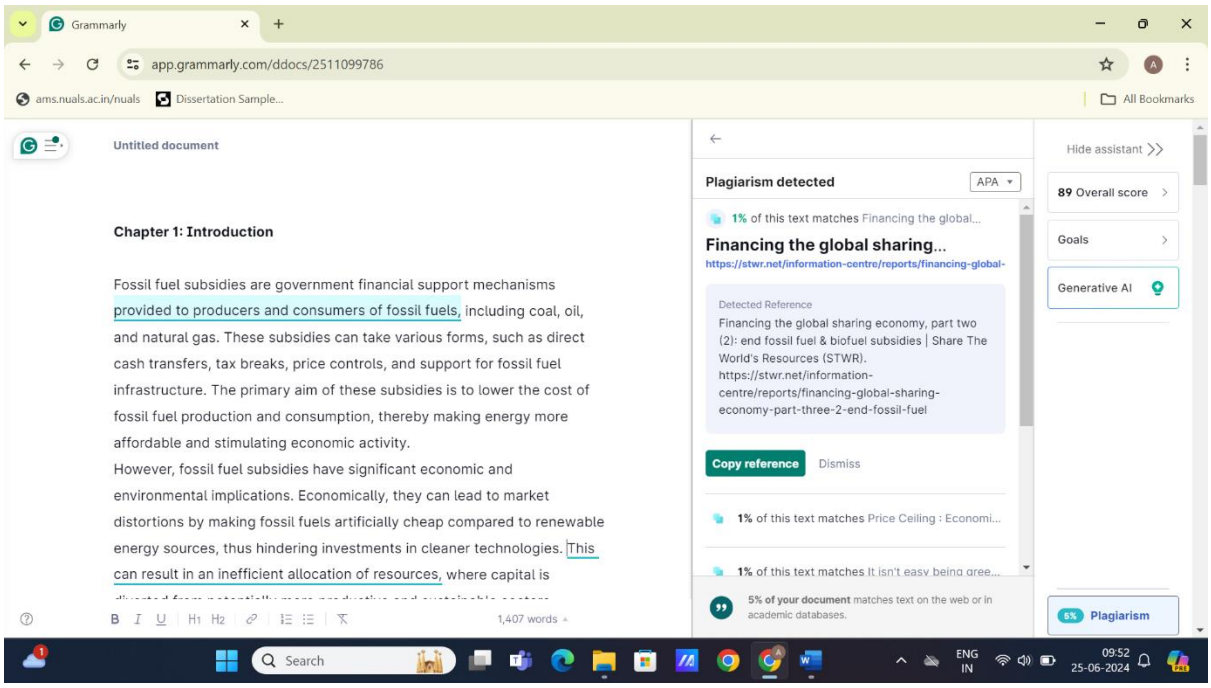
CHAPTER 1



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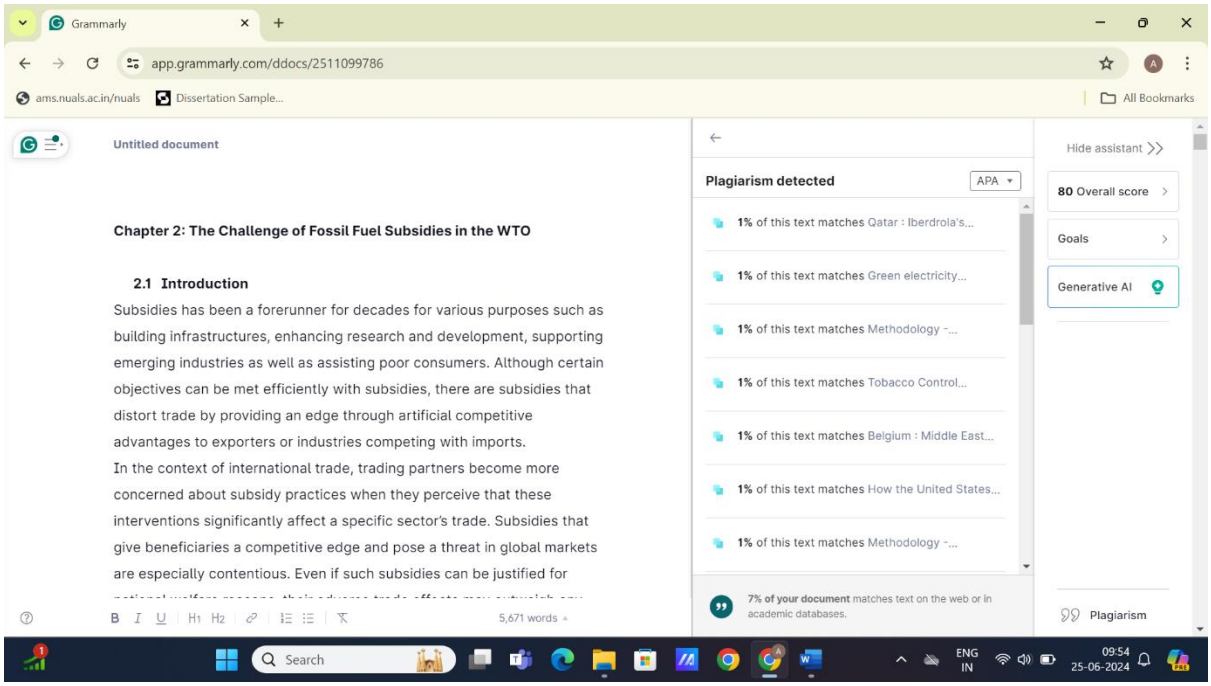

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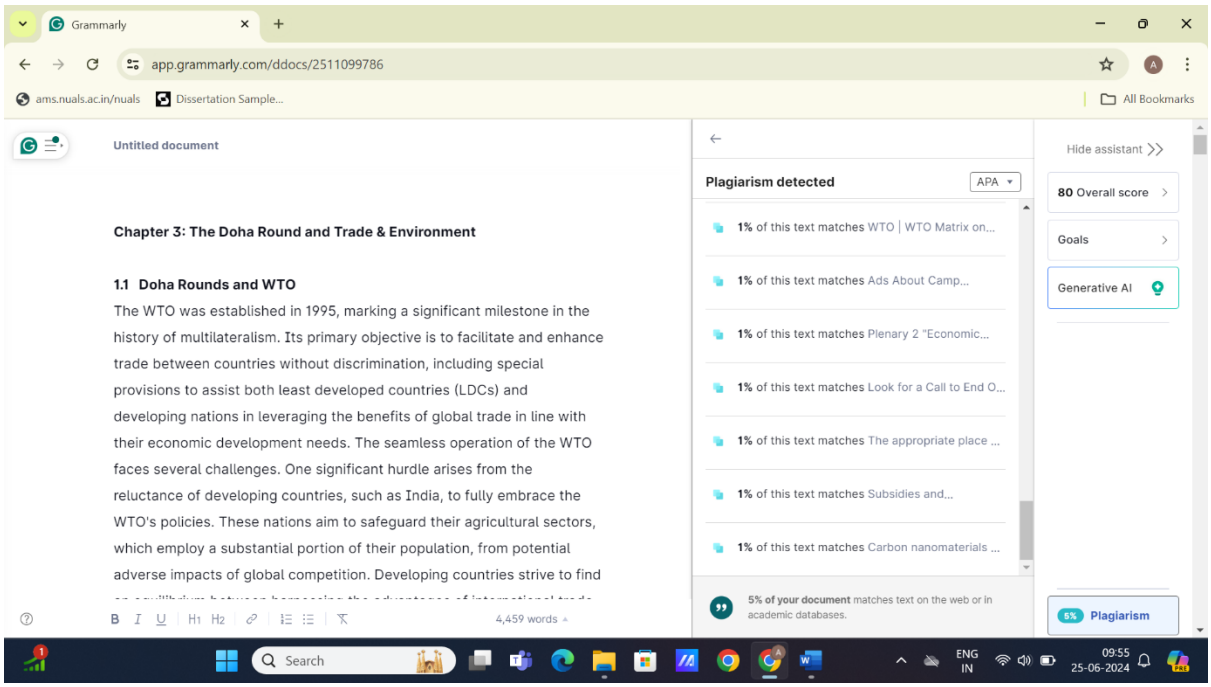

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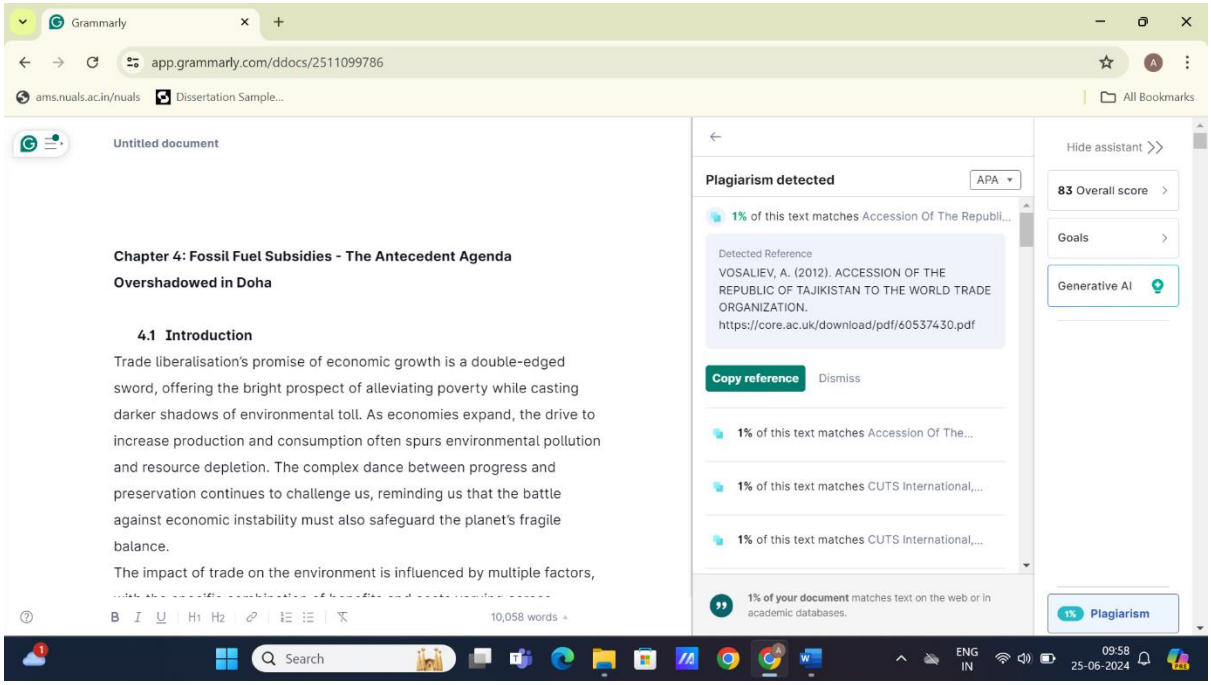
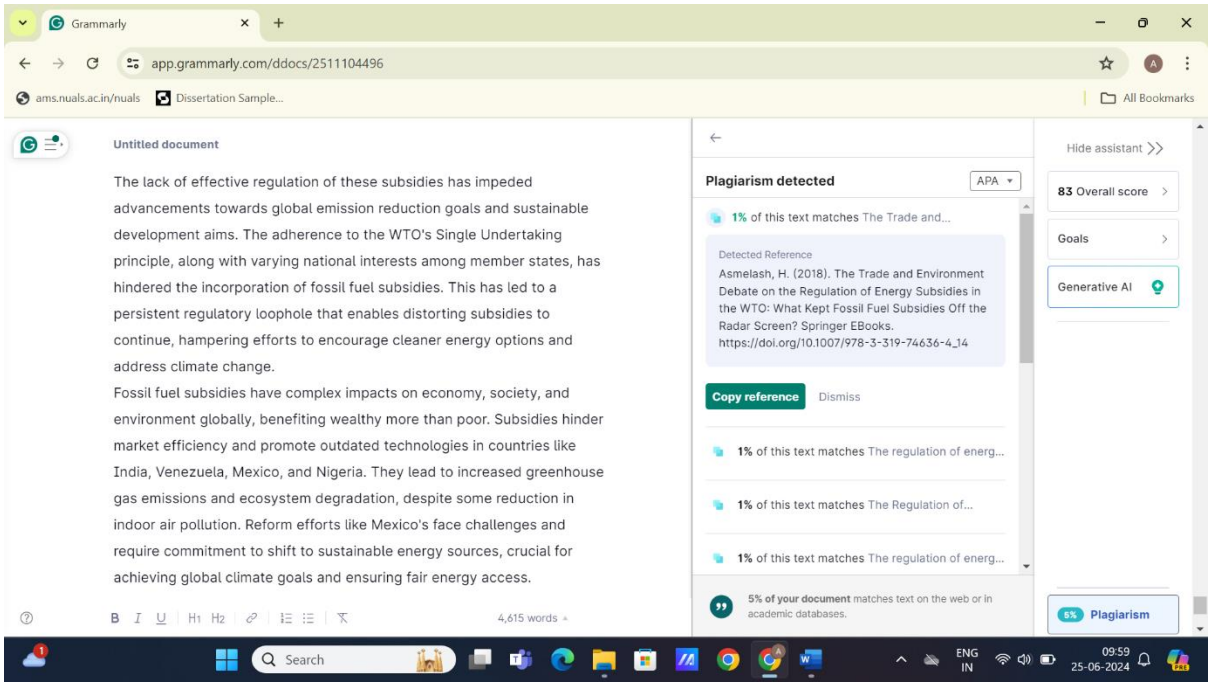


CHAPTER 5



CHAPTER 6