"Extension of WTO Regulations and Agreements to Energy Trading In the Contemporary World"

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DISSERTATION

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This dissertation is submitted in partial fulfillment of the degree of B.A., LL.B. (Hons.)

College of Legal Studies

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DECLARATION

I declare that the work embodied in this dissertation, entitled **"Extension of WTO Regulations and Agreements to Energy trading In the Contemporary World",** is the outcome of my own work conducted under the supervision of Prof. Sujith P. Surendran, at College of Legal Studies, University of Petroleum and Energy Studies, Dehradun.

I declare that the dissertation comprises only of my original work and due acknowledgement has been made in the text to all other material used.

Signature & Name of Student

CERTIFICATE

This is to certify that the research work entitled **"Extension of WTO Regulations and Agreements to Energy trading In the Contemporary World"** is the work done by **Sharmistha Mitra** under my guidance and supervision for the partial fulfillment of the requirement of Int. B.A., LL.B. (Hons) with specialization in Energy Laws degree at College of Legal Studies, University of Petroleum and Energy Studies, Dehradun.

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Designation

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ABSTRACT

This dissertation discusses the extension of WTO agreements over energy trade and analyse if there is a need of energy-specific agreement. In the light of ever-increasing energy and cross border trade, the need of specific agreement is not only cogent and plausible but necessitated.

The extension of WTO over energy products and services is demonstrated by citing various cases of the WTO dispute settlement body. From a broader policy perspective, it would be desirable for the WTO dispute settlement system to be more sensitive to non-trade policy concerns and the broader legal context of WTO disputes.

This dissertation evinces a study of WTO agreements over energy trade in the present liberalised and globalised world. The WTO rules are a milestone in the international trade of products and services. It is an umbrella organisation that includes all that was not initially included by GATT, 1947. These rules are fully applicable on energy products and services. The major argument that has surfaced on the international platform is that these rules are not applicable on energy products and services as the same is not specifically expressed.

ACKNOWLEDGEMENT

I, Sharmistha Mitra, student of Int. B.A., LL.B (Hons.) with specialization in Energy Laws, 10th Semester, College of Legal Studies, The University of Petroleum and Energy studies have made this dissertation on "**Extension of WTO Regulations and Agreements to Energy trading In the Contemporary World"**.

The research has been collected largely from secondary sources of information and the method that has been adopted is doctrinal in nature for the collection of information such as international treaties, websites, books, commentaries, journals and articles etc.

I would like to thank my mentor Prof. Sujith P. Surendran for his guidance and support and would even like to thank my friends for their suggestions.

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LIST OF ABBREVIATIONS

1. ASEAN: Association of Southeast Asian Nations
2. CIS: Commonwealth of Independent States
3. ECS: Energy Charter Secretariat
4. ECT: The Energy Charter Treaty
5. EU: European Union
6. FSU: Former Soviet Union
7. GATS: General Agreement on Trade in Services
8. GATT: General Agreement on Tariffs and Trade
9. GDP: Gross Domestic Product
10. GHG: Greenhouse Gas
11. HS: Harmonized System
12. IEA: International Energy Agency
13. IEF: The International Energy Forum
14. LNG: Liquefied Natural Gas
15. MFN: Most Favoured Nation
16. NAFTA: North American Free Trade Agreement
17. OECD: Organization for Economic Cooperation and Development
18. OPEC: Organization of the Petroleum Exporting Countries
19. SCM: Subsidies and Countervailing Measures (Agreement)
20. STE: State Trading Enterprises
21. TBT: Technical Barriers to Trade (Agreement)
22. TRIMs: Trade-Related Investment Measures (Agreement)
23. TRIPS: Trade-Related Aspects of Intellectual Property Rights (Agreement)
24. UNCTAD: United Nations Conference on Trade and Development
25. UNFCCC: United Nations Framework Convention on Climate Change
26. WTO: World Trade Organization

CHAPTER 1

INTRODUCTION

This dissertation, through its title, evinces a study of WTO agreements over energy trade in the present liberalised and globalised world. The WTO rules are a milestone in the international trade of products and services. It is an umbrella organisation that includes all that was not initially included by GATT, 1947. These rules are fully applicable on energy products and services. The major argument that has surfaced on the international platform is that these rules are not applicable on energy products and services as the same is not specifically expressed. GATT has traditionally focused on access to the domestic market and not the foreign goods and services that are supplied, internationally. The rules focusing on international trade are pertinent to import barriers, where the products face several barriers before competing in a country's domestic market. Contrary to the general situation, the problem with the energy resources is the barriers during export of resources. The states have been more concerned with securing access to energy supplies at affordable prices.

The energy sector is highly capital intensive as a lot of investment is required in exploration and production, including transportation, of oil and hydrocarbons. Trade in electricity and gas has mainly been regional due to the particular transportation characteristics of these products. The upstream sector requires huge investment. The most crucial challenge in oil and gas is investment protection and the barriers to export of energy resources, i.e., cross border transaction of energy resources. The problem, therefore, is that the same has not been addressed by the WTO rules and the linked agreements.

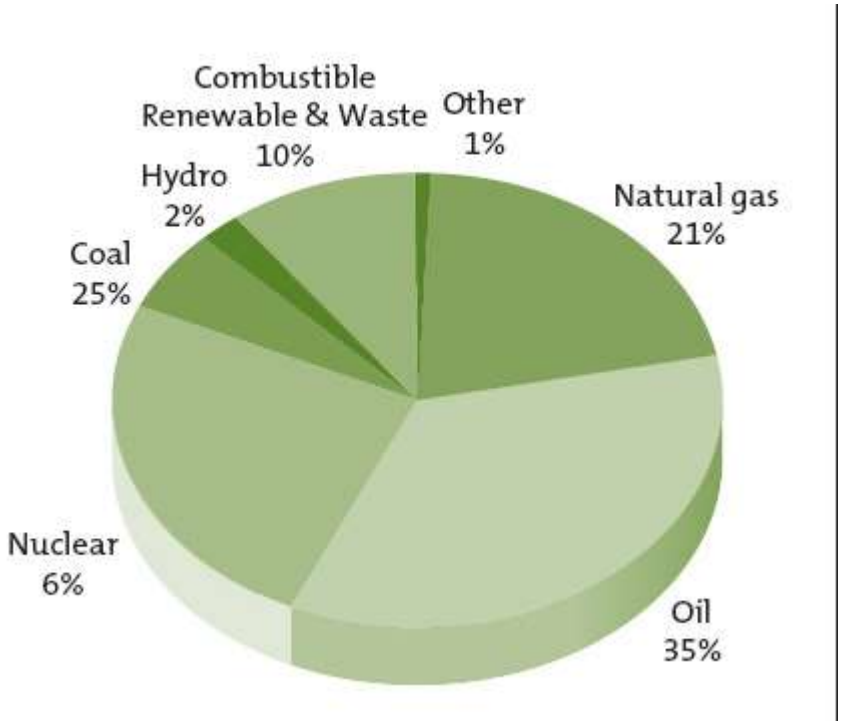
Various energy exporters are acceding to the WTO. During these accession negotiations are where energy issues are most discussed because many of the energy exporters are now in the process of acceding to the WTO. The WTO Appellate Body has confirmed that WTO members can impose additional obligations (not included in the GATT/WTO agreements) upon acceding members. For example, Ukraine, while undertaking taking transit

commitments, specifically and explicitly mentioned in its agreement, transit in 'energy'. Similarly, Saudi Arabia's protocol of accession contains provisions on dual pricing, while China's contains explicit prohibitions on export duties (subject to certain exceptions). In any of the multilateral agreements, no agreement has been made upon energy as a product and generally, it is not entered into in the agreement. The acceding nations have entered into such commitments only in bilateral negotiations. In these negotiations, specific schedules of commitments have been mentioned to record what has been negotiated and accepted upon.

Manufactured products can be produced in country without much constraint if reliance is placed on Comparative Advantage theory of International Economic Law. The same is not true for energy resources. Energy resources are unevenly distributed in countries. The resource-owning countries focus on exploiting their resources for the economic development of their nation and the welfare of the citizenry, economically and socially. As such, these countries charge maximum rent on the use of this resources, which are finite, as such free availability becomes difficult. The General Agreement on Tariffs and Trade (GATT)/WTO rules were not initially designed to address energy issues per se, but these rules can directly or indirectly affect trade in energy. With escalating global energy hassle and the need for trade governance in that area, the WTO is becoming progressively more receptive to energy issues.
WTO rules do not adequately address the issues of export restrictions and investment protection, commonly regarded as the most crucial challenges in oil and gas. The energy sector is highly capital-intensive--significant costs are needed to find, produce, and transport energy. Trade in electricity and gas has mainly been regional due to the particular transportation characteristics of these products.

The WTO regulates trade in goods, trade in services, and trade-related intellectual property rights. The GATT/WTO agreements apply to all products (past, present, and future), including energy-related products. The GATT prohibits discrimination between all imported like products (under the ''most favoured-nation'' (MFN) requirement in GATT Article I), or between

imported and domestic products (under the ‘‘national treatment’’ requirement in GATT Article II). The WTO Agreement has a very broad scope of application and long reach over energy related commercial activities. But it should be noted that WTO rules, although applicable, are not ‘‘policed’’ by the WTO secretariat since the WTO has no investigative power. However, any member can challenge the actions of another member, either politically, in relevant regular committees, or before the WTO’s Dispute Settlement Body. In disputes, all members are presumed to have sufficient economic and legal interest to initiate an adjudication process on whether a WTO obligation has been violated de jure or de facto, without having to demonstrate the negative trade impact of the challenged measure. The WTO jurisdiction is compulsory, exclusive, and relatively rapid. The WTO dispute settlement mechanism also contains specific rules on enforcement and countermeasures.



Source: IEA – Share of world’s primary energy supply.

The WTO rules on both goods (GATT Article XXIV) and services (GATS Article IV) allow for regional preferences, subject to certain conditions and so

long as they do not affect third countries' trade. It is usually accepted that WTO-consistent regional trade agreements (RTAs) can tolerate some discriminatory restrictions on trade so long as they are inherent and necessary to the formation of the RTA, but it is far from clear whether RTAs can justify discriminatory subsidies, pricing, or regulations. To the extent that countries may develop regional energy policies, the WTO rules and flexibilities allowing for members to enter into RTAs may become highly relevant. To take three RTAs as examples: (1) the North American Free Trade Agreement contains a chapter (Chapter 6) dedicated to the regulation of trade in energy goods, investment, and cross-border trade in services relating to those goods; (2) within the Common Market of the South (MERCOSUR), three Memoranda of Understanding have been negotiated on the integration of trade in electricity, gas, and biofuels[1] between the members; and (3) as part of the framework of the single economic space to be implemented by 2016.[2]

The research question that is contemplated on Whether or not WTO agreements can regulate energy trade between different nations. The other question that needs research is in the contemporary world, how is energy security linked to WTO and related agreements? Whether trade in natural resources include energy products and services? How are energy services and products governed by different nations and internationally?

The research methodology used is both doctrinal and analytical. Under the present research, data are collected from both primary and secondary sources. Secondary data were collected through comprehensive literature review and internet. Other secondary sources included previous studies, journals, reports, magazines, newspapers and books.

The method to be used to gather information for this paper will be through the use of the library. The library research will seek to analyse and interpret the

[1] MERCOSUR/CMC/DEC No. 10/98, MERCOSUR/CMC/DEC No. 10/99, and MERCOSUR/CMC/DEC No. 36/06, *available at*: http://www.mercosur.int/msweb/portal%20intermediario/.
[2] The Eurasian Economic Community No. 599 (Apr. 7, 2011), *available at* http://www.!eitevraze__s.com.

UN Charter, WTO agreements, international arbitral and judicial decisions, resolutions/recommendations/ declarations of international fora, and scholarly writings on energy trading between nations.

This research proceeds on the presumption that "*it would be beneficial to trade in energy if energy resources and their trade is brought under the umbrella of WTO, GATT and other related rules".*

This dissertation, for convenience and lucidity, has been divided into 6 chapters. The first chapter is an introduction to the title of the dissertation and proceeds with explaining the proposal of the same.

The second chapter discusses the trade in natural resources as trade in energy. The extension of WTO over energy products and services is demonstrated by citing various cases of the WTO dispute settlement body. From a broader policy perspective, it would be desirable for the WTO dispute settlement system to be more sensitive to non-trade policy concerns and the broader legal context of WTO disputes.

The third chapter focuses on energy governance in the present world – the sovereignty of nations over their natural resources. The chapter discusses the European Union (28 nations) energy policy, WTO and energy trade and also, the renewable energy disputes.

The fourth chapter discusses Energy Security provisions of different countries, with a brief discussion of India's energy security. The chapter, also, discusses the coverage of GATS over trade of energy services.

The fifth chapter is an analysis of the extension of the WTO agreements over the energy products and energy services. This chapter enunciates the need of elucidation and possible alterations of appropriate WTO disciplines.

CHAPTER 2

RESEARCH METHODOLOGY

2.1 Statement of Problem

The WTO rules are a milestone in the international trade of products and services. It is an umbrella organisation that includes all that was not initially included by GATT, 1947. These rules are fully applicable on energy products and services. The major argument that has surfaced on the international platform is that these rules are not applicable on energy products and services as the same is not specifically expressed. GATT has traditionally focused on access to the domestic market and not the foreign goods and services that are supplied, internationally. The rules focusing on international trade are pertinent to import barriers, where the products face several barriers before competing in a country's domestic market. Contrary to the general situation, the problem with the energy resources is the barriers during export of resources. The states have been more concerned with securing access to energy supplies at affordable prices.

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The problem, therefore, is that the same has not been addressed by the WTO rules and the linked agreements.

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Appellate Body has confirmed that WTO members can impose additional obligations (not included in the GATT/WTO agreements) upon acceding members. For example, Ukraine, while undertaking taking transit commitments, specifically and explicitly mentioned in its agreement, transit in 'energy'. Similarly, Saudi Arabia's protocol of accession contains provisions on dual pricing, while China's contains explicit prohibitions on export duties (subject to certain exceptions). In any of the multilateral agreements, no agreement has been made upon energy as a product and generally, it is not entered into in the agreement. The acceding nations have entered into such commitments only in bilateral negotiations. In these negotiations, specific schedules of commitments have been mentioned to record what has been negotiated and accepted upon.

Manufactured products can be produced in country without much constraint if reliance is placed on Comparative Advantage theory of International Economic Law. The same is not true for energy resources. Energy resources are unevenly distributed in countries. The resource-owning countries focus on exploiting their resources for the economic development of their nation and the welfare of the citizenry, economically and socially. As such, these countries charge maximum rent on the use of this resources, which are finite, as such free availability becomes difficult. The General Agreement on Tariffs and Trade (GATT)/WTO rules were not initially designed to address energy issues per se, but these rules can directly or indirectly affect trade in energy. With escalating global energy hassle and the need for trade governance in that area, the WTO is becoming progressively more receptive to energy issues.

2.2 Objectives of Study

i) Study the WTO treatment of energy trade
ii) Canvass the contemporary disputes focusing on the OPEC Cartel.
iii) Research and make a study of the energy policies of few developed and developing countries focusing on Energy trading in the Asia-Pacific.
iv) Contemplate on current WTO regulations of trade in energy and sketch related suggestions.

v) Study energy security pursuant to WTO agreements

2.3 Scope of Research

The general scope and objective of this dissertation is to discuss the regulation of energy trade by WTO & its bodies pursuant to accession negotiations, disputes and the sovereignty of states over natural resources leading to major disputes.

2.4 Research Questions

1. Whether or not WTO can regulate energy trade between different nations?
   i) In the contemporary world, how is energy security linked to WTO and related agreements?
   ii) Whether the WTO disciplines apply to trade in energy?
   iii) How does cartelisation affect the trade in energy?

2.5 Hypothesis

This research proceeds on the presumption that "*it would be beneficial to trade in energy if energy resources and their trade is brought under the umbrella of WTO, GATT and other related rules*".

2.6 Methodology

The research methodology used is both doctrinal and analytical.

Under the present research, data are collected from both primary and secondary sources. Secondary data were collected through comprehensive literature review and internet. Other secondary sources included previous studies, journals, reports, magazines, newspapers and books.

The method to be used to gather information for this paper will be through the use of the library. The library research will seek to analyse and interpret the UN Charter,

WTO agreements, international arbitral and judicial decisions, resolutions/recommendations/ declarations of international fora, and scholarly writings on energy trading between nations.

2.7 Literature Review

1. **Alan Yanovich, WTO rules and Energy Sector, in REGULATION OF ENERGY IN INTERNATIONAL TRADE LAW – WTO, NAFTA AND ENERGY CHARTER (Julia Selivanova ed., 2011):** This paper reflects on the need of deeper commitments in the energy sector and promulgates energy specific rules. It highlights the need of promoting energy issues in multilateral trading system for the betterment of not just the nation but the underdeveloped nations as well.
2. **James Nedumpara, Energy Security and the WTO Agreements, in Trade, the WTO and Energy Security (S. Mathur ed. IIFT, 2014):** This paper discusses that there is a widely considered view that trade in energy and energy products is not adequately governed by the multilateral trade rules administered by the World Trade Organization (WTO). This view is reinforced by the fact the traditional market access restrictions are less of a problem in the energy sector as countries tend to focus on retaining control and sovereignty over energy resources.
3. **Kyle Bagwell, Remedies in the WTO – An economic perspective, in Discussion Paper No. 0607-09 Chicago University Deptt. Of Econ. (2007):** The paper highlights that the economic case for rules that facilitate a reduction in export subsidies is much weaker than the economic case for rules that facilitate a reduction in import tariffs. It reflects on the severity of the various agreements and how they affect the trade, which may be interpreted as trade in natural resources, more commonly, energy.
4. **P. Collier and Anthony Venables, International Rules for trade in natural resources, in Trade in Natural Resources: Challenges in Global governance, Working Paper (2010):** This paper investigates the scope for international rules to address market failures in trade in natural resources and

the associated international transactions of prospecting and investment in resource exploitation. We argue that several market failures are likely to have substantial costs. However, due to the distinctive features of natural resources, the market failures are particular to them.

5. **Daniel Crosby, Import, Export and Production Restrictions on Energy Goods & Services, in Global Challenges at the Intersection of Trade, Energy and Environment (Centre for trade and economic integration, 2009):** This paper highlights that since "alternative" energy competes against "traditional" energy, established interests can be expected to protect their markets from new competitors. Governments therefore face requests to maintain tariff protection, to classify imports in categories with high tariffs, and to introduce technical regulations that impose burdens in "alternative" products.

6. **Nedim M. Alemdar and Süheyla Özyildirim, *Knowledge Spillovers, Transboundary Pollution, and Growth, 54* OXFORD ECONOMIC PAPERS 4 (Oct., 2002)**: Trade in natural resources is construed as a dynamic game between North and South. Policies that promote growth in the North also cause knowledge spillovers and transboundary pollution in the South. Cooperative and non-cooperative Nash equilibria of this strategic trade game are simulated under various scenarios by parallel genetic algorithms to highlight the distortions in the growth/pollution trade-off. Absent cooperation, both regions benefit when North simultaneously cuts waste and increases knowledge spillovers, impelling South to reciprocate by lower resource prices.

7. **André Mernier, The Rules of Energy Trade, Speech at World Energy Council, Rome (2007)**: Decisions on depletion policy, that is, on whether and how fast national resources are to be developed, are matters for resource-owning governments[3] International regulation is not likely to succeed if it

[3] UN Resolution No. 1803 of 18 December 1962 on permanent sovereignty over natural resources.

tries to infringe in a binding way on these national prerogatives[4]. This was in fact the experience during the preceding rounds of trade negotiations. In the current WTO negotiations, a number of countries made it clear that the access to, and use of, natural resources as well as the right to regulate, should remain outside the scope of negotiations.

8. **Renewable Energy Trade and Governance Yuka Fukunaga Proceedings of the Annual Meeting (American Society of International Law), Vol. 106 (Mar. 28, 2012)**: This paper reiterates that the World Trade Organization (WTO) is not an energy-specific organization, but several of its new members are energy-producing countries. With increasing global energy demands and the need for trade governance in that area, the WTO is becoming increasingly sensitive to energy issues.

9. **International Energy Governance: The Role of the Energy Charter Yulia Selivanova Proceedings of the Annual Meeting (American Society of International Law), Vol. 106 (Mar. 28, 2012)**: This paper discusses the role of ECT as the only energy-specific agreement and spells out how Energy is different from manufactured commodities with which the WTO is used to dealing. In case of hydrocarbons we deal with finite non-renewable resources vital for our life that are distributed highly unevenly throughout the world. These resources are under sovereign control of a relatively small number of resource-owning countries.

10. **Coherence and the WTO L. Alan Winters, Oxford Review of Economic Policy, Vol. 23, No. 3, THE WTO AND MULTILATERAL TRADE COOPERATION (AUTUMN 2007), pp. 461-480**: Coherence between the WTO and the Bretton Woods Institutions (a formal WTO objective) has achieved some minor goals but has been expensive in terms of direct costs and inefficiencies in policy-making and policy debate. The so-called

[4] André Mernier, "*Setting the Rules of Energy Trade*", in FUNDAMENTALS OF THE GLOBAL OIL AND GAS INDUSTRY. London: Petroleum Economist (2008).

Integrated Framework has achieved relatively little and aid for trade has yet to be fully established. Coherence, especially when interpreted as allowing developing countries to avoid trade liberalization in the name of development, has confused and weakened the Doha Round of WTO negotiations.

11. **The WTO in the Emerging Energy Governance Debate, Gabrielle Marceau Proceedings of the Annual Meeting (American Society of International Law), Vol. 106 (Mar. 28, 2012)**: The World Trade Organization (WTO) is not an energy-specific organization, but several of its new members are energy-producing countries. With increasing global energy demands and the need for trade governance in that area, this paper discusses how the WTO is becoming increasingly sensitive to energy issues. Renewable energy subsidies do not escape the WTO rules, and may be subject to violation findings by panels and the Appellate Body. However, disputes concerning renewable energy subsidies often concern trade distortive effects—side effects—of the subsidies, and do not necessarily condemn the subsidies themselves. Actual and potential disputes over renewable energy subsidies should not be considered as suggesting that the WTO rules and the WTO dispute settlement system harm a ‘‘good’’ renewable energy trade.

12. **New Perspectives on Natural Resource Development in Developing Countries, R.S. Odingo *GeoJournal,* Vol. 5, No. 6, Natural Resources (1981)**: The link between natural resources and economic development is more in more regarded as a fact today even though the whole process of development is only partially understood. The need of new laws to regulate and form an equitable use of natural resources between developed and developing countries.

13. **Back to the Future or Forward to the Past? Strengthening Markets and Rules for Effective Global Energy Governance, Andreas Goldthau and Jan Martin Witte, *International Affairs (Royal Institute of International Affairs 1944-),* Vol. 85, No. 2 (Mar., 2009):** Current public policy debates on energy security are characterized by a singular focus on questions regarding

access to resources. This lopsided attention to the geopolitical dimension of energy security is based on the myopic and erroneous presumption that global energy politics is necessarily a zero-sum game in which one country's energy security is another's lack thereof. In fact, debates deflect attention from the real issues that policy-makers should consider in their attempts to foster effective global energy governance-the central role increasingly international energy markets play in balancing demand and supply-and, even more importantly, the significance of the 'rules of the game' that structure these markets.

14. **Timothy Meyer, Global Public Goods, Governance Risk, and International Energy, 22 Duke J. Comp. & Int'l L. (2012**): The WTO rules on trade in services are also relevant to trade in energy. In particular, the MFN obligation (Article II of the General Agreement on Trade in Services (GATS)) does not require members to allow other members to provide services within its territory (e.g., to provide access to its national oil service market), but if such member provides market access for a particular service, it must do so in favor of all WTO members equally.

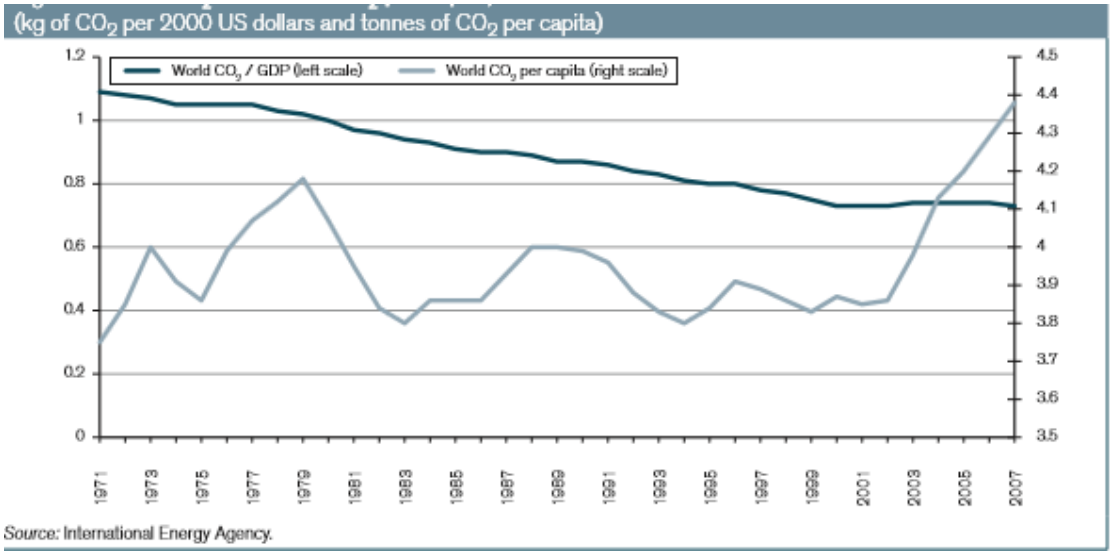
15. **Is OPEC a Cartel? Evidence from Co-integration and Causality Tests, S. Gürcan Gülen, 17: 2 THE ENERGY JOURNAL (1996)**: Oil prices have grown 45 percent since mid-January, mostly due to supply disruptions, IEA said. But since refinery projects are now completed, this rally could finish soon. Global oil demand in 2015 will also grow by 280,000 barrels per day (bpd), bringing the total this year to almost 94 million bpd. The IEA raised forecast for non-OPEC supply in 2015 by almost 200,000 bpd to 1 million bpd following stronger-than-expected output from the US during the first quarter.

CHAPTER 3

WTO AND TRADE IN NATURAL RESOURCES (ENERGY)

Trade in natural resources has various elements that make it particular and which bear on strategy in the area. Uneven geological circulation of assets implies that a few nations are ruled by asset creation, while others have none; more than 90% of demonstrated oil stores are in only 15 nations. Asset supplies are fixed, so motivators to utilize arrangement to move creation are to a great extent missing. Modest assets might convey expansive rents, and the division of these rents in the middle of makers and buyers is argumentative. Standard observation of trade distinguishes two bases of wastefulness and diminishing welfare, made in terms of trade taxes.

World CO2/GDP and CO2 per capita



The countries that are at the lower rung of the comparative advantage in the products of energy are at loss and cannot run the energy race on an international platform. Trade frequently happens on composed merchandise trades and includes both spot and prospects trades. Costs that leave these trades are unpredictable, a noteworthy wellspring of disturbance on the planet economy. Subsoil resources are ordinarily

state-claimed, and their extraction causes sunk expenses in seemingly perpetual undertakings subject to abnormal amounts of vulnerability emerging from value unpredictability, topographical instabilities, and political danger. Regularly activities are financed by outside direct venture including an assortment of sorts of agreement between remote financial specialists and household government.

Utilization misfortunes emerge as fringe charges make universal contrasts in client costs. Since stores of a specific asset are for the most part moved in generally couple of areas and are stable there is little extension for exchange strategy to move creation with its specialist generation misfortunes.

Though in different areas exchange arrangement might look to impel (or keep) the migration of generation between nations, in asset divisions nations that happen not to be supplied with an asset have no neighborhood firms or specialists to secure and can't utilize levies to pull underway; for these nations client assessments are proportional to import taxes. Additionally for asset makers, an asset send out duty is proportionate to an appropriation on household utilization. Every one of these components make complex motivators for approach, yet in the meantime a large portion of the trade arrangement instruments utilized are outside the controls of the World Trade Organization (WTO).

Energy is not quite the same as whatever other items. Aside from the way that energy is more than whatever other great indispensable for monetary and social improvement of advanced world, customary energy assets, for example, hydrocarbons have been dispersed unevenly all through the world. The above variables lead to the conspicuous energy influence that has administered in the course of the most recent decades both in universal and household arrangement discourses. The above viewpoints likewise make transactions of universal tying rules covering energy exceptionally troublesome. In spite of clear association, the hobbies of expending and delivering nations contrast fundamentally and discovering shared opinion is testing, albeit progressively vital.[5]
Asset stores ordinarily convey rents – the estimation of yield is well in overabundance of the expense of production.4 This is as opposed to most different merchandise and

[5] Anna Marhold, *The World Trade Organisation: Fuel for debate*, 2:8 ESIL (2013), *available at*: http://www.esil-sedi!.eu/sites/default/files/!!Marhold%20-%20ESIL%20Reflections.pdf.

administrations, which can (subject to efficiency contrasts) be delivered in a wide range of nations, and where rent is offered away by growing generation.

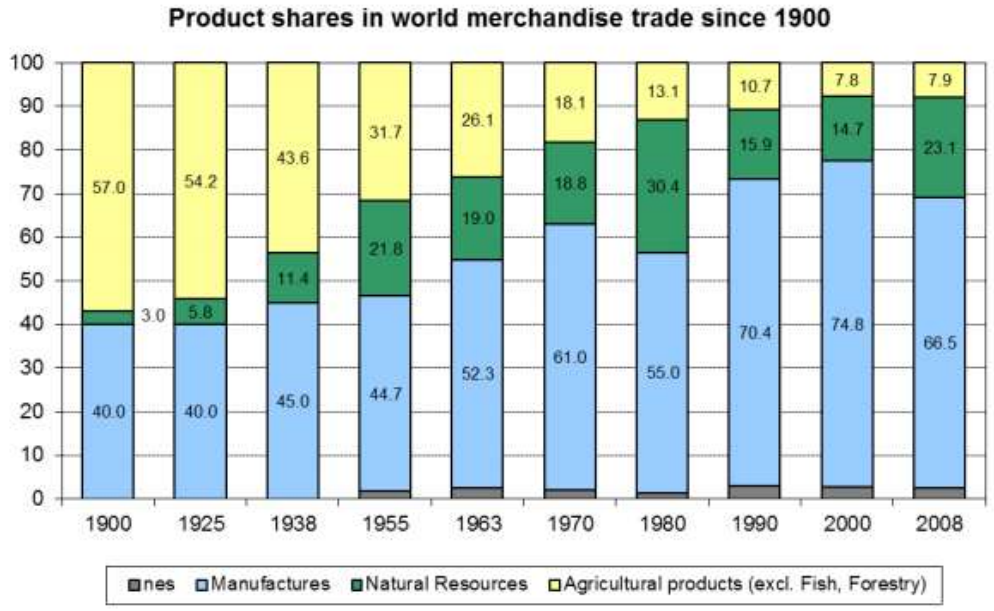


Figure 1[6]

The offer of common assets in world trade expanded significantly somewhere around 1900 and 1955 and afterward declined for quite a few years before expanding once more (Figure 1). Various variables added to the long run development of assets trade, including industrialization, populace development and falling transportation costs. A percentage of the variety originates from the way that normal assets might be sent out in their crude frame or encapsulated in fabricated merchandise (so excluded in this information). The previous extent most likely expanded drastically through the twentieth century with the ascent of new oil delivering nations. Be that as it may, a great part of the variety, specifically from the 1970s on, is represented by changes in ware costs, particularly of oil. In the ten years that went before the worldwide money related emergency, the dollar estimation of world fares of characteristic assets expanded more than six fold, achieving 3.7 trillion US dollars in 2008, preceding falling back. Fills speak to the lion's offer of aggregate world asset sends out, achieving 2.9 trillion US dollars in 2008. Around the same time trade other extractive

[6] M. Ruta & A.J. Venables, *International Trade in Natural Resources: practice and policy*, ECON. RES. STAT. DIV. (WTO) (2012), *available at*: https://www.wto.org/english/res_e/reser_e/ersd201207_e.pdf.

assets, for example, minerals and different minerals and non-ferrous metals, was 360 billion US dollars. The estimation of trade of different assets, for example, fish and ranger service, while more restricted, has additionally expanded after some time, coming to individually 98 and 106 billion US dollars in 2008.[7]

Exhaustion of a non-renewable asset includes a between fleeting exchange off; if an asset is devoured today, it can't be expended tomorrow. On the off chance that the aggregate supply of the asset is settled, then arrangement activities that change the rate of extraction in one period should likewise have an impact (for the most part the inverse one) in another period.[8]

Normal asset activities are additionally particular as financial specialists enter a long haul association with the host nation government. The relationship depends on contracts marked when the licenses to investigate and concentrate are in all actuality, and on the going with financial administration under which speculators work. This relationship implies that exchange approach is about the business sector for the asset, as well as about the business sector for licenses – their terms and their allotment. These plans decide the dissemination of rent in the middle of parties furthermore shape the motivations for consumption and for future investigation and advancement. We contend that it is likely that the most imperative inefficiencies in the asset division emerge around there, instead of in the business sector for the asset itself.

The energy division is profoundly capital-escalated — noteworthy expenses are expected to discover, deliver and transport energy. Trade power and gas has essentially been territorial because of specific transportation attributes of these items. Transportation of common gas, for occasion, happens for the most part through pipelines, in spite of the fact that the offer of LNG trade has been expanding consistently.[9] Control should be transported over matrices which are unreasonable to copy. At long last, both power and gas are hard to store. These qualities of hydrocarbons and power and the way that a huge piece of such trade happens through altered foundation lead to huge difficulties in energy trade.

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[7] *Id.*

[8] *Supra*, n. 6.

[9] Yulia Selivanova, *International Energy Governance: The Role of the Energy Charter,* Proceedings of the Annual Meeting 106 ASIL (2012). Source: jstor.

The WTO now comprises of 153 nations and gives an institutional system to diminish deterrents to global trade and keep the detainees' difficulty of trade security. The fundamental instruments are the preclusion of quantitative trade limitations and the downwards transaction of import duties, combined with the question settlement system, and with understandings controlling trade administrations and protected innovation. Since its initiation tax rates have fallen significantly and trade volumes have risen much quicker than pay. Progress has been speediest for trade fabricates, with agribusiness falling behind and trade regular assets completely outside the viable reach and teaches of the association. There are various purposes behind this. To start with, the center of the WTO is on trade strategy towards imports, not trades. This gets from the way that trade fabricates has by and large not confronted prohibitive fare approach, and the greater part of trade limitations that were set up were focused at imports.

	Value	Share in world	Share in total merchandise	Annual percentage change		
				2000-08	2007	2008
World	**3345.6**	**100.0**	**27.5**	**17.9**	**14.2**	**33.0**
European Union (27)	766.6	22.9	33.6	18.1	11.0	31.9
United States	583.4	17.4	27.0	15.0	6.9	27.9
Japan	350.2	10.5	45.9	13.9	9.2	40.6
China	330.3	9.9	29.2	30.0	32.5	43.0
Korea, Rep. of	182.0	5.4	41.8	17.3	13.4	37.0
India	135.4	4.0	42.9	25.1	20.8	52.5
Singapore	95.1	2.8	29.7	22.3	16.0	60.0
Chinese Taipei	83.1	2.5	34.5	18.6	18.1	29.3
Canada	67.3	2.0	16.5	15.2	10.1	30.1
Turkey	50.7	1.5	25.1	22.3	22.5	33.4
Thailand	49.9	1.5	27.9	20.9	5.1	37.4
Brazil	42.8	1.3	24.7	19.1	29.3	47.5
Mexico	40.5	1.2	13.1	19.4	22.7	35.1
Indonesia	37.7	1.1	29.1	20.5	16.3	44.6
Australia	34.8	1.0	18.2	20.5	17.1	43.8
Above 15	2849.8	85.2	-	-	-	-

Figure 2[10]

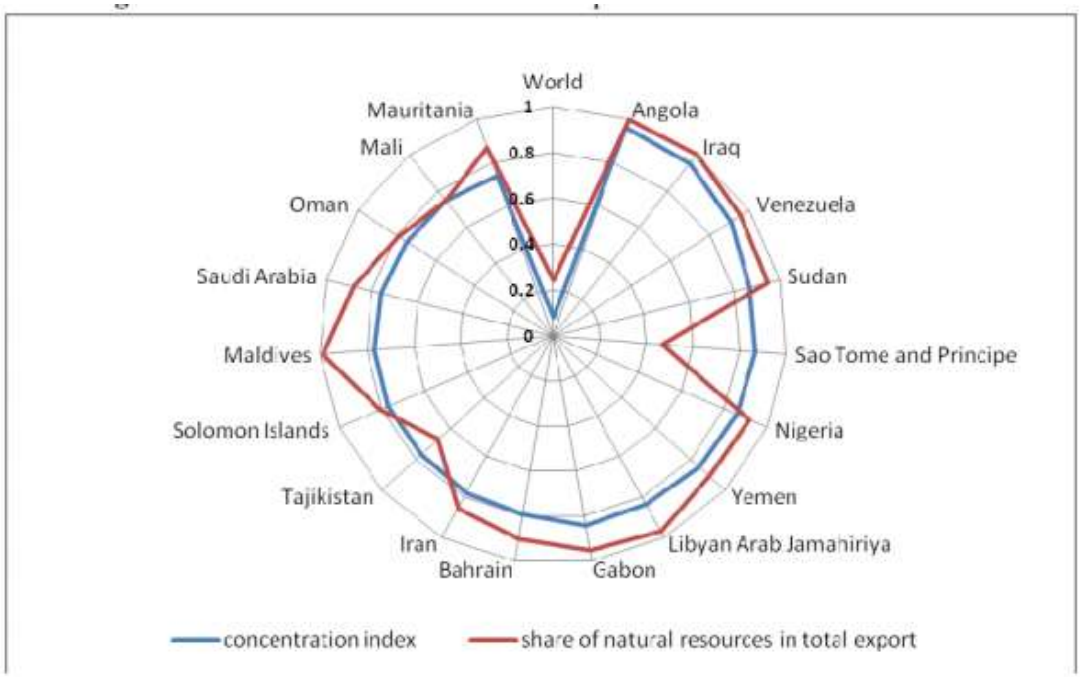
[10] *Supra*, n.7.

	Value	Share in world	Share in total merchandise	Annual percentage change		
				2000-08	2007	2008
World	**3247.3**	**100.0**	**27.7**	**18.5**	**15.3**	**32.8**
Russian Federation	341.2	10.5	72.9	23.1	16.2	34.1
Saudi Arabia	282.0	8.7	90.0	18.8	9.9	35.7
Canada	177.7	5.5	39.0	13.0	13.6	24.9
European Union (27)	176.6	5.4	9.2	18.5	16.8	28.2
United States	142.5	4.4	11.0	17.3	17.5	42.4
Norway	130.6	4.0	77.8	14.0	8.4	23.7
Australia	114.3	3.5	61.1	19.3	13.6	54.3
United Arab Emirates	109.4	3.4	52.1	17.6	8.9	33.5
Iran	95.5	2.9	84.2	18.0	38.4	27.1
Kuwait	82.9	2.6	95.2	20.9	11.5	39.7
Venezuela	79.8	2.5	95.8	14.1	7.4	27.8
Algeria	78.4	2.4	98.8	17.4	10.3	31.7
Nigeria	75.4	2.3	92.2	13.7	-12.5	48.2
Singapore	67.7	2.1	20.0	23.8	17.6	44.2
Angola	67.1	2.1	100.0	..	..	..
Above 15	2021.0	62.2	-	-	-	-

Figure 3[11]

The geology of characteristic asset enrichments implies that assets are, more than whatever other items, universally traded. The innovation of extraction implies that FDI is essential to their creation. Yet asset parts raise issues that are particular from those secured in the greater part of the writing on worldwide trade and FDI. These incorporate exhaustibility, value unpredictability, cartel conduct, and the political economy of contracting with government. We have looked into writing on these issues, and contended that there give off an impression of being significant inefficiencies in the harmony we see, with a hefty portion of the key strategy variables being outside the orders that apply to different sorts of trade. While national intrigues struggle on a portion of the issues, the inefficiencies are such that legitimately planned approach measures (on fare charges, fuel costs, contract solidness, and income straightforwardness) offer the capability of increases for all.

[11] *Id.*



3.1 Natural Resources in WTO Dispute Settlement Body

Natural resources are emerging as a critical sustainability and development challenge for the 21st century. With economic and population growth, demand and competition for natural resources is increasing rapidly. Dynamic emerging economies, including Brazil, China, India and South Africa, have joined developed countries as significant consumers and producers of natural resources. They are wielding growing influence internationally, making the international system increasingly multi polar. At the same time, natural resources are threatened by depletion resulting from their unsustainable use, climate change, biodiversity, habitat loss and other environmental crises. Raw materials are increasingly subject to price fluctuations, export controls and trade disputes, including two high-profile cases at theWorld Trade Organization (WTO)

concerning China's export restrictions on certain strategically important natural resources.

The first WTO dispute, known as the *China- Raw Materials*, was decided by the WTO Appellate Body (AB) in 2012.[12] It involved a complaint by the US, Mexico and the EU against China's export restrictions concerning various natural resources and their compatibility with China's WTO obligations, including the so-called WTO-plus obligations with respect to certain raw materials to which China committed when joining the WTO in 2001. The *China-Raw Materials* decision has received a critical response from scholars One of the key reasons is that China was denied the possibility to invoke public policy exceptions, including environmental and health protection, with respect to its WTO-plus obligation to abolish export taxes and charges in relation to certain raw materials. The second dispute known as *China – Rare Earths* is currently pending before a WTO panel and the ruling is expected in November 2013.The *Rare Earths* dispute involves the world's largest economies, as well as considerable economic and environmental interests. Its legal and factual background resembles the *Raw Materials* case in many important respects.

The two WTO cases against China are interesting because of their political, economic and legal ramifications. Earlier WTO jurisprudence on natural resources has tended to focus on import restrictions. However, countries are increasingly using export controls to ensure domestic supply of key natural resources. While the focus of WTO law is traditionally on imports, the General Agreement on Tariffs and Trade (GATT) restricts the use of various export controls, including export bans and quotas. New countries joining the WTO have also undertaken some additional commitments concerning exports, resulting in an asymmetry in legal obligations among the WTO membership. The shift in focus from import restrictions towards exports of natural resources seems like a logical consequence of the growing global demand for raw materials. As in the *Rare Earths* dispute, the shift may also reflect changing economic power relations and the desire by developing countries to promote economic growth by ensuring a cheap domestic supply of natural resources. The new focus on exports

[12] WTO Appellate Body Report: *China – Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R, WT/DS395/AB/RandWT/DS398/AB/R, 30 January 2012.Hereinafter *China Raw-Materials.*

is interesting also bearing in mind that big energy exporters, such as Saudi Arabia and Russia, have recently joined the WTO. There have already been calls to liberalize trade in oil, and the question has also been raised whether the oil cartel by the Organization of Petroleum Exporting Countries could be challenged under WTO law.

Against this background, this article reviews the WTO's role in regulating international trade in natural resources. It begins with an overview of recent growth in global trade in natural resources. It then outlines some of the basic WTO rules applicable to trade in natural resources and examines them in light of earlier WTO jurisprudence on natural resources. The article then analyses the two cases on Chinese export controls discussed above. It concludes by highlighting the need for the WTO to display adequate sensitivity towards non-trade policy concerns in natural resources disputes, especially bearing in mind for the growing global demand for natural resources and the many environmental crises threatening their supply.

3.2 Natural Resources, International Trade and the Challenge of Sustainability

A recent WTO report defines natural resources as "stocks of materials that exist in the natural environment that are both scarce and economically useful in production or consumption, either in their raw state or after a minimal amount of processing."[13]Natural resources include non-renewable resources, such as oil, natural gas, minerals and ore: and renewable resources, such as forests, fisheries and aquifers. Most agricultural goods are not classified as natural resources because their production requires other than natural resources as inputs (land, fertilizers) and because they are cultivated rather than extracted. Fish and forestry products can be cultivated or simply taken from existing natural stocks, which is why their classification is difficult. Some shared characteristics of natural resources include their uneven distribution globally, their exhaustibility, externalities, dominance in some national economies, and price volatility.

[13]The WTO, *World Trade Report 2010: Trade in Natural Resources* (World Trade Organization, 2010).

After World War II, the growth of international trade focused on manufactured products. However, in recent years, the share of natural resources in world trade has increased sharply, revising the post-World War II trend. In 2008, natural resources accounted from some 24% of total merchandise trade. Trade in natural resources is particularly important for the Middle East and the Commonwealth of Independent States, where natural resource exports accounted for 70% of international trade in 2008. In North America, Europe and Asia their share is 20% or less, whereas in South and Central America the share is around 47%. In 2008, Russia was the world's largest exporter of natural resources, followed by Saudi Arabia, Canada, the US, EU, Norway and Australia. The world's largest importers of natural resources in 2008 were the US, Japan, China, Germany, Republic of Korea, France and India.

One of the key contemporary puzzles is whether the earth's limited natural resources can sustain the continuing economic expansion and associated growth in demand for natural resources. The Millennium Ecosystem Assessment concluded in 2005 that 60% of the world's major ecosystem goods and services have been degraded or used unsustainability.[14]Also climate change presents a significant challenge to the world's natural resources. Extreme weather events, including storms, droughts, and flooding and forest fires are projected to become more frequent regardless of future climate mitigation efforts.[15]Many argue that population growth and economic expansion will inevitably lead to the exhaustion of natural resources and environmental degradation; others believe that technological progress can help to manage scarce resources and develop alternatives.[16]This debate has a long history: Its origins can be traced back to Adam Smith's theory that free markets are the key for allocating resources, including natural resources, effectively, and to Thomas Malthus's criticism against the ability of economic growth to transcend the planet's natural limitations. Neo-Malthusean ideas were given new impetus in the 1972 when the Club of Rome published its influential report on the *Limits of Growth,* which argued that exponential growth will lead to economic and environmental collapse. This debate subsequently evolved towards the

[14]Millennium Ecosystem Assessment, *Ecosystems and Human Well-being.Synthesis* (Island Press, 2005).
[15]Intergovernmental Panel on Climate Change. 'Summary for Policymakers', in: *Climate Change 2007. Mitigation of Climate Change. Working Group III Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by B. Metz et al. (Cambridge University Press, 2007).
[16]*Supra, World Trade Report*.

concept of sustainable development, which made its first appearance in the 1980s, and played a highly visible role in the Brudntland Commission's 1987 report on *Our Common Future*[17] and at the 1992 UN Conference on the Environment and Development in Rio de Janeiro, Brazil. Twenty years on, the closely-related concept of green economy is being promoted as the new development paradigm. The origins of the concept can be traced to the Pearce Report entitled *Blueprint for a Green Economy*, which argues for three key steps to reverse the trend of unsustainable development.[18] Step one is that environmental valuation and policy analysis must be improved to ensure that markets and policies incorporate the full costs and benefits of environmental impacts. This would include, for example, valuing the myriads of goods and services provided by ecosystems. Step two is that controlling environmental degradation requires effective and appropriate information, incentives, investments and infrastructure. A key component of this is the creation of markets and use of market-based mechanisms to internalise environmental information in everyday allocation decisions in the economy. The third step is that interdisciplinary economic and ecological analysis is needed to identify and assess welfare consequences for current and future generations from increasing ecological scarcity. The emphasis is thus on the internalization of all costs of environmental protection and use of natural resources; and the use of economic instruments alongside traditional command and control regulation. It is useful to remember, however, that green economy remains a contested concept and it remains to be seen whether it evolves into a dominant approach regarding natural resources management.

3.3 WTO Law And Natural Resources

The WTO was created with the objective of advancing international trade liberalization. Its foundations are in the General Agreement on Tariffs and Trade (GATT), negotiated in the aftermath of World War II in 1947. International trade liberalization subsequently progressed through successive rounds of international trade negotiations. The latest successful one, the Uruguay Round concluded in Punta

[17]UN General Assembly, *Report of the World Commission on Environment and Development* UNGA A/42/427.
[18]David Pearce,Anil Markandyaand Edward B. Barbie., *Blueprint 1: For a Green Economy* (Earthscan, 1989). See also:United Nations Environment Programme, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (United Nations Environment Programme, 2011).

del Este in 1994 with groundbreaking results. The WTO was established to administer the world trade regime; the system for settling international trade disputes was significantly strengthened; and several new agreements were adopted expanding the substantive scope of the international trade regime. The end of the Cold War and economic growth in many developing countries also meant that the membership of the multilateral trade regime began to grow.

The reformed WTO dispute settlement system constituted one of the key elements of the Uruguay Round outcome. Its jurisdiction is compulsory for all WTO Members and its decisions can only be rejected by a consensus of WTO Members (whereas under the previous GATT system, decisions could only be adopted by a consensus). The institutional structure was also strengthened with the creation of a permanent Appellate Body. Furthermore, the WTO dispute settlement system can authorize trade sanctions against countries that do not comply with its decisions. Since its inception in 1995, WTO Members have used the dispute settlement mechanism extremely actively. As a result, the WTO dispute settlement system has become one of the most powerful international institutions. Its strength and popularity have meant that international trade law has evolved into one of the most prominent areas of international law.

WTO rules are highly relevant also for international trade in natural resources. It is important to note, however, that WTO rules do not, in principle, apply to natural resources until they are extracted or harvested. Based on recent jurisprudence, it has been argued that:

> The principle that would seem to emerge… is that WTO Members are free in their decision whether or not to mine or harvest their natural resources, or the extent to which they do so. Yet whenever they mine or harvest, they must normally make the natural resources they produce available to other WTO Members as well-- except in a case of temporary, critical shortage.

Thus, it can be argued that GATT applies to extracted coal and oil, lumber after it has been cut down and to marine species after they have been caught.[19]However, in the *US – Softwood Lumber IV* dispute, the question was whether language in Article 1.1 of the Agreement on Subsidies and Countervailing Measures (SCM) referring to "provisions of goods" could be applicable to trees before they are harvested.[20]Indeed, the WTO Appellate Body found that harvesting rights granted by Canadian provincial governments with respect to standing timber constituted the "provision of goods" within the meaning of the SCM Agreement.[21]It could be assumed that the context of this interpretation relating to subsidies and anti-dumping dutiesplayed a role here. The dispute was about, *inter alia*, whether the provisions of harvesting rights for less than adequate compensation constituted a subsidy to the Canadian softwood lumber industry and whether the US countervailing measure on Canadian softwood lumber imports was compatible with WTO rules.[22]

A rather sensitive debate relates to whether water in its natural state can it be considered a "good" or "product" for the purposes of international trade law. This issue has arisen under the North American Free Trade Agreement (NAFTA) in relation to an initiative to divert Canadian water flow in the interest of bulk water transfers from British Colombia the US. Due to environmental concerns, the government of British Colombia wanted to pass legislation banning large-scale water transfers. The question arose whether water in its natural state is covered by the NAFTA, and whether the planned legislation would thus have amount to a prohibited quantitative trade restriction. A heated debate ensued, leading to a joint political statement by the US, Canada and Mexico that NAFTA has created no rights to the natural water resources of its Parties. As a result, it has been argued that water becomes a good for the purposes of the NAFTA only after it has left its natural state and been transformed into a commodity, for example, through bottling. However, the legal force of the statement is unclear and the question of the legal status of bulk water under the NAFTA remains partly unsettled. Similar questions about the legal status of water in its natural state under the GATT have been raised in academic

[19]*Supra*, World Trade Report.
[20] WTO Appellate Body Report: *US - Final Countervailing Duty Determination with respect to certain Softwood Lumber from Canada*, WT/DS257/AB/R, 19 January 2004.
[21] Id.
[22]*Supra*, World Trade Report.

debate.In recent scholarly debate, the question has also surfaced whether the WTO dispute settlement system could be expected to accept a measure that seeks to conserve oil reserves by limiting their extraction.

As noted above, WTO rules apply mainly to *imports* of natural resources. Exports are not subject to international trade disciplines to the same extent as imports. This is true in particular for countries that joined the WTO upon the conclusion of the Uruguay Round; WTO rules impose relatively few restrictions on their exports. The legal regime is significantly different, however, for some of the new WTO Members. When new countries join the WTO, they normally go through a lengthy negotiating process during which they exchange trade concession with the existing WTO Members. New members often pay a price for joining the WTO in the form of "WTO-plus" obligations. In other words, they undertake commitments that are more extensive than those of the original WTO members. China is a key example in this regard. As a price for its WTO accession in 2001, China took on "WTO-plus" obligations to abolish certain types of export restrictions. These obligations contained in China's Protocol of Accession have subsequently become the focus of the two high-profile WTO disputes concerning China's export restrictions on certain natural resources. However, before analyzing these disputes and reviewing other WTO jurisprudence on natural resources, it is useful to undertake a brief overview of the key relevant provisions of the GATT.

3.3.1 Key Provisions of the GATT

It is important to understand the basic principles of WTO law as integral parts of the legal framework that applies to international trade in natural resources. The Most Favored Nation (MFN) principle constitutes the cornerstone of the international trade regime. It is included, *inter alia*, in Article I of the GATT, which requires WTO Members to grant any "advantage, favour, privilege or immunity" given to one WTO Member "immediately and unconditionally" to "like products" originating from all other WTO Members. In other words, discrimination between trading partners is prohibited under WTO law. There are, however, important exceptions to the MFN principle regarding free trade agreements and special treatment of developing

countries. Another essential concept is the national treatment principle, included, *inter alia*, in Article III of the GATT. Accordingly, WTO Members must treat imported and locally produced goods equally; discrimination of imported goods with respect to internal taxation and regulations is not allowed. A recent WTO dispute between the EU and Russia illustrates how these two basic principles may be invoked in practice. The *Russian Federation – Recycling Fee on Motor Vehicles* case relates to a fee applicable to car imports to Russia that is intended to cover the future recycling cost of the vehicle. The EU has contested the legality of this measure on the ground that Russian cars are not subject to the same levy and also cars imported from Kazakhstan and Belarus are exempt from it.[23]According to the EU, Russia's recycling fee violates the MFN principle because it treats vehicles imported from the EU less favorably than vehicles imported from Belarus and Kazakhstan; and it also infringes the national treatment principle because vehicles imported from the EU are treated less favorably than Russian ones.

Article XI of the GATT is another key provision applicable to international trade in natural resources. It prohibits quantitative restrictions to trade, meaning that WTO Members are not allowed to impose trade prohibitions or restrictions "other than duties, taxes or other charges" to imports or exports of goods. This prohibition reflects the basic approach chosen under the international trade regime that other border protections apart from tariffs are not allowed. Article XI of the GATT has been applied to natural resources, *inter alia*, in the famous *Shrimp-Turtle* case concerning an import ban by the US on shrimp caught with fishing techniques that harmed endangered species of sea turtles. The US import prohibition was found to constitute a quantitative restriction on international trade in violation of Article XI of the GATT.[24]As shown below, the measure was subsequently found justifiable under certain other provisions of the GATT. It is also worth noting that Article XI.2 of the GATT permits export prohibitions or restrictions temporarily "to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party." As seen below, this provision was also invoked by China in the *Raw Materials* dispute.

[23] WTO: *Russian Federation – Recycling Fee on Motor Vehicles*, Request for Consultations by the European Union, WT/DS462/1, 9 July 2013.
[24] WTO Panel Report: *United States – Import Prohibition of Shrimp and Certain Shrimp Products*, Panel Report, WT/DS58/5, 15 May 1998,para. 7.17. Hereinafter *Shrimp-Turtle.*

The two non-discrimination principles, along with the prohibition on quantitative trade restrictions limit the scope of policies available to governments to address environmental problems. In other words, WTO Members are required to design their internal legislation in such a way that is compatible with WTO law. However, the GATT does recognize that derogations from international trade obligations are sometimes necessary to protect legitimate non-trade policy interests. This is possible by virtue of Article XX of the GATT entitled 'general exceptions,' which can be used to justify measures that serve an important public policy objective but are otherwise incompatible with international trade rules. In WTO dispute settlement practice, Article XX of the GATT is commonly applied in two steps: AWTO Member must first show that its measure fulfills the requirements of one of the sub-paragraphs of Article XX. If the measure passes the first test, it must then meet the requirements of the chapeau of Article XX, which stipulates that the measure bust not be "applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade."For the relationship between trade and the environment, and for trade in natural resources, the most relevant sub-paragraphs are Article XX(b) and Article XX(g) of the GATT. Article XX(b) can be used to justify measures that violate international trade rules but are "necessary to protect human, animal or plant life or health."Article XX(g)can be invoked to authorize measures relating to the "conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."

One of the legal questions in the famous *Shrimp-Turtle* case was whether the wording of Article XX referring to "exhaustible natural resource" also covers living natural resources. Of the complainants, India, Pakistan and Thailand contended that the language refers to "finite resources such as minerals, rather than biological or renewable resources"[25]The AB, however, disagreed. It ruled that:

> One lesson that modern biological sciences teach us is that living species, though in principle, capable of reproduction and, in that sense, "renewable", are in certain circumstances indeed susceptible of

[25] WTO Appellate Body Report: *United States – Import Prohibition of Shrimp and Certain Shrimp Products*, WT/DS58/AB/R, 12 October 1998, para. 127.

> depletion, exhaustion and extinction, frequently because of human activities. Living resources are just as "finite" as petroleum, iron ore and other non-living resources.[26]

In what is widely seen as a groundbreaking ruling, the AB recognized the need for evolutionary interpretation of the GATT, noting that the text drafted in the 1940s, "must be read by a treaty interpreter in the light of contemporary concerns of the community of nations about the protection and conservation of the environment." To support its interpretation that 'exhaustible natural resources' included living species, the AB also referred to language used in multilateral environmental agreements (MEAs), namely the United Nations Convention on the Law of the Sea, Convention on Biological Diversity and Convention on the Conservation of Migratory Species of Wild Animals. This ruling constitutes one of the few instances where the WTO dispute settlement system has opened the door for constructive interaction between WTO law and international environmental law.[27]Applying its interpretation of 'exhaustible natural resources' to the facts of the case, the AB found that the species of sea turtles that the US measure sought to conserve qualified as 'exhaustible.' It noted that their exhaustibility "would in fact have been very difficult to controvert since all of the seven recognized species of sea turtles are today listed in Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora," which contains species threatened with extinction.[28]

The conclusion of the Appellate Body was that the US measure fulfilled the requirements of sub-paragraph (g) and was therefore provisionally justified under Article XX of the GATT. Moving to the second test, however, the AB found that the US measure violated the chapeau of Article XX. The AB stressed that the chapeau embodies the recognition of the need to strike a balance between the right of a WTO Member to invoke exceptions listed in Article XX, and substantive rights of other WTO Members with respect to trade obligations of the GATT. According to the AB, the US import ban on shrimp was applied in such a way so as to constitute unjustifiable discrimination in violation of the chapeau, *inter alia*, because its

[26]Id.
[27] Kati Kulovesi, *The WTO Dispute Settlement System: Challenges of the Environment, Legitimacy and Fragmentation* (Kluwer Law International, 2011), 135-142 and 175-178.
[28] WTO AB: *Shrimp-Turtle*.

inflexible application requiring other WTO members to adopt essentially the same regulatory programme to conserve sea turtles as the US one. Another shortcoming was that even shrimp caught with methods identical to those required by the US could be excluded from the US market if the country lacked certification to import shrimp to the US. The US was also found to violate the chapeau for its failure to engage "in serious, across-the-board negotiations with the objective of concluding bilateral or multilateral agreements for the protection and conservation of sea turtles, before enforcing the import prohibition." Remarkably, during subsequent proceedings focusing on whether the US had taken adequate steps to implement the WTO's ruling, the AB found that the US had addressed all these shortcomings in a satisfactory manner and that its import prohibition on shrimp fulfilled all requirements of the chapeau of Article XX of the GATT.[29] The US import prohibition on shrimp was therefore compatible with WTO law. This constituted a landmark decision and served to alleviate environmentalist criticism against the WTO.

3.4 Recent WTO Dispute Settlement Practice concerning Natural Resources

Like other older WTO cases, the *Shrimp-Turtle* dispute focused on imports of natural resources. However, in recent years, WTO disputes have concerned exports of natural resources. Both cases relate to China's export restrictions on certain natural resources and their legal basis derives partly from China's so-called WTO-plus obligation to abolish export taxes and charges. China agreed to this obligation as a price for joining the WTO. In more specific legal terms, Paragraph 11.3 of China's Protocol of Accession requires China to "eliminate all taxes and charges applied to exports unless specifically provided for in Annex 6 of this Protocol or applied in conformity with the provisions of GATT Article VIII (payments for services rendered)." Hence, China's obligations with respect to export duties are more extensive than those of most other WTO members. One of the key legal questions in the two WTO disputes is whether China is allowed to invoke the public policy exceptions listed in Article XX of the GATT to derogate from this particular WTO-plus obligation.

[29] WTO Appellate Body Report: *United States – Import Prohibition of Shrimp and Certain Shrimp Products. Recourse to Article 21.5 of the DSU by Malaysia.* WT/DS58/AB/RW, 22 October 2001.

3.4.1 China – Raw Materials

In 2009, the US, EU and Mexico launched a WTO dispute against China's export restrictions and export taxes on various raw materials: bauxite, coke, fluorspar, magnesium, manganese, silicon carbide, silicon metal, yellow phosphorus and zinc. The claimants identified four types of export restrictions: export duties; export quotas; export licensing; and minimum export price requirements.[30] They argued that these measures violated Articles VIII, X and XI of the GATT, as well as China's Protocol of Accession. China, in turn, defended its export measures on natural resources arguing, *inter alia*, that restrictions were necessary for environmental and health reasons and justified by virtue of Articles XX(b) and (g) of the GATT. China also invoked Article XI of the GATT as a justification, claiming that the quantitative export restraints were temporary and aimed at preventing shortages of products essential to its economy.

Both the Panel and Appellate Body ruled that China was not entitled to invoke Article XX of the GATT to justify violations of the Paragraph 11.3 of its Protocol of Accession. They emphasized, *inter alia*, the absence of explicit reference to Article XX or the GATT in Paragraph 11.3 of China's Protocol of Accession. The AB paid attention to the context of Paragraph 11.3, noting that its immediate context – namely Paragraphs 11.1 and 11.2 – made explicit references to the GATT, while Paragraph 11.3 did not. In response to China's arguments invoking the need to balance its WTO plus obligations with non-trade interests, the AB also briefly examined the preamble of the WTO Agreement, which, as we saw above, it used to justify the evolutionary and environmentally-conscious interpretation of the GATT in the *Shrimp-Turtle* case. In this case, however, the AB only briefly acknowledged references in the preamble, *inter alia,* to environmental protection and sustainable development, but concluded that the "objectives listed above, nor the balance struck between them, provides specific guidance on the question of whether Article XX of the GATT 1994 is applicable to Paragraph 11.3 of China's Accession Protocol."

This can be seen as an unnecessarily narrow view concerning the relationship between different WTO Agreements and the relevance of non-trade policy objectives in the

[30] WTO AB: *China – Raw Materials*.

international trade regime. The AB's interpretation of Paragraph 11.3 of China's Protocol of Accession seems to mean that no public policy exceptions are ever possible with respect to China's WTO plus obligation concerning export duties. This, in my view, is a rather severe consequence, especially bearing in mind that China's obligations go beyond those of most other WTO Members; and that legitimate derogations are available even concerning the core GATT obligations, such as the MFN and national treatment principles. As indicated above, also other scholars have criticized the outcome of the *Raw Materials* case in this regard.

China – Rare Earths

The broader relevance of the *China – Raw Materials* decision becomes evident when considering the currently pending WTO dispute against China, which pertains to a very similar factual and legal background. The complainants in the *Rare Earths* case are European Union (EU), Japan and the US. The dispute thus involves the world's largest economies, illustrating its importance for the global economy. Its facts are intriguing in many ways. China is responsible of some 97% of global production of 17 rare earth elements.[31] These are crucial raw materials for a number of important high- and green tech products, such as medical equipment, lasers, laptops, mobile phones, flat screen and displays, wind turbines, electric and hybrid cars, aircraft, satellite and missile guidance systems. Despite their name, rare earths are in abundant supply on the planet, but often difficult to access and requiring intensive mining and processing.[32]

China's dominant position in the production of these strategically important raw materials results from "an aggressive coordinated policy of ramping up production and flooding the market." With the dawn of the information age and increasing demand for rare earths, China launched an aggressive and coordinated policy, expanding its production of these natural resources and flooding the market with cheap materials. Prices of rare earths fell, forcing China's international competitors out of the way. China thus achieved unparalleled domination of these strategic

[31] *China Plans Tighter Controls of Rare Earth Sector*, EurActive 25 July 2012, available at: http://www.euractiv.com/sustainability/china-plans-tighter-controls-rar-news-514127
[32] Id.

markets, as reflected in a statement made by Deng Xiaoping in 1992: "The Middle East has oil; we have rare earths." High-tech industries all over the world became dependent on China's mining and pricing policies. In recent years, China has began to restrict its exports of rare earths. The dispute between China and Japan over the Senkaku or Diaoyu islands contributed the situation. As the Japanese imprisoned the captain of a Chinese fishing vessel in these waters, China decided to cut exports of rare earths by 40%.This resulted in sharp price increases at the international level, with domestic prices in China amounting on average to nearly half of the international prices. For many foreign producers, relying on international supply of rare earths has become too expensive and too unreliable, and they are therefore facing pressure to move their production to China. China's opponents at the WTO argue that China's measures violate its WTO obligations, *inter alia*, by discriminating against foreign companies. In addition to the WTO challenge, countries suffering from China's export restrictions are also opening or sometimes re-opening their domestic mining sites. The affected high-tech industries have also begun to look for alternatives, and for ways to save or recycle rare earths during the manufacturing process.

Reacting to the WTO complaint, Chinese officials have stated that "the Chinese government must be able to reasonably conserve its rare earth resources" and that countries challenging China's policies have failed to acknowledge the environmental damage caused by rare earth production in China and "groundlessly condemned" China's policies.[33]Indeed, it seems that China's dominant position in the rare earth markethas come at a high cost in terms of damage to the environmental and public health. Mining of rare earth is associated, for example with producing wastewater and tailings ponds that leak acids, heavy metals and radioactive elements into ground water.[34] Rare earths mining is reported to have "severely damaged surface vegetation, caused soil erosion, pollution, and acidification, and reduced or even eliminated food crop output" in China.[35]

[33]*China Plans Tighter Controls of Rare Earth Sector*, note 64 above.
[34] See Mike Ives, *Boom in Mining Rare Earths Poses Mounting Toxic Risks*, Environment360, 28 January 2013, available at: http://e360.yale.edu/feature/boom_in_mining_rare_earths_poses_mounting_toxic_risks/2614/.
[35]Id. The source refers to a 2012 report by China's State Council.

In terms of WTO law, the complainants argue that the Chinese export duties and quotas on rare earths violate several provisions of the GATT, including the prohibition of export quotas in Article XI.[36]They have also alleged violations of Articles VI, VIII and X of the GATT. Like in the *Raw Materials* dispute, the complaint also relates to obligations contained in China's Protocol of Accession, including the obligation in Paragraph 11.3 concerning export duties.[37]In defense, China argues that its export measures are necessary for health protection consistent with Article XX(b) of the GATT, and also relate to the conservation of exhaustible natural resources within the meaning of ArticleXX(g) of the GATT.[38]The complainants, however, argue that the key motivation for China's measures is an economic one. According to the US, for example, China's measures serve the objective of ensuring China's continued economic growth.[39] The US claims that "the export restraints operate to make the raw material inputs at issue available to Chinese producers at lower prices" and "creating a competitive disadvantage on them (operators outside China, KK) and ultimately putting pressure on them to move their operations, technologies, and jobs to China."[40]

As noted above, this pending dispute is interesting for its political, economic, environmental and legal implications. The disputed materials are highly important economically and for strategic reasons. An important aspect of the case involves finding a balance between commercial exploitation of rare earths on one hand, and environmental protection and sustainable development on the other. In light of criticism of the *Raw Materials* case, there is pressure on the WTO to review its interpretation of Paragraph 11.3 of China's Protocol of Accession that China's WTOplus obligations concerning export duties are immune to the widely available public policy exceptions listed in Article XX of the GATT.

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[36] WTO, *Summary of the Dispute to Date*, available at: http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds431_e.htm.
[37] *Id.*
[38] A public overview of China's arguments is contained, for example, in: *China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum.Second Written Submission of the United States of America*, 25 April 2013, para. 5. Available at: http://www.ustr.gov/sites/default/files/DS431.US_.SWS_.Public.pdf
[39]*Id*., para. 6.
[40] *Id.* Para. 3.

Considering the outcome of the *Raw Materials* case and the design of the Chinese export measures on rare earths, it seems reasonable to assume that the outcome of the *Rare Earths* dispute will not be favorable to China. As Baroncini has indicated "it could be difficult to demonstrate that Chinese export quotas are 'necessary' as many specialists claim that less trade-restrictive reasonable feasible alternatives are available" and that "there is a problem of evidence… objective data have to show that such quantitative restrictions (on exports, KK) lower domestic production or consumption or rare earths. Available data, however, suggests that both Chinese production and consumption of rare earths have arisen."[41]Given the fundamental role of the non-discrimination principles for the WTO regime and the need for non-trade measures to be useful for achieving their important objective, this can even be seen as a justifiable outcome. Still, several important question marks remain concerning recent WTO jurisprudence on natural resources and WTO members' ability to balance their trading obligations with the need for environmental protection and sustainable development.

[41]*Id.*

Chapter 4

WTO AND ENERGY GOVERNANCE

Energy demand is developing as the world populace and economies, specifically in developing nations, augments. More than some other article, energy demands and regular assets are concerned with worldwide trade and trade. Normal assets are, by and large, obtainable in little number of nations, while their purchasers are situated in numerous. The World Trade Organization (WTO) does not specifically deal in energy products, but rather a few of its new members are energy generating and trading nations. With expanding worldwide energy requests and the need of trade administration around there, the WTO is turning out to be progressively susceptible to energy matters.[42]

WTO law administers and manages trade connections among WTO individuals. Inside of the extent of the WTO, energy trade is a standout amongst the most noteworthy trade parts, as it constitutes the biggest essential product of worldwide trade terms of volume and worth. For a considerable length of time, the energy trade segment has been dealt with as an extraordinary case on account of the interesting components appended to the energy segment when all is said in done and energy trade specific. This exceptional treatment ought to proceed because of a blend of critical variables: firstly, the uniqueness and significance of energy; also, the extraordinary difficulties and worries that defy worldwide energy commercial ventures by and large and energy trade specific; and thirdly, certain lawful verbal confrontations and uncertain issues that rise up out of the convergence between WTO law and energy trade.

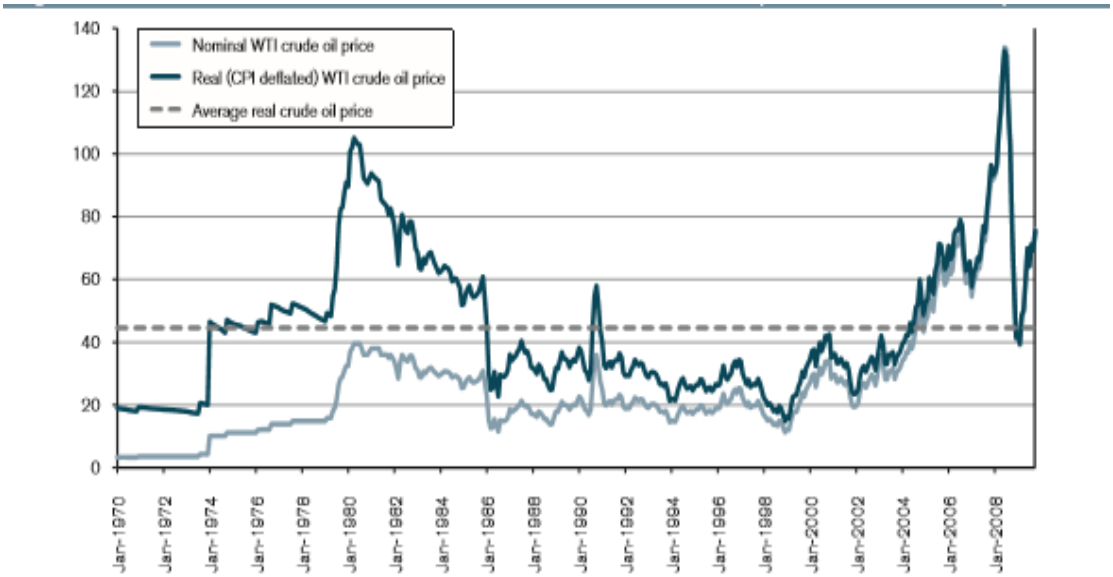
In spite of the fact that trade energy as a rule and trade petroleum specifically were not unmistakably and straightforwardly incorporated into any of the GATT procurements, as indicated by GATT history, the contracting parties talked about energy related matters amid different rounds of GATT arrangements and, in this manner, the assumption is that GATT/WTO disciplines apply to trade energy. Hosted gatherings to the GATT not needed energy in the trade plan; they would have

[42] Gabrielle Marceau, *The WTO: energy governance debate*, 106 ASIL (2012).

explicitly specified so. It is in this way assumed, since trade energy was not explicitly prohibited from the GATT procurements, the GATT/WTO framework applies to trade energy.

Renewable energy makes up an expanding offer of essential energy use in all situations, because of government backing, falling costs, CO2 evaluating in a few areas, and rising fossil fuel costs in the more drawn out term. In the New Policies Scenario, power era from renewables almost triples from 2010 to 2035, achieving 31% of aggregate era. In 2035, hydropower gives half of renewables-based era, twist just about one-quarter and photovoltaics (PV) 7.5% (despite the fact that sun powered PV era builds 26-fold from 2010-2035).[43]

Nominal and real crude oil prices: 1970-2009



Note: West Texas Intermediate crude oil prices are deflated by US CPI for all urban consumers to obtain real prices.
Source: Federal Reserve Bank of St. Louis.

For a considerable length of time, trade energy has been dealt with as an extraordinary instance of global trading, not the same as other trade areas and items. Truth be told, it

[43] IEA, *Renewable Energy Outlook*, in WORLD ENERGY OUTLOOK, OECD/IEA (2012).

is protected to consider the energy trade part as a standout amongst the most—really the most—huge trade areas for an assortment of reasons, including its one of a kind qualities and the extraordinary difficulties going up against it. It holds that global trade energy is represented by WTO law; similar to some other trade products or administrations, and that it is not prohibited from the scope of the GATT/WTO law. The other school of thought holds that a mix of components has driven, true, to the rejection of energy trade from the extent of GATT/WTO disciplines. To bolster their contentions and touch base at their decisions, both schools of thought have inspected the production of the GATT, its establishing individuals, the different multilateral trade transactions, the reasons and targets behind the GATT, the GATT rounds of multilateral trade arrangements, the Uruguay Round and the foundation of the WTO, and even parts of the Doha Round of multilateral trade transactions.

GATT period	
1940s	GATT begins in 1948 with 23 original contracting parties; 11 others accede in 1949.
1950s	Fifteen contracting parties accede, two succeed and four withdraw.
1960s	Twelve contracting parties accede and 21 succeed.
1970s	Nine contracting parties accede and four succeed.
1980s	Six contracting parties accede and five succeed.
1990s	Nine contracting parties accede and 20 succeed.
WTO period	
1996	Bulgaria and Ecuador accede.
1997	Mongolia and Panama accede.
1998	Kyrgyz Republic accedes.
1999	Estonia and Latvia accede.
2000	Albania, Croatia, Georgia, Jordan and Oman accede.
2001	China, Lithuania and Republic of Moldova accede.
2002	Chinese Taipei accedes.
2003	Armenia and the former Yugoslav Republic of Macedonia accede.
2004	Cambodia and Nepal accede.
2005	Kingdom of Saudi Arabia accedes.
2007	Tonga and Viet Nam accede.
2008	Cape Verde and Ukraine accede.
2012	Montenegro, the Russian Federation, Samoa and Vanuatu accede.
2013	Lao People's Democratic Republic and Tajikistan accede.

Notes: Accessions for 2013 are up to March.

All nations need energy assets, yet some own these, and consequently trade energy (i.e., oil) is pivotal in satiating the worldwide need of energy. On an international forum, trade in oil is more than any product. "Completely 50% of world trade services are strongly energy subordinate." Yet, the GATT/WTO has generally not distracted itself with energy. Not very many energy rich nations feel a need to accede to the GATT/WTO club, given that the decrease of import limitations—one of the primary objectives of the multilateral exchanging framework—is not an issue with regards to energy. In 2005, Saudi Arabia, the fundamental energy delivering nation on the planet, acceded to WTO whereas several energy rich countries have not.[44]

Energy trade incorporates diverse perspectives and matters of trade within nations, incorporating:

- Goods
- Services
- Investment
- Intellectual Properties
- Subsidies

Furthermore, it is inclusive of distinctive sorts of energy items, including oil, coal and most recent, renewable energy. Be that as it may, the most overwhelming "line" of trade energy, both generally and as of now, is fossil fuel trade and the traditional, oil and gas. In 2010, fossil powers supply contained more than 80% of the worldwide energy supply. Forecasts are that, for a long time to come, the world energy framework will remain a fossil-based structure.

[44] R. Leal Arcas & E.S. Abu Gosh, *Energy Trade as a special sector in the WTO: Unique features, Unprecedented Challenges and Unresolved issues*, QMUL Research paper 176 (2014).

3.1 Energy Policy of the European Union

The EU does not have a single uniform document setting outits energy policy. A set of fragmented policies that commit to ensuring the so-called "three pillars", sustainability, competitiveness, and security of supplies, connected to the integrated European energy market and its respective energy issues,[45]constitute the EU energy policy, which attainedan established legal basis after the adoption of the Treaty of Lisbon in 2009.[46]This Treaty explicitly lists energy as a "shared competence between the Union and its Member States", and introduced the "energy chapter", recognizing the powers of the EU to develop a harmonized energy policy applicable to all of its members. The idea of the energy chapter has been to develop more strategic policy goals, and toharmonize fragmented energy policy for the EU as a whole. By virtue of article 194 of the Treaty, on the Functioning of the European Union, the EU energy policy should not only meet the goals of sustainability, competitiveness and security of supplies, but should also integrate preservation, and the improvement, of the environment. As a result, the legal basis for an energy policy under this article is not only to integrate environmental considerations, but also to adopt a proactive and effective role to preserve and promote the environment.[47]

The liberalization of the European energy market, or 'unbundlement' as it is commonly referred to, with an EU-wide emphasis on energy savings and the development of renewable resources, has paved the way toward climate change adaptation at the European policy level. An integrated energy policy aims to accommodate all the three goals within a single document. However, the biggest challenge for the EU is to establish an inter-linkage between energy efficiency and its climate change ambition, which has gained momentum since 2007, with the EU's renewed commitment to the reduction of GHG emissions from all energy intensive project. The EU's 1997 Kyoto Protocol commitment to reduce 8% GHG emission by

[45]*See*, Jacques de Jong et al., A Smart EU Energy Policy Conclusions and Recommendation (Jun. 22, 2010),http://www.clingendael.nl/publications/2010/20100412_CIEP_Misc.%20Publication_JJong_Smart%20EU%20Energy%20Policy.pdf.

[46] The Treaty of Lisbon entered into force on 1 December 2009. The Treaty amended the current EU and EC Treaties without replacing them. The Treaty provides the EU with the legal framework and tools necessary to meet future challenges and to respond to its citizens' demands.

[47] Article 11 of the TFEU sets out the obligation concerning incorporation of environmental consideration in the making of energy policy; whereas article 194 went a step further requiring measures to preserve and improve the environment.

2012 included energy as one of the six identified industry sectors from which it aimed to limit emissions of carbon dioxide. Before the new members were admitted in 2004, the 15 EU countries (EU-15)were well on the track to meet this target.[48]The majority of the new members joining since 2004 have set a target of between 6% and 8%, with the exception of Croatia,in which the target has been set to 5%, and are on course for achievement of this goal.[49]In several of its Communications in recent years, the EU has agreed to increase both emission reduction commitment and energy savings potential by adopting various measures and action plans.

The starting point for this was the 2006 Green Paper, which identified six priority areas that required actions to address the energy-related challenges. The key issues addressed were whether to develop a new, common European strategy for energy, and whether sustainability, competitiveness, and security should be the core principles with which to strengthen the strategy.[50] An action plan for energy efficiency was subsequently adopted,[51] which outlines a framework of policies and measures for the purpose of realizing over 20% of the estimated savings potential in EU annual primary energy consumption by 2020, by mobilizing the general public, policy-makers, and market actors. To achieve this goal, the action plan set out a number of short- and medium-term measures.

This was followed by the adoption of an energy policy for Europe in 2007, which contained a proposal to cut the EU's GHG emissions by 20% by 2020, compared to its previous 1990 level. The policy included several measures that the member states were required to adopt in order to achieve the target, such as a coherent internal market for electricity and gas; a 20% target for renewables in the EU's overall energy mix; an obligation for each member state to have 10% biofuels in their transport fuel mix; a saving of 20% of total primary energy consumption; and technology for a low-carbon, fossil-fuel future. In addition, the Commission also

[48] European Commission,What is the EU doing about climate change? (Dec. 2013), http://ec.europa.eu/clima/policies/brief/eu.
[49]*Id.*
[50]Council of the European Union, A European Strategy for Sustainable, Competitive and Secure Energy(Jun. 23, 2010), http://register.consilium.europa.eu/pdf/en/06/st07/st07070.en06.pdf.
[51]Council of the European Union, Action Plan for Energy Efficiency: Realising the Potential(Jun. 23, 2010), http://ec.europa.eu/energy/action_plan_energy_efficiency/doc/com_2006_0545_en.pdf.

proposed a common external energy policy to pursue Europe's interests and a European Strategic Energy Technology Plan to focus research and development efforts on low-carbon technologies. Nevertheless, the burden of handling nuclear energy issues was left upon the shoulders of member states to decide on a common targeted goal. Later in the same year, the Commission adopted a Communication entitled "Towards a European Strategic Energy Technology Plan" (SET Plan),[52] with a view to presenting an EU vision of a clean, efficient, and low-carbon energy technology. The underlying idea was to tackle the challenges posed by climate change and globalization, by increasing access to modern energy services in the developing world, and to develop more suitable energy-efficient technology.

The EU's integrated maritime policy adopted in 2007[53] included an energy component as a separate document, entitled "Energy Policy and Maritime Policy: Ensuring a Better Fit."[54] The document examined the connection between Europe's energy and maritime policies, and highlighted the diversification of the region's energy supply, as well as the development of offshore technologies contributing to the development of the internal energy market. The SETPlan[55] encourages the development of carbon-free energy technologies, such as wind power, solar power (thermal, photovoltaic, and concentrated), hydropower, tidal power, geothermal energy, and second generation biomass. It focuses on more secure energy supplies with greater diversity and less air pollution, with the possibility of employment in environmental and renewable energy sectors, and aims for new generations of energy technology in order to meet the greater ambition of reducing GHG emissions by up to 60-70% by 2050.

[52]Council of the European Union, Towards a European Strategic Energy Technology Plan (Jun.22, 2010),http://register.consilium.europa.eu/pdf/en/07/st05/st05240.en07.pdf.

[53]Council of the European Union, An Integrated Maritime Policy for the European Union (Jun. 21, 2010),http://register.consilium.europa.eu/pdf/en/07/st14/st14631.en07.pdf.

[54]Council of the European Union, An Integrated Maritime Policy for the European Union Energy Policy and Maritime Policy: Ensuring a Better Fit (Jun. 21, 2010), http://register.consilium.europa.eu/pdf/en/07/st14/st14631-ad05.en07.pdf.

[55]Council of the European Union, A European Strategic Energy Technology Plan (SET-Plan) Towards a low carbon future (Jun. 19, 2010), http://register.consilium.europa.eu/pdf/en/07/st15/st15458.en07.pdf.

Thereafter, the Commission adopted a Second Strategic Energy Review in November 2008,[56] addressing the need for the reduction of EU dependency on imported energy, and thereby improving its security of supply and the reduction of GHG emissions. Here, again, while reiterating the importance of increased renewable energy resources, the Reviewhighlighted three goals: encouraging solidarity among member states; proposing an action plan to secure a sustainable energy supply;and adopting a package of energy efficiency proposals aimed at making energy savings in key areas, such as buildings and energy-intensive products.

At the end of 2008, theEU Parliament and the Council agreed on the "climate and energy package", and the Council later adopted the package on 6 April 2009. This package includes "a number of legislative acts", published in the official journal on 5 June 2009, and its core consists of four pieces of complementary legislation: a revision and strengthening of the EU emissions trading system (ETS) – the EU's key cost-effective tool for cutting emissions; an effort-sharing decision governing emissions from sectors not covered by the EU ETS, such as transport, housing, agriculture, and waste; binding national targets for renewables, which collectively would lift the average renewable share across the EU to 20% by 2020; and a legal framework to promote the development and safe use of carbon capture and storage.[57] The overall aim was to implement the three targets; the so-called 20-20-20 goals. In 2010, the Commission adopted a Communication[58] examining an option for ascertaining whether a 30% reduction was possibleby 2020. Then, in November of that year, the Commission issued the "Energy 2020" Communication,[59] with a view to ensuring a viable future of efficient energy consumption, environmentally aware development and knowledge, and a consistent presence in the global energy arena. The Energy 2020 strategy lays the groundwork for a new approach to energy policy in the EU. A subsequent development is the Energy roadmap 2050, adopted in

[56]Council of the European Union, Second Strategic Energy Review A EU Energy Security and Solidarity Action Plan(Jun. 19, 2010), http://register.consilium.europa.eu/pdf/en/08/st15/st15944.en08.pdf.

[57]Council of the European Union. The EU climate and energy package (Jun.19, 2010), http://ec.europa.eu/environment/climat/climate_action.htm.

[58]Council of the European Union, Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage (Jun.22, 2010) *available at*: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do? uri=COM:2010:0265:FIN:EN:PDF .

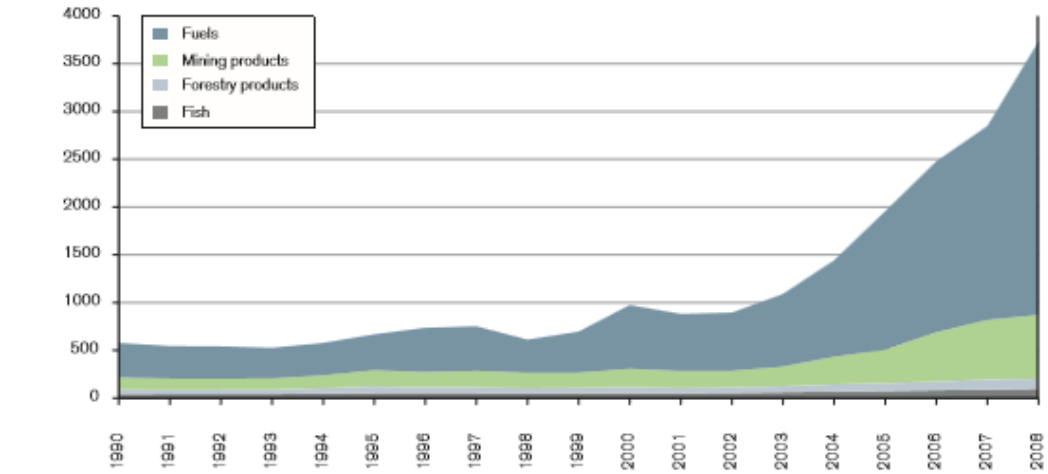
[59]European Commission, Energy 2020.A strategy for competitive, sustainable and secure energy (Nov. 10, 2010) *available at*: http://ec.europa.eu/energy/publications/doc/2011_energy2020_en.pdf.

December 2011, which considers the internal energy market as a cornerstone of a deep de-carbonization in Europe, with 80%-95% emission cuts, compared to 1990 levels.[60]In order to improve the implementation and enforcement of internal market legislation, the Single Market Act II, which identified energy as one of the four drivers of growth, waspublished in October 2012. The Act therefore proposed priority actions in order to make the application of existing EU energy legislation more effective and make cross-border energy markets a reality.

3.2 WTO and Energy trade

Energy and energy items are a focal component of world trade. Further progressions in renewable advancements are required to bring forth new measurements in energy trade at the multilateral level. Such improvements, when combined with anticipated development in oil and gas trade, will have a considerable and heightening effect on the universal trade administration.

World Natural Resources Export by Product



Source: WTO Secretariat estimates.

There has for some time been a misguided judgment that energy is not administered by global trade rules similarly that different items are. Such a misconception might

[60]European Commission, *Energy Roadmap 2050* (2011) *available at*: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do.

have been brought on by the way that energy items and materials don't more often than not experience advertise access issues in their fare markets. Universal trade rules have by and large managed import hindrances more than fare boundaries. In the energy part, trade limitations are more apropos to fare hindrances, and accordingly, showcase access examinations have not engaged as intensely on energy.

The apparently restricted spotlight on energy can likewise be credited to the way that as of not long ago, substantial energy sending out nations including Saudi Arabia, Russia and focal Asian countries, were not Members of the World Trade Organization. The increase of Saudi Arabia and the presumable promotion of Russia and other oil sending out nations is seen as a noteworthy advancement that will influence the profile of energy in the trade framework.

It is broadly trusted that trade energy for quite a while was at any rate accepted, and maybe even by law, avoided from GATT/WTO scope. This was the after effect of a blend of a few elements. Most importantly, the principle petroleum delivering and sending out nations were not unique gatherings to the General Agreement on Tariffs and Trade 1947 (GATT 1947). Second, the supreme alleged 'Seven Sisters' oil organization cartel commanded the petroleum business from the 1940's until the 1970's and liked to settle its business outside the worldwide exchanging framework. Third, as a key merchandise, energy was an especially touchy subject in universal trade, a perspective piercingly reflected in the 1962 UNGA Resolution 1803 on Permanent Sovereignty over Natural Resources. In light of this, a 1998 Background note by the WTO Secretariat inferred that 'energy merchandise have been dealt with for quite a while as being outside the extent of the span of GATT standards, by depending on the general special case identifying with the preservation of expendable regular assets (Article XX(g) GATT) and on the national security exemption (Article XXI GATT)'.

The MFN statement applies to traditions obligations, charges forced on or regarding importation or exportation or on global trade of installments for imports or sends out, and as for the strategy for collecting such obligations and charges, and concerning all standards and conventions regarding importation and exportation.

	1995		2010	
	Reserves	Production	Reserves	Production
In GATT as of 1980	**14.3**	**20.1**	**13.3**	**15.5**
Kuwait, State of*	9.4	3.1	7.3	3.1
Nigeria*	2.0	2.9	2.7	2.9
Canada	1.0	3.5	2.3	4.1
Norway	1.0	4.3	0.5	2.6
Indonesia	0.5	2.3	0.3	1.2
United Kingdom	0.4	4.0	0.2	1.6
Joined 1981-1994	**18.9**	**13.9**	**28.5**	**14.3**
Venezuela, Bolivarian Republic of*	6.4	4.3	15.3	3.0
United Arab Emirates*	7.1	3.5	9.5	3.5
Qatar*	0.4	0.7	1.9	1.9
Angola*	0.3	0.9	1.0	2.3
Mexico	4.7	4.5	0.8	3.6
Acceded to the WTO	**31.0**	**23.5**	**25.6**	**26.6**
Saudi Arabia, Kingdom of*	25.4	13.4	19.1	12.2
Russian Federation**	5.2	9.2	5.6	12.5
Azerbaijan**	0.1	0.3	0.5	1.3
Ecuador*	0.3	0.6	0.4	0.6
Acceding to the WTO	**25.4**	**12.5**	**26.3**	**16.2**
Iran*	9.1	5.5	9.9	5.2
Iraq*	9.7	0.8	8.3	3.0
Libya*	2.9	2.1	3.4	2.0
Kazakhstan**	2.3	0.6	2.9	2.1
Algeria*	1.0	1.9	0.9	2.2

Source: Calculated from *BP Statistical Review of World Energy*, June 2011, available on-line at www.bp.com/statisticalreview.

Article III puts forward that, as for internal tax assessment and residential laws, regulations and prerequisites, imported items might be concurred treatment "no less ideal" than that agreed to household items. While MFN applies to all arrangements

– both outskirt measures and interior measures

– national treatment applies to treatment of items in the wake of entering the domain of a state, i.e. after traditions leeway. Another imperative refinement is that MFN applies to both import and fare, however national treatment is material just to non-segregation of imports, and not sends out. In this manner, a state can force higher charges on items for fare than for household utilization. Then again, the trading nation could absolved as per Article VI:4 energy products and materials bound for fares from inward duties.

The non-separation prerequisite as for inner assessments and charges, laws and regulations is pertinent just to treatment of the like items. Practically speaking this implies inward assessments for imported energy material and items have not to be higher than for like energy material and results of household source.

This implies a WTO Member can give distinctive treatment to energy items that dislike. With a specific end goal to figure out if items are similar to, the accompanying elements must be viewed as: physical qualities, end-employments of items, customers' tastes and inclinations and duty characterization of items. It is chosen, in any case, on a case-by-case premise whether the separate household and imported items are similar to.

The Canada – Auto Taxes[61] case is applicable to the present dialog as autos that were more fuel-proficient were not viewed as "like" different autos with the end goal of tax collection.

In the Asbestos[62] case, the Appellate Body decided that the criteria of similarity are "neither a settlement commanded nor a shut rundown of criteria". All things

[61] Panel Report, *Canada – Certain Measures Affecting the Automotive Industry*, WT/DS139/R, WT/DS142/R, adopted 19 June 2000, as modified by Appellate Body Report WT/DS139/AB/R, WT/DS142/AB/R, DSR 2000:VII.
[62] Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, adopted 5 April 2001, DSR 2001:VII.

considered, it found that wellbeing dangers connected with items can be thought about as criteria identified with physical properties and customers' tastes and propensities. On the off chance that a few merchandise exhibit a greater number of dangers for wellbeing than others, two items may be dislike and treated in an unexpected way.

This denial of fare or import limitations is legitimate additionally for preclusions to the import or fare of energy materials or items underneath a specific cost. Prerequisites of least fare or import cost would confine the amount of imports or fares. Article XI predicts a few exemptions to the forbiddance of quantitative limitations. The most pertinent for the energy part is the procurement that permits nations to incidentally summon send out restrictions with a specific end goal to alleviate basic deficiencies of items crucial to the trading nation.

Fitting energy products and administrations into the WTO framework is definitely not a straightforward assignment. The issue is that despite the fact that the WTO Agreements apparently cover trade energy, they were just not drafted because of the substances of energy. This abandons us with the inquiry whether the WTO lawful system as it is currently is able to do satisfactorily managing the complexities of trade energy.[63]

To add to this, energy is unmistakably not a confined matter in worldwide trade. Other than 'energy benefits'[64], the firmly related 'natural products'[65] and 'ecological administrations' have additionally advanced as an arranging theme on the Doha Agenda. Illustrations of ecological merchandise such sun based boards and hardware for biogas creation can be specifically connected to clean energy generation and energy productivity. The bigger open deliberation on environmental change accordingly divulges how energy and the earth are interlaced and what's more brings up vital issues with respect to the legitimateness of purported green and renewable energy sponsorships. Could such appropriations be supported under the WTO lawful

[63] Meyer, Timothy *Global Public Goods, Governance Risk, and International Energy*, 22 DUKE J. COMP. & INT'L L (2012).

[64] *Id.*
[65] *Id.*

structure as a motivating force to advance environmentally friendly power energy or do they hazard being manhandled by WTO Members as a type of masked protectionism? In the late Appellate Body (AB) Report in Canada–Feed-in Tariffs[66], the AB did not have any desire to go down an elusive incline and give definitive answers on the matter. In any case, with another string of renewable energy debate holding up to be settled in the WTO, it appears that the AB can't continue avoiding these issues any more.

But differently, arguments about fare charges on crude materials keep on posturing new, and maybe unintended, difficulties to both the WTO and open global law. Since the disputable result of the AB report in China–Raw Materials[67], even the already apparently consecrated idea of Permanent Sovereignty over Natural Resources is presently easy to refute in the WTO gathering. When in doubt, Members tend to utilize the Article XX(g) exemption to legitimize generally GATT-conflicting measures for the preservation of their modest common assets, (for example, oil and gas). Taking after the judgment, in any case, China is not permitted to summon the same GATT Article XX(g) special case with respect to responsibilities on fare charges made in its Accession Protocol.

WTO Members have embraced restricted responsibilities in the territory of energy administrations. This may be because of a few reasons. Firstly, the energy part, being a key division for national security, has customarily been overwhelmed by state organizations. These organizations are unwilling to surrender the business sector power gave by their syndication position and oppose any liberalization endeavors. Besides, there is no single definition or clear thought of what is comprehended under energy administrations. This absence of definition also added to the deferral in energy administration liberalization, as a few governments made improvement of order a precondition to undertaking any further responsibilities in the area.

[66] Appellate Body Reports, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector / Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS412/AB/R / WT/DS426/AB/R, adopted 24 May 2013, DSR 2013.
[67] Appellate Body Reports, *China – Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R / WT/DS395/AB/R / WT/DS398/AB/R, adopted 22 February 2012, DSR 2012:VII.

4.3 Renewable Energy Disputes

The WTO framework ousts general trade in energy, or specific trade of renewable energy products or sources, any uniquely in contrast to whatever other exchange segment that is inside of its extension. Renewable energy speculation depends intensely on open sponsorships and the encompassing administrative structure. Changes within these ranges amid the period of task will fundamentally influence the business. Investment treaty arbitrations including Spain and EU nations took after changes in the administrative structures that had been depended on by investor.

Regarding that, WTO standards are applicable to debate or inquiries brought up regarding renewable energy. So, the key target that supports the advancement of renewable energy – to be specific ecological sustainability – could sum to bases that direct how WTO standards are connected and, specifically, to grounds that deviate those standards. Case in point, the center commitments under the WTO framework identify with the guidelines under Article I, which is a basic mainstay of the multilateral trading, the framework is predicated on the need for liberalization.

It is hard to guide particular reasons or patterns for these renewable energy debate, they do have two variables in like manner. The basic issue in these cases is: it is that of private player/investor's rights versus the sovereign privilege of states. A balance has to be struck; without giving away the fair and rightful share of the investor.

While the need of a multilateral consent to be received inside of the WTO protection has been voiced, these have yet to bring about a WTO assertion or agreement specifically on energy.

Without a particular energy exchange understanding, the WTO framework and multilaterally secured assertions are primary structures that give administration in cross-outskirt energy exchange, including cross-fringe renewable energy exchange, to the degree that such exchange streams include a WTO part. What's more, the multilateral exchange decides that come to endure on such exchange streams might further be improved by principles contained in plurilateral agreements inasmuch as the WTO member(s) concerned have agreed to these and have, in this manner, accepted that further layer of WTO commitment.

States limit remote interest in the energy part and in the renewable energy area for different reasons. Neighbourhood content prerequisites are normal in the oil and gas industry. Likewise, necessities of national substance have been connected to the renewable energy area. Necessities identifying with the need to build up a neighbourhood organization to take an interest in the oil and gas industry are normal. Once more, comparative necessities have been built up for the renewable energy segment.

Sponsorships are broadly allowed to the vitality division around the globe for different reasons. Despite their adequacy in accomplishing their objective, both the fossil fuel segment and the renewable and option vitality parts have profited from these sponsorships. However the offer of fossil energizes in the allotment of vitality appropriations worldwide has been lopsidedly higher than that for different types of vitality. Also while natural insurance has been expressed as an arrangement objective behind advancing renewables through appropriation programs, these strategies have every so often delivered unreasonable results, for case in the biofuels segment in a few nations.

The measure of endowments accessible for the renewable vitality (RE) area worldwide is developing as an arrangement reaction to vitality security concerns and environmental change. The acquaintance of new motivation plans with advance RE has turned out to be progressively basic particularly in the US and EU. In this setting, the topic of the status of RE appropriations in WTO law is very relevant.

a) Areas of potential clashes

A significant part of the bolster gave to the RE division takes the structures which fit the meaning of an appropriation as per Article 1 of the ASCM. These RE sponsorships are particular inside of the importance of Article 2; in the event that they are dependent upon fare or import-substitution or they cause antagonistic impacts, RE endowments are prone to bring about exchange debate of various types and henceforth are defenseless under the WTO framework.

Yet, under an alternate situation, the utilization of certain exchange distortive appropriations for ecological purposes might be defended. In this connection, the nonappearance of a GATT Article XX procurement in the ASCM ought to be given genuine consideration. However, it is contended that any endeavor to bring specific natural special cases into the SCM Agreement ought to involve a need test like GATT Article XX (b) to guarantee that such exceptions won't be commandeered by residential vested parties to the burden of both exchange and the earth.

b) A case for shared strength

A top-down methodology of basically forcing national focuses as sought after in the Kyoto Protocol has not worked and won't work unless it is combined with other fortification systems such

as tending to unsafe vitality sponsorships at the multilateral level. In this connection there is a positive and powerful part for the WTO to go into the field of change of these appropriations.

Managing endowments that are ecologically hurtful is not outsider to the WTO. The present 'fisheries endowments' arrangements serve as a decent case of collaboration between ecological non-administrative associations (NGOs), universal associations and the alleged 'Companions of Fish'; a gathering of WTO Members who took the activity to raise worries about the contributory impact of these appropriations to fish stock depletion.

There appear to be prospects for taking after a comparable methodology for vitality appropriations in light of the likenesses between these two zones of ecologically hurtful sponsorships. The stakes are higher in the domain of vitality because of the political, social (neediness suggestions) and vitality security issues included. On the commonsense level, the principal test is to gather solid information on present and future levels of backing. The second is to characterize the criteria for 'destructiveness': as talked about above, not all fossil fuel appropriations, not to mention vitality sponsorships, expand carbon dioxide (CO2) levels (consider endowments to advance fuel exchanging (e.g. from coal to gas)).

As an initial step, the urgent need to fill the crevice in the information on vitality endowments may be tended to by setting up a sponsorship watch board of trustees as an auxiliary of the Committee on Subsidies and Countervailing Measures as per Article 24.2 of the ASCM. This new panel's capacity, rather than that of the present Permanent Group of Experts whose obligation is more centered around the nature and lawfulness of sponsorships, will be to analyze whether every Member's vitality appropriation notices adequately speak to the level of backing in this part.

Later, these capacities would be doled out to an advisory group overhauling the Framework Agreement on Energy.

In the wake of gathering dependable information on all Members' vitality sponsorships, the second step would be to furnish nations with due dates by which they would need to set up a national guide for endowment changes, adjusted to their own particular needs, planned to eliminate 'naturally destructive vitality sponsorships' with a suitable course of events. The council could have a counseling or necessary part in distinguishing which sponsorships are undoubtedly "unsafe" and how and over what timeframe they ought to be eliminated.

The inquiry in this way emerged whether the expansive financial rents gave on certain enormous players, specifically in the force business, added up to state help denied by Article 87 EC Treaty. The importance of this question is, nonetheless, not restricted to European law. Numerous nations, for example, the United States, Australia and Japan, which plan to actualize emanation exchanging plans furthermore the Member States of the EU and the EU itself will need to manage this issue under the law of the WTO, which sets up an administration having numerous likenesses to the procurements of the EC Treaty. Henceforth the free give of emanation remittances might well not be invulnerable from difficulties under the WTO rules.

a) The disallowance of state help (Article 87 para. 1 EC Treaty)

“Article 87 EC Treaty ('EC') bans any state help allowed by Member States unless it follows the criticisms given to it by the Treaty.58 Generally it is occupant on the

Commission to check whether the guide meets the conditions that may incredibly legitimize its being conceded. Part States are thus asked for to tell any proposition to give help to the Commission and anticipate its choice before executing the proposition."

The accompanying conditions must be satisfied.

i) The financing by the state or through state assets

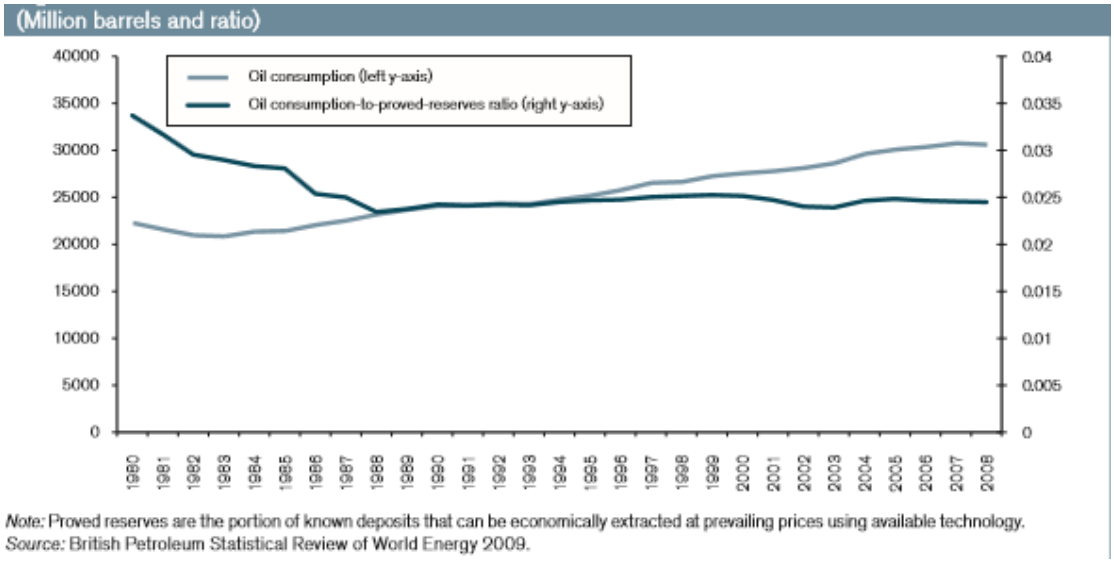
Help must be imputable to the state and be allowed specifically or in a roundabout way through state assets. While evaluating the NAPs, the Commission reliably held this condition was satisfied if more than the compulsory measure of remittances was conceded for free59 and if managing an account was allowed. The thought of state assets incorporates not just the immediate or aberrant exchange of state assets to an endeavor, additionally the waiving of income, which would some way or another have collected to the general spending plan. This is not the case if the money related weight of a measure depends only on private endeavors.

ii) The presence of a particular advantage for an endeavor

A monetary advantage conceded by a Member State constitutes state help just on the off chance that it shows a specific level of selectivity. For the situation law, this condition involves checking whether the techniques for distribution received by Member States supported certain endeavors over others which are equivalent in the light of the goal sought after.

Because of the extensive room left to Member States, the measure of stipends distributed to the secured establishments fluctuated altogether between segments, as well as inside practically identical classifications of endeavors. Therefore, the allotment manages to a great extent supported certain endeavors to the detriment of others, specifically existing administrators as for new participants and CO2-serious as for less discharging installations. These impacts were exacerbated in the force area, where fetched decrease differentials are critical and administrators could to a great extent go on the cost of the remittances to their customers.

World Oil Consumption, 2009.



Note: Proved reserves are the portion of known deposits that can be economically extracted at prevailing prices using available technology.
Source: British Petroleum Statistical Review of World Energy 2009.

iii) Distortion of rivalry and consequences for exchange between Member States

These two conditions are for the most part considered as satisfied if the budgetary guide reinforces the position of an endeavor contrasted and different endeavors contending in intra-Community exchange. Connected to the EU ETS, this implies any portion philosophy, which unduly supports a few endeavors to the detriment of others, is prone to misshape rivalry and to influence exchange. In its audit of the NAPs the Commission by and large viewed as both criteria as satisfied.

b) The disparagements of the forbiddance of state help (Art. 87 para. 3 EC)

"The Commission appreciates a wide, yet not boundless, prudence while assessing the similarity of state help with the basic business sector. It needs to look at whether the guide is suitable to meet one of the goals said in Article 87 para. 3 EC Treaty and to measure the useful impacts of the guide against its unfavorable consequences for exchanging conditions and the upkeep of undistorted rivalry."[68]

[68] Id.

"In spite of the gathering confirm that the EU ETS has presented substantial financial rents on CO2-serious administrators, along these lines lessening the monetary effectiveness of the plan, the Commission has utilized its forces under the state help procurements closefistedly. As such, it has just taken temporary choices, in which it tended to plainly biased principles and the most patent instances of over-allotment. To some degree shockingly, it considers that the free distribution of remittances is good with the regular business sector if the measure of recompenses does not surpass expected requirements, however this sums to authorizing the same old thing rehearse."[69]

Canada Feed-in-tariff[70]

Complainant: *European Union & Japan*
Defendant: *Government of Ontario, Canada*

Facts

The government of Ontario, Canada enacted a sub-national law in the year 2009. This law was regarding the incentives that were given to local solar generators and wind generators that produced electricity in the province of Ontario. This was inclusive of a scheme that the local generators would need a minimum requirement or level of component parts and services. The Ontario electricity system is neither a private nor a public but is a hybrid system where the private and public companies both can in the activities to generate, transmit and distribute electricity in the province of Ontario.

The major supplier of electricity in the State is Ontario Power Generation, which is a State owned organisation. Distribution in the State is done by a semi-government institution known as HydroOne. It is, also, the largest transmission company in the province. The grid is maintained by Ontario Government's agency. The government is the highest regulatory body that is apparent from the following things:

- Public Ownership
- Static price of electricity
- Strict rules and regulations promulgated by the State for controlling the electricity in the State

[69] Id.
[70] *Supra*.

In the year 2007, the government of Ontario came up with a law to phase out all the coal-based electricity generation plants, so as to have a cleaner province by the year 2014. In this regard, the government sought to find an alternative to the coal based generation plants. These generation plants would either be wind and solar.

The Ontario government, as an incentive to the generators of wind and solar energy, came up with the concept of Feed-in-tariff (FIT).[71] The FIT is lucrative to the investors the investors because that the price quoted to the generators is higher than that of the wholesale power price within the region. The term of these contracts are 20-40 years.

The renewable energy biddings, initially, were:

- Competitive Bidding
- RESOP

Renewable Energy Standard Offer Program is, now, replaced by new FIT contracts. The new FIT contracts provided for attractive contract prices and also, required locally made renewable energy components.

The Ontario government had three primary goals:

- Increase the use of wind and solar energy
- Promotion of new green industries
- Incentivisation of those involved in renewable energy generation

The government, also, laid down a minimum local content requirement. The minimum local content requirement for wind installations is 50% and 60% for solar photo voltaics. This requirement was contented infront of the Dispute Settlement Body because the requirements could be met only by the local generators.

ISSUE

Whether there is violation of the provisions embodied in the WTO agreements?

[71] FIT: a long-term contract by a government agency to secure wholesale electricity at a set price that reflects a rate of return attractive to investors and developers.

CONTENDED PROVISIONS

Article 2.1, TRIMS[72]:

"Without prejudice to other rights and obligations under GATT 1994, no Member shall apply any TRIM that is inconsistent with the provisions of Article III or Article XI of GATT 1994."

Article III:4, GATT[73]:

"The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product."

Article III:8 (a), GATT:

"(a) The provisions of this Article shall not apply to laws, regulations or requirements governing the procurement by governmental agencies of products purchased for governmental purposes and not with a view to commercial resale or with a view to use in the production of goods for commercial sale.

(b) The provisions of this Article shall not prevent the payment of subsidies exclusively to domestic producers, including payments to domestic producers derived from the proceeds of internal taxes or charges applied consistently with the provisions of this Article and subsidies effected through governmental purchases of domestic products."

[72] Agreement on Trade Related Investment Measures.
[73] General Agreement on Tariffs and Trade.

***Article 1.1 (a) (1), 1.1 (b), SCM*[74]**:

"For the purpose of this Agreement, a subsidy shall be deemed to exist if:

(a)(1) There is a financial contribution by a government or any public body within the territory of a Member (referred to in this Agreement as "government"), i.e. where:

(i) A government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees);

(ii) Government revenue that is otherwise due is foregone 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;

(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 illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments;

or

(a) (2) there is any form of income or price support in the sense of Article XVI of GATT 1994;

and

(b) a benefit is thereby conferred."

Article 3.1 (b), SCM:

[74] Agreement on Subsidies and Countervailing Measures.

"3.1 Except as provided in the Agreement on Agriculture, the following subsidies, within the meaning of Article 1, shall be prohibited:

(a) Subsidies contingent, in law or in fact, whether solely or as one of several other conditions, upon export performance, including those illustrated in Annex I;

(b) Subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods.

Article 3.2, SCM:

A Member shall neither grant nor maintain subsidies referred to in paragraph 1."

FINDINGS

Article III:4, GATT: The panel found that the government of Ontario was in derogation of the national treatment principle of the WTO. The local content requirement gave an upperhand to the local generators of wind and solar energy.

Article III:8 (a), GATT: The panel was of the opinion that the product in issue and the product suffering were two different products. The product contended was electricity that was being procured by the province of Ontario. The products that were receiving subsidies on the other hand or required minimum content level were the equipments used in the generation of electricity. As such, the products were neither competitive nor substitutable as such didn't meet the requirements under the given Article of GATT. As such the panel and the appellate body both found no derogation of the said Article.

Article 2.1 TRIMS: As the inconsistency with Article III:4 of GATT was accepted by the panel and the appellate body, consequently, the FIT was adjudged as being inconsistent with the Article of TRIMS.

Article 1.1 (a) and 1.1 (b), SCM: There was no inconsistency found with this agreement. There is a financial contribution by the government in form of financial incentives. Financial incentives are inclusive of the tax benefits endowed by the government. But this did not account to a benefit by the government. The complainants failed to justify their stand that there was relevant market present. Hence, to prove that there was competition within the market was difficult. As such,

the panel as well as the appellate body were of the opinion that there was no inconsistency with the Article of SCM.

Article 3.1 (b) and 3.2 SCM: These Articles forbid endowment of subsidies on the contingency that there is domestic use over use of imported products. But the complainants were unable to prove that the FIT contracts were subsidies provided by the government of province of Ontario.

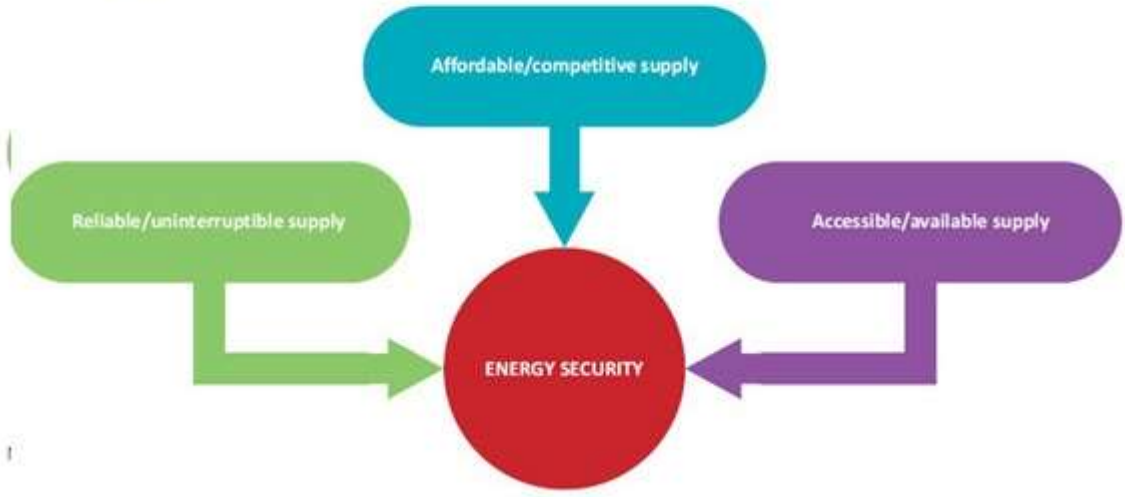
Chapter 5

Energy Security: Extended WTO agreements

The definition of Energy Security, as given by International Energy Agency (IEA), is "the uninterrupted availability of energy sources at an affordable price".

On an analysis of the definition, light is shed on the fact that Security refers to abundance of energy sources, whether renewable or non-renewable. Moreover, another factor to be considered is the pricing of these sources. Affordable pricing may refer to the consumer capacity in a particular state or an average capacity of the consumers, globally. Generally, the former is more relevant. A country content in the both the above mentioned factors is said to be energy secure.

Figure 1.1 Defining energy security



Source: IEA website[75]

Energy security may be long-term or short-term. Long term energy security imbibes the concept of sustainable economic development; security built over a certain period of time. Short term energy security, on the other hand, focuses on dealing with sudden, volatile changes in the energy market.

[75] *What is Energy Security?*, International Energy Agency, *available at*: https://www.iea.org/topics/**energysecurity**/subtopics/whatis**energysecurity**/

Energy Security is relevant for, both, economic and social development. The risk of unavailability of energy resources is mitigated by short term energy security and long term security calls for investments in the energy market. Long term energy security, also, includes promotion of alternative sources of energy. This, in turn, shall help in reducing dependency on oil imports and make nation energy independent.
To sum it up, the main components of energy security are:

i) Reliable supply
ii) Accessible supply
iii) Affordable supply

Initially, energy security was focussed on oil security but with changing and increasing energy demand and diversification of energy sector, the focus shifted to various other energy vulnerabilities, mainly electricity and natural gas. Energy security facilitates functioning of the energy markets in a more integrated manner. Risk factors and resilience factors affect the security. Risk factors include energy supply disruptions, political instability; whereas resilience factors include entry into energy market of a nation and diverse suppliers.

There has been a paradigm shift in the concept of Energy Security from late 70's and early 80's, when the term was used to refer to stability in the oil prices and supply as the threats of sanctions, embargoes and price manipulations by the exporters were high. These challenges widened in the millennium and the scholars studied energy security beyond the supply of oil, focussing their study on access to other energy resources and affect of the same on the climate change[76]. The study was driven by the increasing demand to "decarbonise energy systems"[77] and disrupting gas supplies in Europe.

[76] Andreas Goldthau, *Governing global energy: existing approaches and discourses*, CURR. OPIN. ENVIRON. SUSTAIN. 3 (4), 213–217 (2011) *available at*: http://dx.doi.org/10.1016/j.cosust.2011.06.003.
[77] Daniel Yergin, *Ensuring energy security*, FOREIGN AFF., 69–82 (2006).

The four As of Energy Security

The four "As" of Energy Security include availability, affordability, accessibility and acceptability. The latter two were included in the Millennium Declaration of World Energy Council but the same were referred to as "slippery and multidimensional"[78].

Availability and affordability are identified as risks that are natural and human sources whereas accessibility and acceptability are economic and environmental impacts of energy.

The concept of affordability is economic. It is based on the relationship with client income and the cost that one pays and is ready to pay. On the other hand, acceptability denotes environmental impacts and sustainability. Traditionally, energy security was restricted to OECD countries but over a period of time, it had gone beyond OECD countries. It is based on varied use, the extraction, importation and exportation of energy resources and products.

APERC defines affordability as profitability of energy investments. More the profit from a particular resource, more affordable it is. Generally, it translates into low energy prices. Acceptability is identified with sustainability. Sustainability refers to the use of resources in such a manner that the present generation as well as the future generations are able to reap the benefit of it. Thus, sustainability is of two kinds: Intra-generational and Intergenerational. The actors or the stakeholders in the acceptability part of energy security are:

- Locals
- Non-governmental Organisations
- Industries
- Nation States

As such, internal politics plays an important role in securing energy.

Energy Security has, also, been defined as "low vulnerabilities of vital energy systems". Vulnerabilities refer to the risks involved and the resilience factors. Mitigation of these risks and resilience factors are low vulnerabilities. The risks are faced in two ways: Shocks and Stresses. Shocks are short-term whereas stresses are

[78] Lynne Chester, Conceptualising energy security and making explicit its polysemic nature, 38:2 ENERGY POLICY 887-895 (2009), *available at*: http://dx.doi.org/10.1016/j. enpol.2009.10.039.

long-term. These risks cause severe disruptions of economic and social activities. The risks can originate from three things:

- Sovereignty: Actions of the foreign actors as a risk
- Robustness: scarcity of technology; natural events and calamities
- Resilience: unpredictable factors like production capacity and stock piling

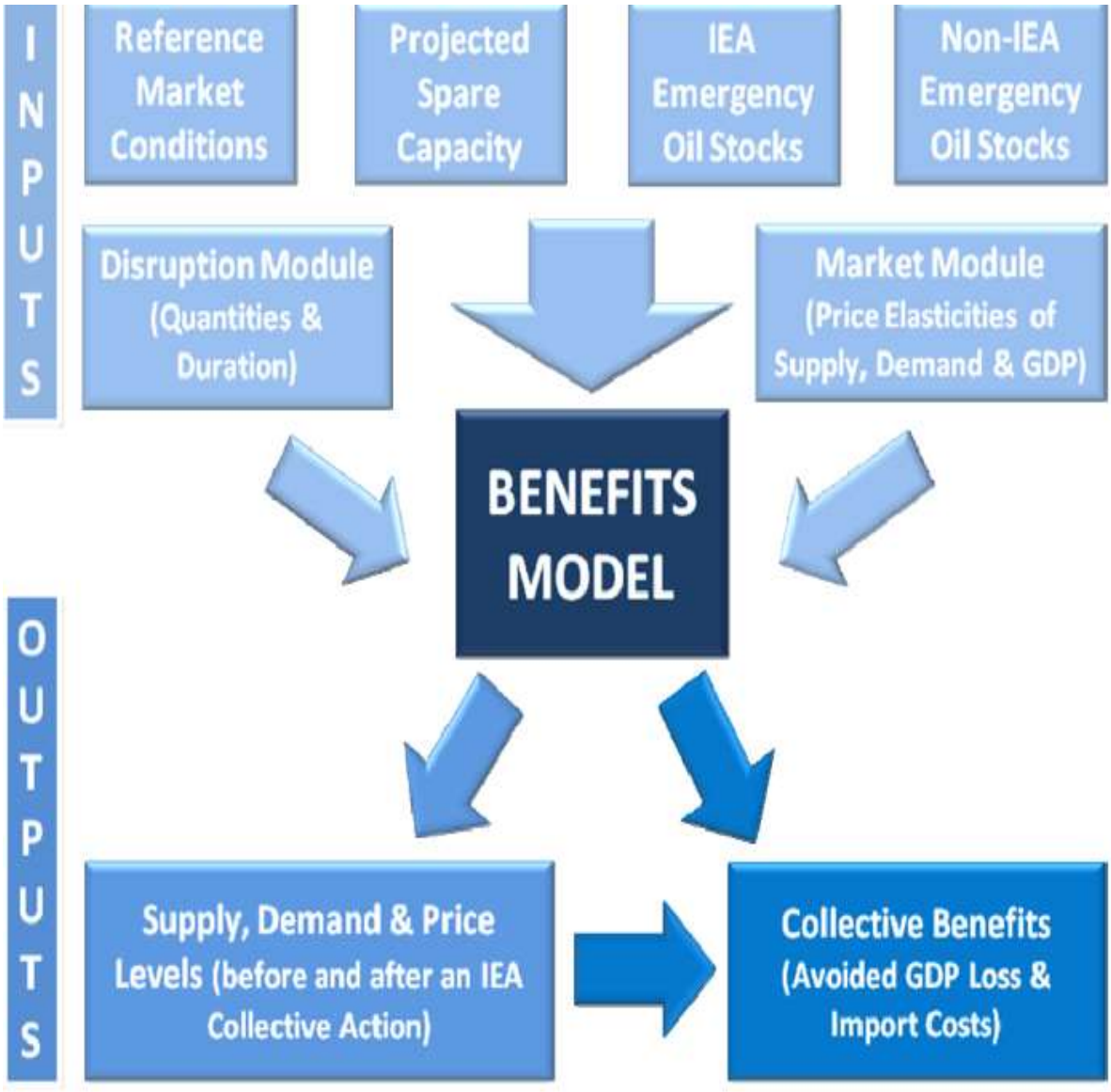
Energy Systems define geographic boundaries. The energy systems include resources, infrastructure and uses of such energy.

The point of conceptualizing a difficult political concept is not to eliminate different interpretations but rather to enable their meaningful analysis, comparison and dialogue. The proposed conceptualization helps to explain and inform policies by prompting the right questions for example: which energy systems are vital? Which short- and long-term risks are they exposed to? What is their resilience? What changes in energy prices would disrupt normal activities? For whom? Addressing such questions brings together insights from several scientific disciplines to advance the science of energy security, as well as support informed policy making, better policy analysis and learning.

5.1 Provisions in developing world

Lately, the issue of energy security has topped the plans of governments around the globe. However the term 'energy security' can mean numerous things. From a created world viewpoint, arrangements to enhance energy security regularly concentrate on the way to secure minimal effort and solid supplies of fossil-powers for power era and transport. For most OECD nations that are progressively dependent on imported oil, characteristic gas, and coal, the key inquiry is the way to differentiate these supplies of imported energy with a specific end goal to decrease the danger of deficiency. While this is likewise a sympathy toward numerous creating nations, energy security is additionally about meeting fundamental human needs at the family unit level, where per-capita utilization levels and the nature of energy supplies are frequently far lower than in OECD nations. Accordingly, this arrangement preparation concentrates

on the associations between energy security at the family unit and national levels, from the point of view creating nations. Key strategy suggestions concentrate on the need to extend the supply of renewable energy, while looking to oversee request development through energy effectiveness measures. [79]



rce: ORNL (Leiby et al., 2012)

The family unit part can likewise profit by the renewable energy ventures and the advancement of foundation offices, for example, augmented matrix systems and

[79] *See generally* General Agreement on Tariffs and Trade: Multilateral Trade Negotiations Final Act Embodying the Results of the Uruguay Round of Trade Negotiations, 33 INT'L LEGAL MATERIALS 1125, (1994).

storerooms, so that the subjects can get to enhanced energy administrations. Taking after positive encounters in Brazil and Tunisia, it is obvious that the advancement of renewable energy innovations at the family unit level, for example, sun based boiling point water frameworks, can help in decreasing top interest in the national network. Such activities, which can make utilization of renewable energy at top periods (when costs are most elevated), are prescribed since nations can work with a lower limit edge at top hours, which would somehow or another antagonistically influence the nature of energy and conceivable burden shedding. Little scale biogas innovations are being advanced, with some accomplishment, in India and Kenya, and in addition sun based cookers in India, Argentina and Kenya and sun oriented water radiator program in Argentina, Brazil, Kenya, South Africa and Tunisia. Expanding access to power and other framework based energy systems is prescribed wherever conceivable. A few nations have started various projects to extend energy access, particularly among rustic and low salary bunches. South Africa, India and Brazil have started programs gone for giving general access to present day energy administrations, principally through charge which opens the way to a variety of framework associated renewable energy innovations, from substantial scale wind homesteads to family level sun oriented PV.[80]

India's Energy Security

The energy situation in India postulates expanding challenges for its future energy arrangement. With an introduced creating limit of under 150000 MW (megawatt) and a for every capita utilization of a unimportant 650 units of power for each annum, India is experiencing tremendous assessed deficiencies of about 10% in energy terms and very nearly 17% as far as crest interest (2007/08). Energy and top deficiencies in 2003/04 were 7.1% and 11.2%, separately. These deficiencies in the framework are expanding quickly in view of expanding interest and our failure to have met more than 40%–50% of the focused on limit expansion required in the last three Five-year Plan periods. This is the circumstance when more than half of India's country

[80] *Id.*

populace does not have admittance to power. The nation has additionally had constrained accomplishment in setting up new oil saves. While it has had impressively higher achievement in setting up characteristic gas finds, the absence of satisfactory conveyance base has essentially constrained the development of, and spread of advantages from, this source. As needs be, gas utilization has expanded at a small development rate of 2% for each annum, from 1999/2000 to 2006/07, while India's oil import reliance has expanded to more than 75% in 2006/07. Likewise, under 30% of India's populace can utilize condensed petroleum gas (LPG) for meeting its cooking energy needs, with more than half still subject to kindling, chips, creature compost, and horticultural buildups.

The upstream oil and gas base in India is lacking because of underinvestment before. Accordingly, the creation of oil and gas remained ascend popular. The area has restricted cooperation from remote and private players as is unmistakable from their declining investment in New Exploration Licensing Policy (NELP) rounds. Case in point, a sum of 21 remote organizations took part in NELP-VII NELP-IX (2011). Further, organizations have spent recently US$7.2 billion, out of their speculation responsibility of US$20.7 billion until NELP VII. Despite the fact that the unexplored sedimentary region in the nation diminished from 41% in FY99 to 12% in FY10, the level of investigation will must be further raised to build hydrocarbon generation.[81]

The rising interest for oil and gas has brought about an expansion in investigation exercises around the world, driving deepwater apparatuses. In accordance with the worldwide pattern, India is hardware. Organizations are progressively missing the mark regarding their investigation focuses with a high rate of in the production of apparatuses, especially deepwater apparatuses, and the time slack in the conveyance of new apparatuses. Further, a large portion of the apparatus resources held by Indian organizations are lack. Notwithstanding fixes, there is a lack of other upstream-related framework, for example, process stages, pipelines, gathering stations and other surface offices to transport oil and gas from wells to conveyance focuses.

The oil and gas industry in India is confronting a lack industry can't pull in ability from colleges businesses give appealing vocation opportunities are losing their representatives to the private segment due might affect operations over the worth

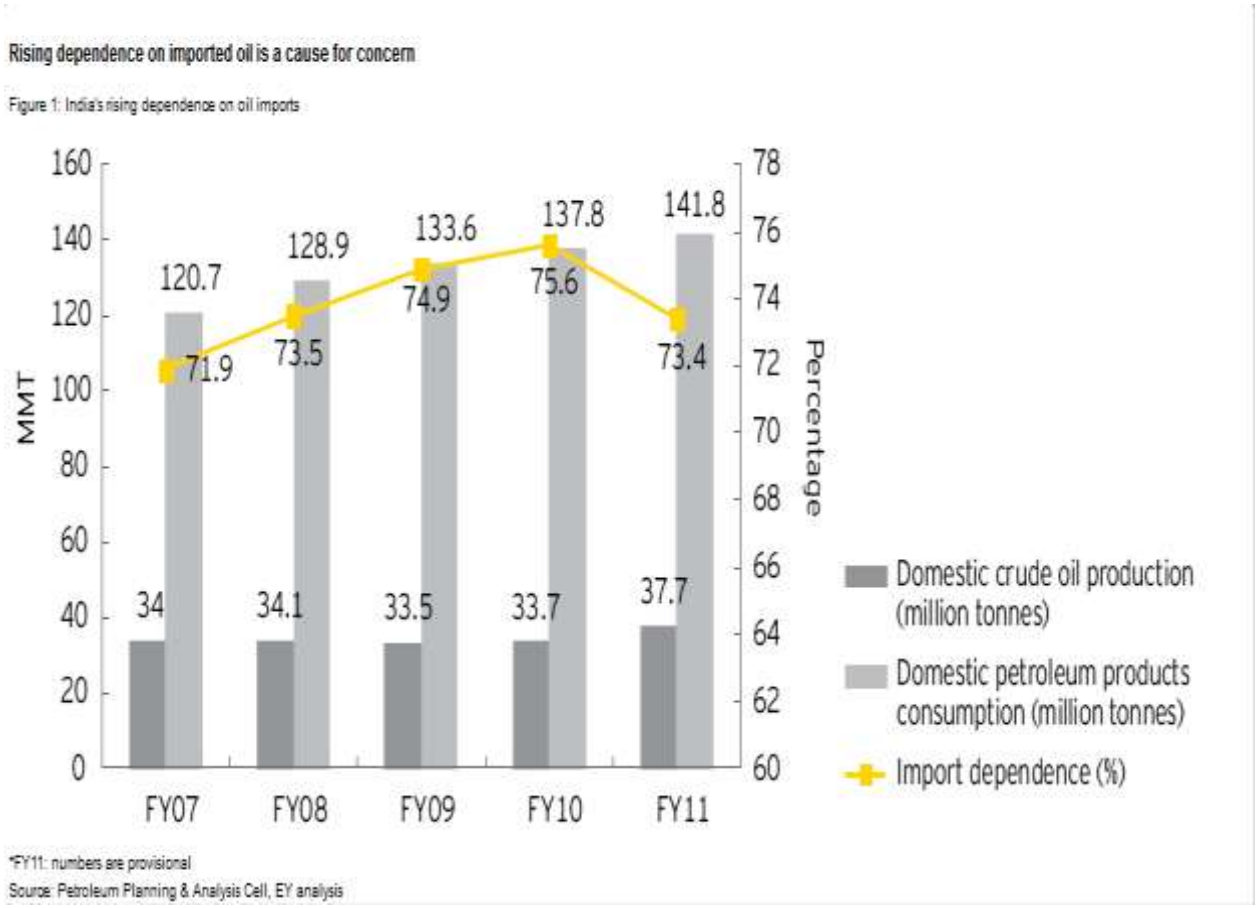
[81] The Energy and resources Institute, *India's Energy Security: new opportunities for a sustainable future*, TERI (2009) *available at*: http://www.teriin.org/events/CoP16/India_Energy_Security.pdf.

chain. There will be a necessity of around 25,000 extra experts throughout the following couple of years because of steady loss, retirement and expanding exercises in the business representatives.[82]

There are six components that give India the chance to address its energy security concerns:

With assessed coal stores of 293 billion tons and insignificant late extra investigation, India has sufficient chance to expand coal generation, gave straightforward asset access and advancement regulations are placed set up. The experience of North America has demonstrated the capability of eccentric oil and gas. It is clear that India has significant whimsical hydrocarbon potential, despite the fact that save gauges differ broadly at this early stage. Traditional oil gas still holds awesome potential in India, particularly by means of the redevelopment and escalated abuse of existing developed bowls, gave suitable estimating and tax assessment instruments are set up. India has had exceptional force in expanding renewable force limit (both wind and sun powered), and doing as such while setting worldwide cost benchmarks With an immense extent of India's framework yet to be assembled, India can jump the created world in energy proficient structures, long separation rail transportation, and an ideal street rail modular blend. India has an extraordinary chance to make more grounded and more secure supply organizations with oil and gas supplying nations in the Middle East and Africa, who will be looking for vast and stable markets to ingest imports dislodged by the US.

[82] *Id.*



5.2 The Doha Round

Two developing energy issues at the World Trade Organization (WTO) can possibly altogether effect the oil creating nations in the Middle East North Africa (MENA) area.[83] The first is a require another round of WTO exchange arrangements that would address the energy area and look to treat oil and gas like other exchanged products. The second is the developing interest to subject energy administrations to more liberated exchange under the General Agreement on Trade in Services (GATS). As oil costs topped seventy dollars for each barrel in 2006, it turned out to be clear that the world was entering a time of noteworthy move where calls for new energy strategies and "energy security" became louder by the day. In fact, energy security has turned into the new lens through which governments view worldwide relations. The record-high oil costs drove Peter Mandelson, the European Union's top exchange authority,

[83] JF Seznec, *Saudi Arabia's accession to the WTO: is a ''Revolution'' Brewing?*, In MIDDLE EAST POLICY COUNCIL CAPITOL HILL CONFERENCE SERIES ON US MIDDLE EAST POLICY: A LOOK AT FUTURE GROWTH (2006), *available at*: http://www.susris.com/articles/2006/ioi/060122-mepc-seznec.html.

to require another round of worldwide exchange talks concentrating on energy and subjecting exchange oil and gas to the same guidelines as different products under the General Agreement on Tariffs and Trade (GATT). Because of the vital significance of petroleum and the starting nonparticipation of most key energy exporters in the early GATT rounds, energy items have to a great extent been exempted from multilateral exchanging rules. Rather, universal exchange petroleum has been dealt with as an uncommon case subject to political weights and national security exemptions under the GATT. This does not imply that multilateral exchange rules don't have any significant bearing to petroleum items; there is nothing in GATT explicitly barring such items. In addition, approximately fiftyone nations and the European Union (EU) have been utilizing the Energy Charter Treaty (ECT)[84], which gives a multilateral structure to collaboration on energy related policymaking and serves as a premise for worldwide principles on energy. The EU's proposition for another round of WTO talks concentrated particularly on energy would without a doubt be based upon the ECT.

"After much heated debate through the night including a standoff between G77 and the United States on the issue of loss and damage, finance, shared vision and other issues that were raked up, the Doha Gateway to which Mr. Al Hattiyah referred to optimistically last night seems reachable, though the likely outcome smacks of a weak-kneed approach and even weaker commitments on all fronts. After protests by several countries on the main proposals up for debate which were revised in fresh texts in the morning, the sticking points continue to be finance, where the new text remains vague on midterm commitments and the proposals on payment for loss and damage where an international mechanism has been suggested much to the consternation of the U.S., and the lack of ambition in emission cuts by developed countries, among other key issues."[85]

[84] Energy Charter: Trade & Transit, *available at*: http://www.encharter.org/index.php?id=5&L=O.
[85] Meena Menon, *Doha round moves towards "not so perfect" conclusion*, THE HINDU, Dec 8, 2012, *available at*: http://www.thehindu.com/sci-tech/energy-and-environment/doha-round-moves-towards-not-so-perfect-conclusion/article4177598.ece

5.3 GATS and energy services

The General Agreement on Trade in Services (GATS) is one zone which might require a relook in any discourse on energy security.[86] Energy exchange requires interest in changeless base and might likewise include normal restraining infrastructures. Items, for example, common gas are exchanged crosswise over fringes by means of pipelines and can likewise best gaseous form. For example, power as modern merchandise, some contend that it ought to be defined as an administration since it shapes part of a system industry.[87] Some trust that more than the energy item, it is the related foundation and the empowering venture environment that require further liberalization. Under GATS, commitments of business sector access (Article XVI) and national treatment (Article XVII) apply through the engraving of specific duties. Since a large portion of the energy related exercises are secured by the orders of GATS, commitments are reflected in a few areas. Energy administrations include administrations identified with all phases of the energy creation chain: investigation, improvement, boring, extraction, development, designing, generation, preparing, refining, era, transportation, transmission, dissemination, stockpiling, showcasing, and so on. Two classification archives are ordinarily utilized by WTO Members to set up their calendar of specific duties: (i) the 1991 Services Sectoral Classification List which was created amid the Uruguay Round prominently known as "W/120", and (ii) the 1991 United Nations Central Product Classification (CPC). W/120 which gives reference to CPC has been specifically joined in the 1993 and 2001 WTO Scheduling Guidelines and has been utilized as a part of debate as an interpretative device. Be that as it may, neither of these instruments contains an unmistakable part for energy administrations. A conceivable reason is that energy administrations were transcendently in broad daylight hands and private segment support was restricted. [88]

The WTO classification instruments cover the whole chain of energy administrations. Some energy administrations have risen as of late that show up not to have found a passage in W/120 or the CPC Provisional Classification of 1991. A couple of such

[86] A Mukherjee & R Goswami, *Trade in energy services: GATS and India*, ICRIER, Working Paper no. 231 (2009), *available at*: http://www.icrier.org/pdf/WorkingPaper231.pdf.
[87] A Lakatos, *Overview of the regulatory environment for trade in electricity*, In J BIELECKI & M G DESTA (eds.) ELECTRICITY TRADE IN EUROPE: REVIEW OF ECONOMIC AND REGULATORY CHALLENGES (2004) 123–125.
[88] *Id.*

cases incorporate the wholesale exchange administrations of power and retailing administrations of power, town gas, steam, and boiling point water. In any case, it will be wrong to expect that such administrations are outside the GATS, on the grounds that the classification instruments don't decide the extent of the Agreement.[89]

Carbon capture and storage (CCS) is a climate change mitigation option which is increasing hobby. CCS is the procedure of catching waste carbon dioxide from huge point sources, for example, fossil fuel power plants, transporting it to a capacity site, and saving it where it won't enter the environment, typically an underground land development (IPCC 2005). A portion of the administrations secured under CCS can seemingly fall under existing CPC definitions, for occasion, CPC 8675 (related scientific and specialized counselling administrations), CPC 7139 (transportation of different merchandise), CPC 72122 (transportation via maritime vessels of mass fluids or gasses in extraordinary tanker, and so forth. These administrations don't fall outside the GATS as the Agreement applies to all administrations, with the exception of those gave "in the activity of legislative power".[90] In any case, without particular classification, GATS commitments as for a portion of the new energy administrations could be restricted. Nonetheless, WTO legal bodies (boards and the Appellate Body) have tended to give a wide translation of specific duties. For instance, in China—Audiovisuals[91], one of the issues was whether China's responsibilities on varying media administrations enveloped dispersion of music by electronic means or whether it was confined to the appropriation in the physical organization. The Appellate Body mentioned the accompanying objective facts:

We take note of that in deciphering the terms of GATS specific duties in view of the conventional intending to be credited to those terms must be the implying that they had at the time the timetable was finished up would imply that fundamentally the same or indistinguishably worded responsibilities could be given diverse implications, substance and scope relying upon the date of their appropriation or the date of a Member's promotion to the settlement. Such understanding would undermine the

[89] Cossy M, *Energy services under the general agreement on trade in services*, In:J Selivanova (ed.) ENERGY TRADE IN WTO AND BEYOND: CURRENT INTERNATIONAL DISCIPLINES AND FUTURE CHALLENGES (2011).
[90] *Supra*, A. Mukherjee & R Goswami.
[91] Appellate Body Report on China—Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisuals, WT/DS363/AB/R.

consistency, security and clarity of GATS specific duties. Market access liberalization alone is not considered as sufficient. Exchange energy is regularly blocked by difficulties in accessing transportation and circulation systems. Access on sensible terms to capacity, transport, and circulation systems is vital for liberalization of cross-fringe energy exchange. Once more, non-straightforwardness of regulation could be another boundary. Outsider access to transportation is controlled by privately owned businesses, and not by governments. GATS contain exceptionally constrained procurements that arrangement with the behaviour of private elements, for example, imposing business models and select administration suppliers. So as to address these issues, the United States and Norway proposed to devise a Reference Paper on Energy Services demonstrated on the Reference Paper on Basic Telecommunication Services under the GATS. The target of the Reference Paper was to guarantee straightforwardness in the plan and execution of standards and additionally non-oppressive outsider access to the interconnection with energy systems and matrices, non-prejudicial goal and auspicious strategies for the transportation and transmission of energy, and prerequisites keeping certain against aggressive practices for energy administrations as a rule.

The GATS recognizes four methods of supplying administrations: (1) cross-outskirt supply is characterized to cover administrations streams from the domain of one Member into the region of another Member (e.g. saving money or engineering administrations transmitted by means of information transfers or mail); (2) utilization abroad alludes to circumstances where an administration shopper (e.g. visitor or patient) moves into another Member's domain to get an administration; (3) business vicinity suggests that an administration supplier of one Member sets up a regional vicinity, including through possession or lease of premises, in another Member's region to give an administration (e.g. residential backups of remote insurance agencies or lodging networks); and (4) vicinity of normal persons comprises of persons of one Member entering the region of another Member to supply an administration (e.g. bookkeepers, specialists, or instructors).

Modes	Requests
Mode 1	• Substantial reduction of market access limitations • Removal of existing requirement of commercial presence
Mode 2	• Make commitments whenever technically feasible
Mode 3	• Removal or substantial reduction of foreign equity limitations • Substantial elimination of joint ventures and joint operations requirements for foreign service suppliers • Removal or substantial reduction of ENTs • Elimination of discriminatory licensing procedures
Mode 4	• Make commitments in accordance with Paragraph 1(d) of Annex C of the Hong Kong Ministerial Declaration • No general exclusion of energy services from horizontal commitments • In Mode 4 the US is not a requesting member but a deemed recipient

Plurilateral Requests across different modes in Energy Services

CHAPTER 6

WTO regulations to trade in energy: Analysis & Suggestions

Tariffs on export are an honest way to trade and are used as strategic tools. Energy sending out nations regularly utilizes such arrangement devices as fare duties on energy items to produce state income. Albeit nothing forbids them from forcing as high fare taxes on energy sends out as they wish, unless they have bound their fare obligations under the terms of their WTO increase, they can't separate between the fare markets.[92] As indicated by GATT Article I, most supported country treatment must be conceded to any Member of the WTO in connection to such exportation. This implies they can't put higher charges on fares to one business sector than on fares to different markets.

Energy sending out nations that are still not WTO Members now and then put forward fare duties for various markets at various levels. Considering that the fare obligations for energy fares are entirely high, this arrangement could prompt sizeable contrasts between costs for energy material and items in various markets. Nations acquiescing to the WTO are required to annul this segregation.[93]

Domestic duties

Local energy charges in import markets speak to a much greater sympathy toward energy creating nations than do import obligations. They are frequently set at especially abnormal states as they serve as income producing devices. Energy exporters consider that high inward assessments forced by importing nations on petroleum items including gas undermine their capacity to get wage from their own regular assets. Be that as it may, the length of these duties are connected on a non-biased premise they are in accordance with the WTO.[94]

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[92] Kyle Bagwell, *Remedies in WTO: A perspective*, CU ACAD. COMM., 2007, *available at*: http://academicccommoons./columbia.edu/c_atalog/ac:114680.
[93] *Id*.
[94] Daniel Crosby, *Import, Export and Production Restrictions on Energy Goods & Services*, in Global Challenges at the Intersection of Trade, Energy and Environment, CTEI (2009), available at: http://graduateinstitute.ch/files/live/sites/iheid/files/shared/summer/WTO2010/JP1.pdf.

Carbon dioxide and energy assessments can be connected straightforwardly to energizes, to power and downstream commercial enterprises that utilization energy as data – on the premise of the measure of carbon dioxide radiated or energy expended in their creation.[95]

Energy taxes and changes

At the point when states with an elevated expectation of environment approaches force high energy assesses, the energy concentrated items delivered in these nations turn out to be less focused contrasted with outside items that are not subject to such regulations. Accordingly, these nations may once in a while discount these charges to organizations upon exportation. Likewise, governments may wish to force extra expenses on imports of items from nations that don't stick to such an abnormal state of ecological assurance.[96]

WTO rules don't plainly characterize the qualification of some outskirt charge changes. In view of the destination rule of universal tax collection, direct expenses, (for example, pay duty or proprietorship charges on property) are not qualified for alteration under the GATT. Just roundabout assessments – charges demanded on the items, (for example, esteem included expense, deals, turnover, extract charges, and so forth.) – can be balanced at the fringe.

It is WTO-steady to subject items imported into the nation to the same expenses as local items. Article II(2)(a) unequivocally perceives the privilege of Members to force a charge identical to an inward expense in appreciation of the like residential item or in admiration of an article from which the foreign made item has been fabricated in entire or to some extent. As indicated by a few understandings, "article" may suggest

[95] *Id.*
[96] *Id.*

that "the circuitous expense is translated as being limited to items that are physically consolidated into the last item"[97].

Subsidies

Subsidies may be utilized by states to advance some energy effective strategies for creation. Considering that specific renewable energy sources are not as of now industrially suitable, the topic of utilization of various bolster plans for renewable energy is intense.

Such projects can't be, be that as it may, dependent upon fare execution (they will fall under the class of denied appropriations). In the event that such sponsorships are observed to be particular to specific endeavors, commercial ventures or gatherings thereof they would be viewed as noteworthy and items profiting from such appropriations can be countervailed. On the other hand, a WTO Member can ask for a withdrawal of such endowments on the off chance that they cause antagonistic effects.

Not just ought to the sponsorship not be particular by law (i.e. at the point when as far as possible awards to particular commercial enterprises or undertakings or a gathering thereof), it must be accepted unspecific, all together not to be noteworthy. Constraining the sponsorship to makers of renewable energy would perhaps meet the criteria of specificity. Case in point, if the administration chooses to concede money related backing to energy creation plants utilizing renewable energies, this project would be considered particular.[98]

The administrations have attempted to outline the projects in a way that makes the backing be given through private elements. One of the cases is the value ensures for the makers of renewable energy sources gave by lattice administrators that are obliged to compensate makers by law.[99] The contention that the administration does not give

[97] *Id.*

[98] Ana Maria Kleymeyer, *New Rules for the Environmental Imperative: Considerations for the Energy Sector and Interaction with WTO Rules*, in Global Challenges at the Intersection of Trade, Energy and Environment, CTEI (2009), *available at*: http://graduateinstitute.ch/files/live/sites/iheid/files/shared/summer/WTO2010/JP1.pdf.

[99] I*d.*

bolster itself and that the project does not constitute an appropriation does not discover backing in the SCM Agreement. The prerequisite of budgetary commitment would be met if the legislature does not perform the installment capacity all alone but rather "depends or coordinates a private body" to complete capacities anticipated in Article 1(a) and the practice does not contrast from practices regularly took after by governments.[100]

Dual Pricing

The Doha Development Agenda (DDA) command expressly alludes to the lessening or disposal of duty acceleration. Duty acceleration is the act of charging higher import taxes on handled products than on natural merchandise. It has for some time been held that tax heightening in created nations might upset the improvement of high esteem included industry in creating nations. Yet, given the officially low normal duties on mechanical merchandise in created nations, it is dubious that the level of duty heightening as yet existing today would dishearten the advancement of a preparing industry in creating nations.

With reference to duty acceleration in the created world, creating nations have legitimized send out obligations or fare charges for certain commodities.196 These measures are thought to advance the improvement of downstream preparing businesses and empower remote direct speculation while in the meantime being a dependable wellspring of income. The previously stated fare obligations have been assigned as non-duty obstructions in the DDA Non-Agricultural Market Access (NAMA) transactions. Send out obligations or fare charges are traditions obligations on fares regularly imposed on products by sending out creating nations for monetary or modern arrangement reasons. Monetarily talking, they are the converse side of levy heightening since they make it more troublesome for created nations to handle these things.

WTO disciplines on fare obligations are not unmistakably characterized, thus the talks in the DDA. On the other hand, these measures are precluded by some local exchange

[100] Nikolay Mizulin, The EC Experience in Creating an Internal Energy Market: Lessons for the WTO, in Global Challenges at the Intersection of Trade, Energy and Environment, CTEI (2009), *available at*: http://graduateinstitute.ch/files/live/sites/iheid/files/shared/summer/WTO2010/JP1.pdf.

understandings and have additionally been managed in some increase arrangements (e.g., China and most as of late Russia).

The financial ramifications of fare obligations are understood:

The financial impacts of fare obligations should be surveyed with respect to their destinations and additionally their general consequences for the economies of the exchanging accomplices concerned.

At the point when the motivation behind fare obligations is basically income, it might be asked whether elective inside tax collection measures could be just as viable furthermore less exchange distortive. In making such an evaluation it ought to be perceived that creating and slightest created nations might require specialized help to modernize and enhance the effectiveness of their assessment frameworks.

At the point when the goal is essentially the advancement of downstream businesses, the monetary ramifications shift as indicated by the degree to which the sending out nation can influence the world business sector cost of the burdened item. Notwithstanding, regardless of whether there is such an impact, a fare obligation would make a differential between a value accessible to residential processors and the value charged to remote processors. This differential would give an upper hand to local downstream processors. This could be defended by the 'newborn child industry' contention, i.e., to give an underlying motivating force to the advancement of a handling industry. It would likewise enhance the general terms of exchange of the nation, profiting its parity of installments. However the net result could be a welfare misfortune in that it would punish exporters of the exhausted item while profiting downstream preparing commercial ventures which thus would have a lessened motivating force to wind up really focused universally. In this sense a fare obligation goes about as a certain sponsorship for the local handling commercial enterprises, furnishing them with a fake upper hand both in the local markets of the nation and in fare markets.

Keeping in mind the end goal to qualify as noteworthy, a household appropriation must be particular to an endeavor or industry, or gathering of ventures or commercial

ventures, or a locale. The specificity necessity for significant sponsorships would be met if, for instance, the administration furnished just a few commercial enterprises with energy inputs at low costs. Double energy valuing typically applies to all undertakings and commercial ventures all through the economy.

Technical and Specialized Regulations

Specialized regulations and measures are widely utilized for energy items and materials and in addition energy expending end-use gadgets. They can be critical instruments to increment productive utilization of energy and diminish GHG outflows. Besides, numerous specialized regulations are identified with the transportation of energy items.

The point of the Agreement on Technical Barriers to Trade is to keep a circumstance in which specialized regulations, guidelines and congruity appraisal systems make superfluous obstructions to exchange or are utilized as protectionist instruments. Specialized necessities might address the creation strategy for products, their intrinsic, utilization or transfer qualities.

Investment

It is not extraordinary for nations supplied with normal assets, especially energy, to present enactment that supports residential organizations in connection to the interests in the energy segment. Besides, there are numerous TRIMs that are particular to the petrochemical business. The exchange related speculation measures most normally experienced incorporate neighborhood content, nearby value, fare and exchange of innovation necessities. The most noticeable kind of TRIM is a neighborhood content prerequisite. Such measures are disallowed under the TRIMs Agreement.

Recommendations

The qualities of 'open products' (similar to their non-excludable and non-modest use profiting all residents), the basic issues of the aggregate supply of 'worldwide open merchandise's in a decentralized world made out of 192 sovereign UN part states with rare assets and regularly clashing 'national hobbies', and the universal irreconcilable situations among people (e.g. because of their balanced pride, restricted social sensibility and rivalry for rare assets) involve 'aggregate activity issues' hindering the supply of universal open goods.223 Unfortunately, scholastics have so far neglected to expound approach arranged speculations for recognizing and defeating these aggregate activity issues in the worldwide administration endeavors at ensuring 'covering worldwide open merchandise'.

(1) prioritizing Kyoto II Protocol arrangements on natural 'first-best strategy instruments', (for example, carbon-decrease responsibilities, a worldwide emanation exchanging framework, money related and mechanical advancement of 'clean improvement systems', and so on), without further convoluting the Copenhagen transactions by talk of 'second-best exchange approach instruments', and without postponing the finish of the past due Doha Development Round arrangements in the WTO;

(2) leaving elucidation and possible alterations of appropriate WTO disciplines (e.g. for outskirt charge alterations, send out assessments, travel exchange and duty administrations, eliminating of fossil-fuel sponsorships, 'green endowments' for the move to sans carbon energy creation taking into account renewable assets, carbon catch and capacity innovations), and also arrangement of integral WTO duties (e.g. for global energy exchange, natural products and administrations), to later WTO arrangements (e.g. to be arranged by the WTO Committee on Trade and Environment);

(3) promoting between organization collaboration (e.g. for budgetary help by the World Bank Group, innovative help by the World Intellectual Property Organization, transaction of territorial energy security frameworks in the setting of the ECT and EU association concurrences with Russia and other energy sending out nations);

(4) acknowledging that particular 'consistence/supervision systems' in the Kyoto II Protocol, similar to financial specialist state intervention methodology under the ECT and BITs, might be more suitable for the settlement of the inescapable disagreements regarding consistence with carbon decrease duties, 'aggressive twists' and prejudicial confinements than plan of action to WTO question settlement strategies;

(5) creating cooperative energies in the middle of national and worldwide ecological, energy and exchange administrations, for instance in perspective of the way that the energy area represents more than half of every single nursery ga outflows; yet, 'focused bends' (e.g. coming about because of the expenses of carbon imperatives on generation) are liable to make response to one-sided 'protection measures' politically unavoidable (e.g. outskirt charges on carbon-serious imports, for example, steel, aluminum and concrete from nations without carbon diminishment duties);

(6) widening the residential "voting demographics" of worldwide principles and supplementing their intergovernmental structures by transnational, multilevel administration structures which ought to enable likewise singular on-screen characters and non-legislative associations (e.g. research foundations, private standard-setting associations) to help with decentralized standard-setting, observing and requirement of new guidelines on atmosphere assurance, universal energy security and commonly valuable exchange. As opposed to the tyrant, and regularly incapable 'Westphalian worldview' of 'worldwide law among states', nationals must be perceived as a definitive recipients, as well as the equitably authentic "proprietors" of global financial regulation, self-intrigued gatekeepers of 'guideline of law' and most vital performing artists (e.g. as makers, financial specialists, merchants, buyers and polluters) in universal monetary, natural and energy relations.

One danger is that, if nothing is done, and no transactions are attempted anyplace, energy related strains could prompt debate in which the WTO question settlement framework would need to arbitrate clashes utilizing only the current WTO rules, which were not arranged with the specificities of the energy division at the top of the priority list.

In aggregate, the Marrakesh Agreement Establishing the World Trade Organization ('the WTO Agreement') has an extremely expansive extent of utilization and scope, more than a few vitality related business exercises. The colossal trouble is "the means by which" the WTO orders would work and if particular vitality related exercises or practices would be WTO-predictable. In this connection, one ought to recall that the WTO has no investigative forces, so no one but Members can challenge the activities of another Member, either politically in applicable customary boards of trustees, or before the Dispute Settlement Body where Members' measures are constantly attempted to be WTO steady as individuals are ventured to be acting in accordance with some basic honesty and in a WTO-reliable way until demonstrated generally. In debate, all Members are additionally ventured to have adequate monetary and lawful enthusiasm to start a settling process on whether a WTO commitment has been damaged by law or accepted without demonstrating the negative exchange effect of the tested measure. The WTO ward is necessary, select, and generally fast. It is intriguing to note that the primary debate in the WTO concerned fares of gas from Brazil and Venezuela to the United States.

CONCLUSION

WTO rules are increasingly relevant for trade in natural resources. On one hand, international trade in natural resources has increased. On the other hand, export restrictions on natural resources have become more frequent as countries seek to secure domestic supply. The recent outcome of the *Raw Materials* dispute has drawn, once again, attention to the question whether the WTO is adequately sensitive to non-trade policy concerns. The fact that China was denied the principled possibility to invoke public policy exceptions in Article XX of the GATT with respect to its relevant WTO plus obligation gives a reason for concern. Furthermore, from the trade perspective, the outcome of the *Raw Materials* dispute may force China to use more trade restrictive measures than export duties, such as quotas, in order have the recourse to Article XX as a justification for export restrictions.[101]

From a broader policy perspective, it would be desirable for the WTO dispute settlement system to be more sensitive to non-trade policy concerns and the broader legal context of WTO disputes. As the AB itself noted already fifteen years ago, WTO rules must be interpreted in light of contemporary environmental concerns and the non-trade policy objectives listed in the preamble of the WTO Agreement can inform the interpretation of other WTO obligations.

Given the growing demand for natural resources and the various environmental crises threatening their supply, it would be desirable for the WTO to display appropriate sensitive to non-trade policy concerns.

Until just a few years ago, it was suggested that the temperature rise in the Arctic has been twice as fast as that of the remainder of the globe.[102]However, today this increase in temperature has been recorded as being even more rapid; three times higher thanin the other regions.[103]As a result, the Artic sea ice is melting alarmingly. This region is currently only accessible during a short time of the year, a few weeks in the summer months, but this length of time is expected to increase. According to some studies, the Arctic Ocean will be entirely ice-free during the summer months in only a

[101]Id., 54.

[102] See on this point out of huge literature, for example, Rob*Huebert*et al., *Climate Change*and *International Security*: The Arctic as a Bellwether (2012) http://www.c2es.org/docUploads/arctic-security-report.pdf .

[103] Carlos M. Duarte et. al., *Abrupt climate change in the Arctic*, 2NATURE CLIMATE CHANGE, 60–62 (2012).

couple of decades.[104] This increased access is likely to attract broader economic activities in the region, one of which is the possibility of exploration, and subsequent exploitation, of oil and gas.

The world's hydrocarbon resources are shrinking dramatically, day by day, due to the growth in consumption, resulting in huge pressure on existing resources. It has been suggested that, with increasing demands, the reserves that are known to be available will run out by as soon as 2050, or maybe even before then, unless exploitation of new discoveries begins.[105] Therefore, this will lead us to seek the exploitation of new sources of hydrocarbons. The continuous rise in demand increases in oil prices, and ongoing and constant conflicts in the oil-rich region, the Middle East, show an alarming picture of the security, or lack thereof, of a stable supply. Therefore, the world is seeking alternative sources of energy, both in terms of its nature and in terms of the regions capable of supplying it securely, and is looking to the Arctic – the region believed to have huge hydrocarbon potential. Indeed, it is estimated that the Arctic holds approximately a quarter of the world's undiscovered hydrocarbon resources,[106]and is therefore regarded as the next reservoir of the globe's oil and gas reserves, although uncertainty remains regarding the exact quantity that is held in the region.

The European Union (EU) is one of the major players in the global energy market. Its enlarged membership means that energy demand in the EU is continuously increasing. The Arctic, especially the European high north, and more precisely Norway and Russia, is placed as the major supplier of oil and gas for the EU. The rise in hydrocarbon production in the Arctic, and the EU's simultaneously growing dependence on the import of fossil fuel from the region, is expected to have serious consequences from an environmental perspective. The Arctic is generally considered to be a region in pristine environmental condition, and its unique nature of eco-system requires an uninterrupted flow. While the use of hydrocarbons as such contributes to remarkable emissions of greenhouse gas (GHG), developmental activities as a whole

[104]Rheal Seguin, *Scientists predict seasonal ice-free by 2015*, GLOBEAND MAIL, December 12, 2008.
[105] Brandt, A.R., Plevin, R.J. Farrell, A.E. *Dynamics of the oil transition: Modeling capacity, depletion, and emissions*, 35ENERGY (2010).
[106] Scott G. Borgerson, *Arctic Meltdown: The Economic and Security Implications of Global Warming*, 87FOREIGN AFFAIRS 67 (2008).

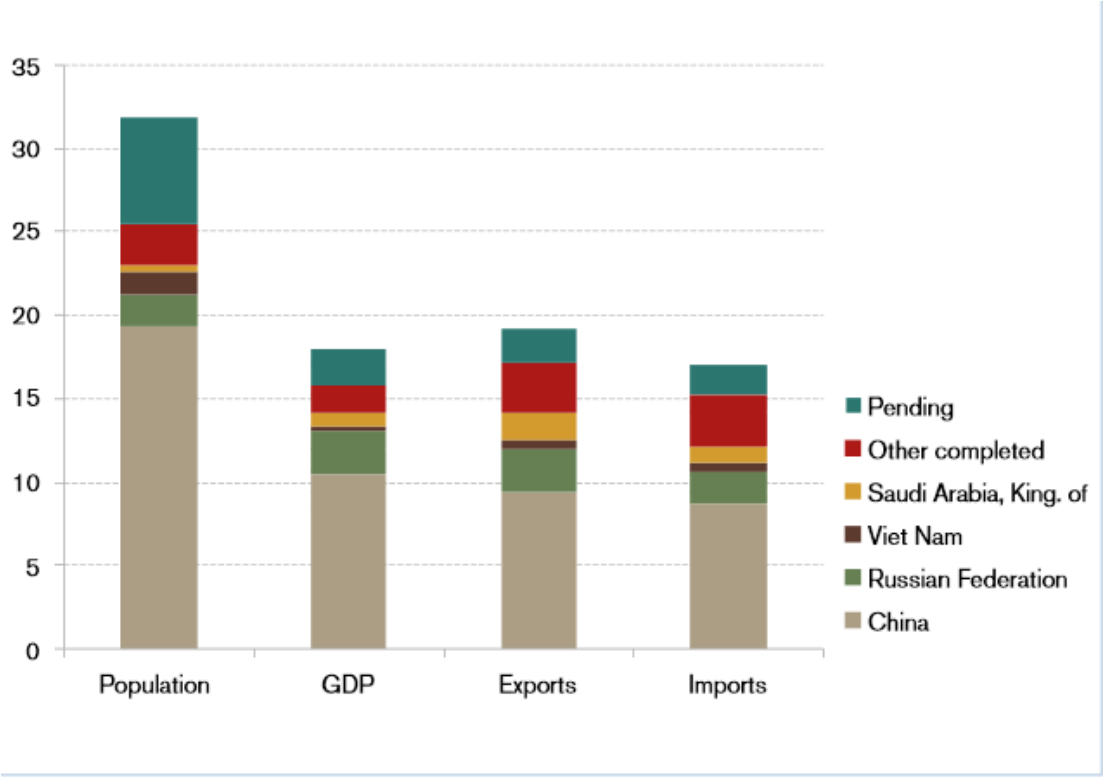
also accelerate the process of greater emissions. As the leader in the fight against climate change, the EU is committed to reducing the GHG emissions, both internally and externally. Therein lays the paradoxical premise: on the one hand while the EU demands for the import of energy from the Arctic is gradually on the increase, on the other, it has made an ambitious emission reduction commitment to itself, as well as introducing a policy to promote emission reduction goals beyond the EU. However, consumption of fossil fuel and reduction of GHG emission cannot go hand-in-hand. Therefore, the EU must firm up its energy policy with a view to meeting its goal to mitigate global climate change as far as energy consumption is concerned.

From the issues discussed in the above chapters and on an analysis of WTO and its extended agreements, it becomes clear that energy products, services and trade have not been clearly looked into. The agreements have not been framed in a manner so as to answer the energy issues that arise in the contemporary world. The first thing that it lacks is a proper definition of the word "energy product". Energy Services have been listed but the list is conditional. There is no clear distinction between an energy product and an energy service. Moreover, is it viable to treat renewable energy sources as non-renewable ones? While the world is striving towards sustainability and cutting down emissions of gases that are toxic, noxious and harm the environment, the trade of environmental goods and services like solar panels for a cleaner environment are also, energy goods.

Energy and environment are two sides of the same coin. The trade in energy affects environment and with increasing environment pollution and treaties and conferences being held for a sustainable environment, the governments of different nations are endowing subsidies on the generators of renewable energy as has been discussed in the case of Canada feed-in-tariff[107]. These subsidies directly relate to the WTO agreements and any violation or inconsistency in the same leads to a dispute. The problems of dual pricing and export tariffs remain unanswered. Another example is sovereignty over the energy resources and an example of the same can be Russia. Gazprom, Russia's largest energy exporter plays around the WTO agreements and is,

[107] *Supra*.

thus, free of any trade barriers when exporting its products because the WTO is unclear about the energy-related issues.



Source: World Bank data.

Notes: Data on exports and imports are for goods and services. Members as of 2012 based on 2011 data. "Pending" = aggregate data for all other members whose accessions were pending at the end of 2012. "Other Completed" = aggregate data for all other members that completed accessions by the end of 2012.

The number of energy exporting countries is increasing in the WTO or the some are in the process of accession as such, given the circumstances, it would be beneficial for the WTO agreements to be amended or altered so as to add energy products and services within its framework.

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