İSTANBUL BİLGİ ÜNİVERSİTESİ

LİSANSÜSTÜ PROGRAMLAR ENSTİTÜSÜ

HUKUK YÜKSEK LİSANS PROGRAMI

RENEWABLE ENERGY SUBSIDIES: LOCAL CONTENT REQUIREMENT AND WTO DISPUTES

Türkan Gülce BUDAK

117613008

Dr. Öğretim Üyesi N. Pınar ARTIRAN

İSTANBUL

2019

Renewable Energy Subsidies: Local Content Requirement And WTO Disputes

Yenilenebilir Enerji Teşvikleri: Yerli İçerik Zorunluluğu ve DTÖ Uyuşmazlıkları

Türkan Gülce Budak

117613008

Tez Danışmanı : **Dr. Öğretim Üyesi Pınar Artıran** (İmza) .....
İstanbul Bilgi Üniversitesi

Jüri Üyeleri : **Dr. Öğretim Üyesi Dolunay Özbek** (İmza) .....
İstanbul Bilgi Üniversitesi

Dr. Öğretim Üyesi Mustafa Cahit Günel (İmza) .....
İstanbul Üniversitesi

Tezin Onaylandığı Tarih : 29.06.2019

Toplam Sayfa Sayısı : 138

Anahtar Kelimeler (Türkçe)

1) Yenilenebilir Enerji Teşvikleri
2) Tarife Garantisi Programları
3) Yerli İçerik Zorunluluğu
4) Ulusal Muamele Prensibi
5) Yasak Sübvansiyonlar

Anahtar Kelimeler (İngilizce)

1) Renewable Energy Subsidies
2) Feed-in Tariff Programs
3) Local Content Requirement
4) National Treatment Principle
5) Prohibited Subsidies

TEŞEKKÜR

Eğitim hayatım boyunca beni motive eden, ilgisi ve desteğini hiçbir zaman esirgemeyen sevgili aileme en derin şükranlarımı sunarım. Ayrıca yüksek lisans eğitimimi ve tez çalışmalarımı destekleyen TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı 2210-A Yurt içi Yüksek Lisans Burs Programına teşekkür ederim.

Türkan Gülce Budak

İstanbul, 2019

TABLE OF CONTENT

ABBREVIATIONS

APEC	Asia-Pacific Economic Cooperation
CSHWP	Clean Energy Centre's Commonwealth Solar Hot Water Program
CSP	Concentrated Solar Power
CTE	Commission on Trade and Environment
DSB	Dispute Settlement Body
DSU	Dispute Settlement Understanding
EC	European Communities
EGA	Environmental Goods Agreement
EU	European Union
Ex-Im Bank	Export-Import Bank
FIT	Feed-in Tariff
GATT	General Agreement on Trade and Tariffs
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GPA	Government Procurement Agreement
ICTSD	International Center for Trade and Sustainable Development
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
LCR	Local Content Requirement
MEA	Multinational Environmental Agreements
MNC	Multinational Company
MW	Megawatt
NAFTA	North America Free Trade Agreement
NSM	National Solar Mission
OECD	Organization for Economic Co-operation and Development
OPA	Ontario Power Authority
Para	Paragraph
Pg	Page

PPM	Process and Production Method
PV	Photovoltaic
R&D	Research and Development
RCR	Regional Content Requirement
RES	Renewable Energy Supply
RESOP	Renewable Energy Standard Offer Program
SCM	Subsides and Countervailing Measures
SETA	Sustainable Energy Trade Agreement
SGIP	Self-Generation Incentive Program
SPS	Sanitary and Photo Sanitary
TBT	Technical Barriers to Trade
TRIMs	Trade Related Investment Measures
TRIPs	Trade-Related Aspects of Intellectual Property Rigths
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

ABSTRACT

The purpose of this thesis is to analyze subsidy regimes that states have enacted to support renewable energy generation. In this context, especially local content requirement in renewable energy projects, violation of WTO national treatment and prohibited subsidy principles, and the possible reforms before the WTO in order to accelerate the clean energy generation were examined.

This thesis consisted of five main chapters. The first Chapter presented the effects of trade on environment, particularly the energy generation externalities and how countries enacted measures and subsidy programs to reduce them. In the second Chapter, one of the most frequently employed subsidy schemes of local content requirement was analyzed. Its positive and negative effects were taken into consideration from both environmentalist and economic perspectives. Chapter three concerned the relevant WTO rules and its possible violations in the employment of local content subsidies. Following the legal scheme, the case laws of WTO Dispute Settlement Body on renewable energy subsidy schemes were elaborately analyzed in Chapter four. The final Chapter offered possible solutions to mitigate negative consequences of WTO law infringement, in order to promote the advancement in green industries and clean energy generation.

Keywords: Renewable Energy Subsidies, Feed-in Tariff Programs, Local Content Requirement, National Treatment Principle, Prohibited Subsidies

ÖZET

Bu tezin amacı, devletlerin yenilenebilir enerji üretimini desteklemek için oluşturduğu teşvik mekanizmalarının incelenmesidir. Bu kapsamda özellikle yenilenebilir enerji üretimi projelerinde öngörülen yerli içerik zorunluluğunun, DTÖ kurallarından ulusal muamele ve sübvansiyon yasağı prensiplerine aykırılığı ve buna karşı DTÖ nezdinde gerçekleştirilebilecek reformlar ile temiz enerji üretiminin ivmelenmesi için yapılabilecekler incelenmiştir.

Çalışma beş ana bölümden meydana gelmektedir. İlk bölümü, ticaretin çevre üzerindeki etkilerini, bilhassa enerji üretiminin olumsuz etkileri ve devletlerin bunu azaltmak için çeşitli tedbir ve teşvikleri nasıl uyguladıklarını ele almaktadır. İkinci bölüm en çok tercih edilen teşvik türlerinden biri olan yerli içerik zorunluluğunu analiz etmektedir. Bu teşvik türünün olumlu ve olumsuz etkileri hem çevreci hem de ekonomik bakış açılarından incelenmiştir. Üçüncü bölüm ise, yerel içerik kullanımıyla ilgili DTÖ kuralları ve olası ihlalleri ele almaktadır. Hukuki çerçeveyi takiben, DTÖ Uyuşmazlıkların Çözümü Mekanizmasının yenilenebilir enerji teşvik programları hakkındaki içtihatları dördüncü bölümde ayrıntılı olarak incelenmiştir. Son bölümde ise, çevre dostu sanayilerin ve yenilenebilir enerji üretiminin gelişmesi amacıyla, DTÖ hukuku ihlallerinin olumsuz sonuçlarını hafifletmek için olası çözümler sunulmuştur.

Anahtar Kelimeler: Yenilenebilir Enerji Teşvikleri, Tarife Garantisi Programları, Yerli İçerik Zorunluluğu, Ulusal Muamele Prensibi, Yasak Sübvansiyonlar

INTRODUCTION

The current most urgent challenge for the international community is related to the protection of the environment, and in particular climate change. Reports indicate that "the single largest contributor to climate change through the production of greenhouse gases is electricity and heat generation from conventional sources".[1] In this respect, many countries have designed programs to promote the generation and use of renewable energy through subsidization.[2] The commonly preferred subsidization program for renewable energy is Feed-in Tariff ("FIT"). It often incorporates Local Content Requirement ("LCR"), which mandates the use of a specific amount of products in the generation process of renewable energy to be sourced locally. Compatibility of FITs with LCR in WTO law represents a great significance since subsidies bring considerable success to the renewable energy sector. Therefore, there is a substantial need for clarification in this area. The purpose of this thesis is to present the existing World Trade Organization ("WTO") law on the matter and the discussions that it generates with respect to local content subsidies for renewable energy.

In parallel with the proliferation of subsidization programs and global supply chain of renewable energy technologies, disputes before the WTO concerning environmental measures significantly increased.[3] These new cases differ from the previous environment-related cases in terms of the indirect nature of the environmental benefit and potentially violated WTO obligations. Next generation disputes of WTO in the area of industrial policies and the environment are rising since countries aim long-term growth in the domestic market but that in itself forms a disadvantage for exporting countries. The exporters lost their

[1] Nicholas Stern, *"What is the Economics of Climate Change?",* 7 World Economics 1, 2006, pg. 12.

[2] Mark Wu and James Salzman, "*The Next Generation of Trade and Environment Conflicts: The Rise of Green Industrial Policy"* 108 Northwestern University Law Review 419--420, 2014, p. 401.

[3] Wu and Salzman, p. 403.

competitive advantage, which they previously enjoyed thanks to their market expansion.

This complicated topic of protectionist measures on renewable energy generations has been frequently discussed by policymakers and scholars, however, has not led to the substantial outcome. Furthermore, it appears that after the collapse of the Doha Round, abstract outputs of the Commission on Trade and Environment ("CTE") and the paucity of new rules generated in the trade and environment context, there is a need of more scholarly research on this topic. Therefore, the thesis aims at capturing underlying legal and implementation aspects related to renewable energy production and its WTO challenges within the limited context of FIT with LCR.

WTO agreements that should be examined in order to evaluate the compatibility of incentive measures that contain LCRs are the General Agreement on Trade and Tariffs ("GATT") 1994, the Agreement on Trade Related Investment Measures ("TRIMs"), and the Agreement on Subsidies and Countervailing Measures ("SCM").

The Appellate Body opined in various WTO disputes that governments' incentive measures including LCRs for renewable energy were prohibited under WTO law, as they were inconsistent with various provisions of the Agreements. They first violated the "national treatment principle" stipulated in GATT Article III:4 as they committed to favor the renewable energy generators that utilize domestically produced or assembled products over the foreign contented products. They may likewise violate Articles 2.1 and 2.2 of the TRIMs Agreement, since those provisions clearly prohibit the adoption of "trade-related investment measures" that require "the purchase or use of products of domestic origin or from any domestic source" in order to protect the domestic producers. As for the SCM Agreement, the primary issue to establish is whether the incentive measure qualifies as a "subsidy" within its context. If it does, then the measure will constitute a "prohibited subsidy" under Article 3.1(b) of the SCM Agreement as

long as it is found to be "contingent (…) upon the use of domestic over imported goods." [4]

Traditional legal methods provide an appropriate methodology to achieve the aim of identifing and clarifying the law with regard to the relevant WTO Agreements that are applicable to the subsidies for renewable energy. The traditional legal methodology is based on the specific sources of law and the hierarchical relationship between them. Therefore, it is necessary to explain the relevant sources within the WTO law. This legal analysis should begin with "the textual interpretation of legal texts".[5] Also, the previous Panels and Appellate Body rulings will be taken into account while interpreting the provisions of the relevant Agreements.

Subsequently, the possible remedies for the challenges of subsidy program are going to be discussed in Chapter 5. Countries' ability to maintain FIT programs may well be crucial to combat climate change and rather advantageous from an environmental perspective. However, the line between supporting certain domestic industries to combat climate change and protecting inefficient producers for the sake of the internal market should be drawn as to eliminate trade practices that distort international trade. Therefore, there is a need for a different approach to reach environmental aims without weakening the subsidy regime of WTO.

[4] Jan-Christoph Kuntze and Tom Moerenhout. "*Local content Requirements and the Renewable Energy Industry – A good match?"*, ICTSD Issues Paper, 2013, pg. 7.

[5] Appellate Body Report, *Japan- Taxes on Alcoholic Beverages*, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, November 1, 1996, para. 102.

CHAPTER ONE

CLIMATE CHANGE AND TRADE

1.1. RELATIONSHIP BETWEEN ENVIRONMENTAL LAW AND ENERGY GENERATION

Unsustainable methods in energy generation and use have led to the redundancy of environmental problems. The 75 percent of total greenhouse-gas emissions are generated by the energy sector and it is getting increasing day by day.[6] Major global environmental problems associated entirely or in partially with energy consumption and generation include; acid rain, climate change, the radioactive wastes, the harm on ozone layer and deforestations. Therefore, renewable energy generation plays an important role in contributing "sustainable energy services" and consequently moderating climate change. According to International Energy Agency ("IEA"), renewable energy is defined as "energy that is derived from natural processes **. . .** that are replenished at a higher rate than they are consumed".[7] The enhancement in clean energy and energy efficiency technologies is very important to lead the world into carbon reduction, while concurrently enable nations to reach sustainable developments intentions such as economic improvement and access to energy.

Additionally, states have a responsibility to reduce the detrimental effects of energy production on our environment. International environmental law has its foundation in the Stockholm Declaration of 1972, however, this document did not mention energy. Since 1972, there has been growing recognition of the fact that energy consumption has serious impacts on the environment. Rio Declaration on Environment and Development provides that; *"States have…the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national*

[6] International Energy Agency, CO2 Emissions from Fuel Combustion: Highlights, Paris: IEA, 2013.

[7] International Energy Agency, Key Renewables Trends: Excerpt from Renewables Information 3,https://euagenda.eulupload/publications/untitled-69169-ea.pdf, 2016.

jurisdiction".[8] Under the United Nations Framework Convention on Climate Change ("UNFCCC"), Parties agree that they shall, inter alia "*formulate and implement…programs containing measures to mitigate climate change*".[9] Under the Paris Agreement parties agreed on the transition to a decarbonized global economy.[10] However, the international trade negotiations and Doha Trade Talks within the WTO could not reach the aim of transition to green growth. Even, the use of renewable energy technologies is the most reliable method to combat climate change.

Two broadly accepted "principles of customary international law" have a possible applicability in the prevention of these negative effects on the environment.[11] First, "duty to prevent and control environmental harm" recommends State to take necessary actions to monitor and regulate "global pollution sources or transboundary harm within their territory or subject to their jurisdiction[12]." Second, there is a "duty of transboundary cooperation" in the control of transboundary environmental hazards. "This principle is supported in part by the law relating to the use of shared natural resources and requires prior consultation based on adequate information[13]." Other principles in relation to the global administration of "energy-based pollution" are in the process of developing within international environmental law. These include "the precautionary principle; the principle of sustainable development, intergenerational equity

[8] Rio Declaration on Environment and Development, done at Rio de Janeiro, 14 June 1992, 31 ILM 874, Principle 2.

[9] UNFCCC, Article 4(d).

[10] Conference of the Parties Twenty-first Session, U.N. Framework Convention on Climate Change, *Adoption of the Paris Agreement*, at art. 4.1, U.N. Doc. FCCC/CP/2015/10/Add.l http://unfccc.int/files/essential-bckground/convention/application/pdf/english_parisagreement.pdf, Dec. 12, 2015.

[11] Rosemary Lyster, Adrian Bradbrook. Energy Law and the Environment. New York: Cambridge University Press, 2006, pg. 36.

[12] This principle has derived from Principle 21 of Stockholm Conference and subsequently was included into several other conventions such as UNCLOS article 194 (2), the 1985 ASEAN Convention on the Conversation of Nature and Natural Resources article 20, and in the Preamble of the UNFCC. "Older formulations of the 'no harm' principle dealt only with transboundary harm to other States, but conventions and declarations subsequent to the Stockholm Declaration support international acceptance of the protection of global common areas."

[13] Pursuant to Principle 24 of Stockholm Declaration, "the duty extends to the case of management of transboundary or global environmental risks posed by hazardous or potentially harmful activities".

transfer of technology and the right to a decent environment". These above-outlined principles have an implementation in the energy context with connection to climatic pollution, and other the environmental problems "concerning nuclear radiation, acid rain, ozone depletion, and climate change". So these negative consequences of climate change can be mitigated and regulated with the customary international law.[14] However, there is no examination criterion that can be implemented to all cases. Because countries could not able to reach a consensus on the application of customary law to international climate change mitigation and greenhouse gases reduction.

Traditionally the energy legal framework is perceived as a part of domestic law, rather than international, and states would like to regulate the sector on an individual basis.[15] This conventional approach has replaced for variety of reasons, mainly concerning international trade. The improvement of "free trade principles under the GATT" and the formulation of "regional and bilateral free trade agreements" also have substantial implications for global energy marketplace. For example, the European Union ("EU") is building an internal energy market and harmonizing energy laws within the member states, as a regional energy market. The North America Free Trade Agreement ("NAFTA") includes a constraint on the sovereign rights of members to enact energy laws, which violate the international free trade in the energy sector.

Renewable energy investments are growing in both developed and developing markets with the initiation of the Paris Agreement. Because it urges all countries to outline decarbonization policies until 2050. This creates a huge transformation for global economies from conventional sources to renewable energy.[16] Engagement to clean energy technologies does not necessarily contradict with national development aims. Rather it functions as a tool to support

[14] Patricia Birnie, Alan Boyle and Catherine Redgwell, International Law and the Environment, Oxford University Press, Third Edition, 2009, pg.52.

[15] Lyster&Bradbrook, pg.74.

[16] Monica Araya and Alice Amorim, *"Climate plans to 2050: Lessons and emerging practice – Nivela Concept Note.",* http://www.nivela.org/updates/climate-plans-to-2050- lessons-and-emerging-practice/en, 2016.

national objectives introduced in the Paris Agreement and "sustainable development" objectives. The most common ways to combat climate change is to tax and administrative strategy that internalizes environmental expenses. The bigger scale of the obstacle urges governments to support infant renewable energy technologies in their commercialization process and design a policy to cover the required costs for the realization of global social benefits.[17]

1.2. CRITICISM ON ENVIRONMENT AND TRADE

The clash between concerns of free and fair trade and environmental protection has come before the WTO dispute settlement for many times. Many countries have taken measures to protect different environmental aims, in risking to conflict international trading rules. For instance, regulations on fishing techniques to protect endangered species or carbon taxes to combat climate change.[18]

Mostly, the industry with government support uses the WTO violations to distort green innovation and to undervalue multilateral environmental agreements. [19] This indicates that the trade and the environment are generally in dissonance. Certain environmentalist oppositions to trade are grounded on the assumption that "global movements of goods, services, and capital is essentially anti-environmental". A 1994 Organization for Economic Co-operation and Development ("OECD") study about the consequence of trade on the environment concluded that "the direct effects of trade on the environment are generally small because only a limited share of ecologically sensitive goods enter into trade and because trade is only one of many factors affecting the environment[20]".

---

[17] Nicholas Stern, *Review on the Economics of Climate Change*, Chapter 16: Policy Responses for Mitigation, London, UK: Her Majesty's Treasury, 2006, pg. 20.

[18] See for example The Appellate Body Report, *United States–Import Prohibition of Certain Shrimp and Shrimp Products,* WT/DS58/AB/R, October 12 ,1998 and Lorand Bartels, *"The WTO Legality of the Application of the EU's Emission Trading System to the EU Emissions Trading System to Aviation",* 23 The European Journal of International Law 429, 2012, pg.12.

[19] Lori Wallach and Michelle Sforza, The WTO: Five Years of Reasons to Resist Corporate Globalization, New York: Seven Stories Press, 1999, pg.27.

[20] OECD, "*The Environmental Effects of Trade",* 1994.

The result of trade on the environment is complex; it may be positive, negative or neutral; depending on the economic sector and the circumstances. The OECD Report framework analysis is to consider trade-related environmental impacts from two perspectives; market failures and intervention failures. The chief categories of market the failure leading to environmental degradation are failure to externalize environmental costs, improper valuation of ecosystems and ill-defined or open property rights regime for certain resources. Two categories of intervention failure are subsidies and trade barriers.

On the other hand, other criticizers defend that; international trade and protection of the environment essentially contribute to the global welfare of world. In many of the cases, these two values do not oppose with each other. In reverse, they are reciprocally supportive. As declared in Agenda 21, approved at the United Nations ("UN") Conference on Environment and Development in 1992:

"Environment and trade policies should be mutually supportive. An open multilateral trading system makes possible a more efficient allocation and use of resources and thereby contributes to an increase in production and incomes and to lessening demands on the environment. A sound environment, on the other hand, provides the ecological and the other resources needed to sustain growth and underpin continuing expansion of trade."

Further, they indicated "taking active steps to protect the environment is beyond the scope of authority given to the WTO under international law".[21] The WTO's scope of power is restricted to the observance of WTO agreements. As it is clear, WTO agreements do not prioritize freedom of trade across borders above "environmental protection". Instead, the Preamble to the WTO Agreement accepts that "*expansion of production and trade should support for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means*

[21] Lyster&Bradbrook, pg. 73.

for doing so in a manner consistent with the respective needs and concerns at different levels of economic development".

Moreover, WTO is sensitive to degrees that are to be said for reinforcing environmental protection but are, in fact, a conceal other concerns, such as the protection of national industry. Subsequently, many WTO agreements include provisional exceptions for "environmental measures". Such as Article XX of GATT 1994 and the TBT Agreement state that "protection of the environment is a legitimate objective that allows WTO members to enact high standards of protection as far as it is the least trade restrictive measure". The Agreement on the Application of Sanitary and Photo Sanitary ("SPS") Measures includes additional criteria to support GATT Article XX (b) and administer the validity of domestic rules aim to "protect humans, plants and animals from contaminants, disease-carrying organisms and pests".

1.3. RENEWABLE ENERGY GENERATION AND SUBSIDY

The promotion of clean energy is mainly correlated with "environmental concerns and energy security". The increasing share of renewable energy protects many countries such as the EU, from the volatility of the global fossil fuel markets.[22] Many countries have reached a consensus over the renewable energy support and perceived it as legitimate industrial policy. Renewable energy supply is increasing at a very rapid rate in the world's total energy supply.[23] Government subsidies have a big role in such growth because many governments are eager to reduce reliance on fossil fuels and see themselves as leaders of the green energy revolution.[24]

Renewable energy technologies are especially suitable for provincial energy enhancement and an environmentally consistent approach to grid

[22] S. Sorrell, "*Who Owns the Carbon? Interactions between the EU Emissions Trading Scheme and the UK Renewables Obligation and Energy Efficiency Commitment"*, Energy and Environment, 14(5): 677–703, 2003, pg 701.

[23] International Energy Agency, 2016.

[24] John Mathews, "*China's Continuing Renewable Energy Revolution - Latest Trends in Electric Power Generation,"* Asia Pac. J**.,** http://apjjf.org/2016/17/Mathews.html; Sept. 1, 2016.

extension. These technologies are commercially easy to access, tested at field and especially its technology can be transfer to developing countries. The Group of Eight Renewable Energy Task Force has recognized that with the proliferation of renewable energy technologies in developed states the price of renewably generated electricity will decrease, and with the incentive regulations and market promotion, provincial energy needs may be fulfilled.

However, renewable energy generation has its own risks such as, "reliance on intermittent natural energy sources[25]." The generation facility may alter landscape quality because of the establishment itself and transmission lines. Wildlife has impacted, for example; wind tribunes might strike birds and create sound pollution, hydropower hinders to marine ecosystem or "solar panels might cause waste.[26] Nevertheless, the energy generation is about tradeoffs and each of them has its own costs and benefits.

All consumers of energy –whether rich or poor- pay much less than the market economic price for energy. Subsidies are expensive for governments to maintain and they encourage excessive energy consumption. In March 2014, the IMF calculated that total global energy subsidies amount to $1.948 trillion per year. A 2012 OECD inventory of government support for fossil-fuel generation or utilization in member countries turned up over 550 measures with an overall value of $90 billion annually. In 2009, the Group of Advanced and Emerging Market Economies invited for a phase-out of fossil fuel subsidies internationally; this was reaffirmed in 2012, but little has been done. Since most of the fossil fuel subsidies are "non-specific", they are generally not attackable under WTO law, which regulates export subsidies and local content subsidies under the SCM Agreement. Yet these subsidies severely distort energy production, consumption, and energy trade.

[25] C. Fischer, and L. Preonas, "*Combining Policies for Renewable Energy: Is the Whole Less Than the Sum of Its Parts"*, International Review of Energy and Resource Economics, 4(1): 51–92, 2010, pg.64.

[26] I. Nath, *"Cleaning Up after Clean Energy: Hazardous Waste in the Solar Industry"*, Stanford Journal of International Relations, 11(2): 6–15, 2010 pg. 13.

As a part of nation-wide "low carbon policies", many states have subsidized plans about the generation and delivery of clean energy, the production, and purchase of environment-friendly goods or the advancement technologies to mitigate climate change. Even these subsidies make a significant contribution to the greening of manufacturers; they also impede competition in the global market by providing unfair advantages to their beneficiaries.

Renewable energy subsidies are frequently becoming a part of expensive and protracted trade disputes, generating conflict between countries.[27] Worldwide many states would like to invest in renewable energy project, which is compatible with their geography, climate and other environmental factors. For a sunlight abundant state most suitable renewable energy generation system is solar energy. Solar technologies or photovoltaic ("PV") systems, principally consist of cells and modules. The most important benefits of solar cells are namely as, having no moving parts, require less maintenance and no fuel, consequently the amount of waste is very limited. [28] However, the biggest disadvantage is its cost. Even its staple, silicon, is easy to find and cheap, the production of solar cells need a specifically pure monocrystalline form, which is difficult and expensive to supply. [29]

Solar energy globally receives a higher rate of subsidies, which makes it distinct from other types of renewable energy facilities. In 2011, the subsidies on solar energy corresponds to approximately 30 percent of total global subsidies for renewable energy.[30] Without government support, solar energy can hardly take part in the renewable energy generation sector. Hence, it is difficult to figure out a global cost of "solar-generated electricity", since each country has various subsidy programs and incentives for that.

---

[27] Benjamin K. Sovacool, *"Reviewing, Reforming, and Rethinking Global Energy Subsidies: Towards a Political Economy Research Agenda",* Ecological Economics 135, 150–163, 2017, pg.2.

[28] Lyster&Bradbrook pg. 57.

[29] Idem pg. 60.

[30] Gary Clyde Hufbauer, et al.*"Local Content Requirements: A Global Problem",* Peterson Institute for International Economics, 2013, pg. 71.

The international transition to eco-friendly and "sustainable development" needs the design and application of effective schemes across several states. It can be observed that the success of "sustainable development" in the energy sector will depend not only on one energy source but also on a combination of various resources and modals that encompass them. Governments play a vital role in the enhancement of clean energy by contributing a durable administrative management, which enables private investors to make long-term investment decisions. What has been challenged at WTO Dispute Settlement and still a question to be resolved is that; to what degree domestic environmental protection policies can be restricted with multilateral trade obligations?

The transition to clean energy technologies and facilities will attach to three determinants: "regulation, stimulation, and education". In order to attract foreign investment, legal certainty regarding the rights and duties of the parties should be achieved. It is hard to receive "large-scale private investment" in the energy sector if investors have doubts about their legal status. Until recently, the energy was perceived to be a domestic matter and required very less international legal interference. However, lately increasing concern for climate change, together with the elimination of "trade barriers", has directed to an understanding that international law has a substantial position in this sector.

1.4. STRUCTURE OF FIT PROGRAM

States has resorted to several measures to promote utilization of clean energy including "direct loans, grants, and regulatory framework". However; the most common schemes are FITs, quotas or renewable portfolio standards. According to IEA, FITs are enacted in more than 50 countries legal system.[31]

A FIT is a long-term contract with a "government agency" to ensure wholesale electricity at a fixed price that brings a rate of income engaging for

[31] "All complainants promote renewable energy with some measures. Most EU countries, China, the United States, Australia, Chinese Taipei, India, and Turkey use FITs; Korea recently replaced FIT programs with a national renewable portfolio standard. Japan has also used feed-in tariffs, at least since 2012."

investors and project developers. The FIT programs aim to expedite investment in renewable energy technologies through the payment of a secured tariff, regardless of their size. The incentive happens because the tariff in the contract is generally above the "wholesale price" of electricity in the province. This extra price is covered by governments -implicitly by taxpayers- or passed on to the customers in the form of higher electricity prices.[32] FIT programs increase the "demand for renewable energy and lower the cost for installation of generation facilities[33]." By this way, they function as price support mechanisms.

FIT programs are perceived as effective measures because of various reasons. They realize a rapid development of energy production capacity, impact the deployment of new renewable energy technology, bring stability and certainty to investors and finally allow participation of "small community-based projects" since individual rates and deals are not negotiated.

The rationale of FITs is based on the understanding that the initial prices for renewable energy projects are so expensive that they will not able to attract investors to renewable energy investment, and thus investors would like to have guaranteed tariff level and secure its return.[34] Each FIT program has designed in its own merits; but generally all of them share the same common features of "purchase obligation, predefined tariff level and long duration of tariff payment[35]."

Purchase obligation –the first feature, brings responsibility to "electric utility companies or other electric grid operators" to purchase all the electricity that is generated from clean energy facilities and are element of the FIT program, regardless of the electricity demand.[36] This feature increases the investment

[32] B. Sharp, "*Blame Solar for Sky-High Ontario Power Bills"*, Financial Post, October 29, 2013.

[33] Michael E Streich, *"Green Energy and Green Economy Act, 2009: A "FIT" Greening Policy for North America?",* 33 Houston Journal Of International Law 419, 2010-2011, pg. 431.

[34] Streich, pg.426.

[35] David Jacobs, "*Renewable Energy Policy Convergence in The EU: The Evolution of Feed--in Tariffs* in *Germany, Spain And France",* Ashgate Publishing Company, 2012, pg.27.

[36] Idem, pg.27.

security for the investors. The second feature of predefined tariff level ensures that renewable energy producers "are guaranteed a certain amount of money per unit of electricity", which has been bought by the electric utility companies.[37] The level of tariff rate can vary in accordance with the type of technology employed by the producers; thereby "match the cost of developing a particular technology for energy generation[38]." The size and the location of facility are also important factors in determination of secured rate. By this price discrimination, FIT ensures that less competitive technologies can be deployed. Similarly, the tariff level might differentiate over time. For example, early takers get expensive rates than following participants do, because the cost of technology evolves and falls over time. The important aspect here is to set the tariff level at the right price. Otherwise, "a low tariff" level cannot be strong enough to attract investors, or high tariff level risks the effectiveness of the investors. The third feature of the FIT program is to ensure guaranteed payment of tariff levels for a "long period of time, usually between 15-20 years but can be extended up to a lifetime of the renewable energy installation[39]." The tariff level is set in accordance with the duration of a contract to provide an opportunity for investors to cover their costs.

FIT programs are generally financing through governments revenues from taxation or spreading to cost over the electricity customers. Here, the public body uses public funds. The more common option in financing is the decentralized structure to lessen the government effect. In such a system, the government administers "a private body" to execute and generate funding for the program.[40] Government involvement only limited to regulate private actors activities.

Many FIT programs combined with the local content requirement. This policy is not one of the characteristics of the program and not necessarily included

[37] Idem, pg. 43.

[38] Sara Emanuelsson, Feed--in Tariffs for Renewable Energy and the WTO Agreement on Subsidies and Countervailing Measures - Are Feed-in Tariffs Specific Subsidies? Göteborgs Universitet

[39] Jacobs, pg. 80.

[40] Maria Wilke, *"Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Review",* International Centre for Trade and Sustainable Development, Trade and Sustainable Energy Series Issue Paper No 4, 11, 2011, pg 12.

to program itself in order to be categorizing as FIT, but employed by many states. The eligibility of participating to the FIT program can be attached to obligation of using certain proportion of locally produced technology or providing a higher tariff level, in form of "financial contribution" to local technology.[41] LCR policy scheme was examined in Chapter 2 in a detailed manner.

CHAPTER TWO

LOCAL CONTENT REQUIREMENT

2.1. SCOPE OF LOCAL CONTENT REQUIREMENTS

The policy adopted by some Member states requires the utilization of a certain volume of local products and services by clean energy generators in order to get profited from subsidies or additional advantages. This measure, from one side, promotes green energy; to the other side promotes economic growth within their county. These policies have created numerous disputes before the Dispute Settlement System of WTO; named as "clean energy trade war". Here what is challenged is not the support mechanism for renewable electricity generation but the LCR measures that were attached to the support system. Despite the increasing number of cases, LCRs are still employed to foster the infant renewable energy industry.

In the first place, LCR measures are developed as a solution to climate change. Since there is a lack of international policy-making in this area and high cost of green policies, governments attempt to include a component to green industrial policies that can create new green employment and prosperity. However, the use of LCRs especially in the technology puts the international economy and the financial system into a difficult position. Possible counter-measures and financial uncertainty also reduced the job markets around the world. Also, national renewable energy programs are generally not well developed to get

[41] Wu and Salzman, p. 425.

maximum value creation from LCR measures. Because the LCR rates were generally determined very high and its negative effects on international trade as well. This also constitutes an inefficient allocation of resources. In the short-term, costs might be increased and international competition might be suffered. In Chapter Four of this thesis, some of the examples of LCR application in renewable energy generation are examined. As it can be observed from those examples, countries regardless of their development level, resort to LCR measures in the renewable energy policies to support local industries and employment. Governments did not express their objective as being a global innovator in the sector in the analyzed case law. Governments could achieve their policy objectives, rather than focusing direct financial support in form of increased electricity tariffs, the supplementary measures such as more and better loans to projects that source local products needed to be focused as well.

Since 2008, 20 LCRs out of 100 implemented in the clean energy sector, whose impact is approximately $100 billion of international trade.[42] LCRs in renewable energy policy have two forms; "a precondition to obtain government supports such as tariff discounts or an eligibility qualification for government procurement in renewable energy projects[43]".

2.1.1 Debate on Effectiveness of LCRs

Even, it is hard to determine the potential effectiveness of the LCRs, given the uncertainty in its framework, LCR measures benefits can be grouped into two categories as economic and environmental. Its short-term economic benefit is the creation of green jobs, which is the main argument for gaining political support. In the longer term, the goal is to export renewable energy technology and equipment, whose demand is rapidly growing. LCR support will foster infant industries until they can be competitive with their foreign counterpart and grow enough to finance research and development in the sector as a mature player.

[42] Sherry Stephenson, "*Addressing Local Content Requirements in a Sustainable Energy Trade Agreement*;" International Centre for Trade and Sustainable Development, Geneva, Switzerland, 2013, pg. 24.

[43] Kuntze and Moerenhout. pg. 4.

Industrialized states resort to this scheme as much as developing and emerging economies to reach the same aim. Lastly, bigger local manufacturers mean increased tax revenue for the governments. LCR measures are the most helpful tool to allow industries to grow faster.

In terms of environmental benefits, the biggest advantage is to improve the competition power of renewable energy technology against fossil fuels and nuclear energy without subsidization. Because in the medium-term LCRs will bring newly developed manufacturers to the international market with its spillover effect, increase the innovation and competition; thereby lower green technology costs and create global benefits.

On the other hand, arguments against the effectiveness of LCRs are mainly based on economic concerns and question the capability of generating environmental benefits. First, it is claimed that it might be politically troublesome to revoke the LCRs and other subsidy schemes when interest fused into politics and policies.[44] Consequently, it causes an inefficient allocation of resources. Second, LCR measures are import restrictive. This protectionist measure reduces the contest between local and foreign manufacturers, within the short term effects of the measure.[45] Third, in the short term LCRs inflate electricity supply costs.[46] Since they force producers to invest in domestic inputs, which are more expensive than products of foreign origin. Otherwise, there will be no LCR measures in the first place. This economic burden will eventually pass to the consumer. Fourth, the effects LCRs in job creation are obscure. [47]. As a result of the higher input prices, there is likely to be less employment. On the other hand, financial incentives and component manufacturing industry increase the job gains. Therefore, employment depends on sectors and policies. Also from the

[44] Gillian Moon, *"Capturing the Benefits of Trade? Local Content Requirements in WTO Law and the Human Rights-Based Approach to Development,"* 13, 2009.

[45] Luis A. Rivera-Batiz and Maria-Angels Olivia, International Trade: Theory, Strategies, and Evidence. Oxford: Oxford University Press, 2003.

[46] Letha Tawney, "*Taking renewable energy to scale in Asia,"* 26. Pacific Energy Summit,2012.

[47] John Farrell. *"Maximizing jobs from clean energy,"* 28. The New Rules Project, 2011.

perspective of the WTO, employment should be assessed globally. If LCRs increase job prospects in one country but reducing in somewhere else, it does not have global welfare effect and employment argument loses its legitimacy. Lastly, LCRs overemphasize the manufacturing side of the chain. The trade restrictiveness in the manufacture may harm technology development and transfer. As a result, the quality of the renewable energy generation per unit might show a downward trend in the short haul.

In order to have a significant value in the economy, LCRs should include four fundamental characteristics. Primarily, LCRs should gradually introduce to a stable market which has sufficient potential.[48] If there is no stable demand, with the effects of higher prices, LCRs might discourage investors from entering into the market. Sufficient market size is the most important condition to create welfare effect from the use of LCRs. A stable market can increase the amount of domestically manufactured products even in the lack of official and compulsory requirements. Second, it is suggested that if the local content percentage is not determined at a high level and gradually removed, LCRs can function better.[49] Here the optimal LCR rate can be determined by way of calculating production volumes, which is related to market size and demand. Most countries started with high LCR rates. However, if they examine the volumes of production and adjust the rates accordingly, they can enhance the supply capacity of industry to the extent, which enables exportation. The ideal rate differs from country to country, given the differential development of its market and technology. Third, preparing LCRs with local businesses could create favorable welfare results.[50] This cooperation can increase certainty, integrate certain activities of the intermediate manufacturing sector and conclude more stable contracts. Most importantly, the appropriate LCR rates can be determined with the cooperation of local business to

[48] Joanna Lewis and Ryan Wiser.. "*Fostering a Renewable Energy Technology Industry,"* 30. Environmental Energy Technologies Division, Ernesto Orlando Lawrence Berkeley National Laboratory. 2005 pg.17.

[49] Idem, pg.24.

[50] Francisco Veloso, *"Local content requirements and industrial development: Economic analysis and cost modeling of the automotive supply chain,"* ,216. Engineering Systems Division, Massachusetts Institute of Technology, 2001, pg.15.

ensure optimal rate. At last, since LCRs increase renewable energy deployment, the spillover effect of this policy shows itself by way of learning from experience.

2.2. POLITICAL ECONOMY OF LCRS

Each form of energy subsidies has appeared to become one of the most contentious policy instrument. For the justification, it is stated that subsidies ease to direct state sources into ignored regions of infrastructure, stimulate needed innovation and are effective at accomplishing several social and technical objectives.[51] However, they also restrict the countries choice of the highest quality equipment at a competitive price. Therefore, LCR policies are generally based on political motivations of governments rather than economic analysis, who would like to promote domestic sustainable industries. Most of the governments perceive LCRs as an easy way out and not feature training and education. However, without the necessary theoretical background, the innovation capacity of subsidies are limited.

Nevertheless, achieving local economic and employment benefits and renewable energy innovation should not necessarily be in contradiction with each other. International cooperation can help to gather both aims in green industrial policies.

2.2.1. The Rationale Behind the LCRs

Our world needs further renewable energy generation and innovation in its technology. However, to bear its costs, governments need public support and with the help of LCRs, they try to localize as many benefits as possible and lighten the direct burden on the government budget. If the financial incentives of a country are not attached to local content benefits, then green businesses all over the world can enjoy them and this cause a disturbance within the local public.

[51] Doug Koplow, *"Subsidies to Energy Industries"*, Encyclopedia of Energy 5, 749–764, 2004, pg.754.

Its purposes and influences mostly based on national benefits such as the creation of employment and protecting infant local firms. In another way, LCRs may help to achieve environmental aims by enabling environmental measures politically applicable, which are identified as the green economy paradigm.[52] Governments would like to increase the capacity of national firms and support them to contest in the global renewable energy generation sector.

2.2.2. Green Protectionism

Due to the increase in the preference of renewable energy technologies, government intervention has also showed an upward trend.[53] The requirement to deploy a specific volume of domestic products or services is clearly protectionist and hard to justify on environmental grounds. Therefore, LCRs can be used tool to political and industrial goals, instead of environmental ones. The aims of LCRs are to ensure that investment in renewable energy generation is profited the national economy by fostering the "infant industry" and incentivizing multinational cooperations to establish local facilities or outsource from domestic businesses. [54] However, it should not be noted that any benefit obtained by the domestic industry has detrimental effects on the competing industries in different countries.[55] Especially if all countries resort to technology-specific LCRs, the consequence would be global protectionism for that specific technology. This also restricts energy generators from benefitting all sorts of technologies available in the global marketplace. If national technologies do not develop enough to answer the needs of producers, then the result is likely to be higher cost and lower performance, which pass on the consumers.

---

[52] UNEP, "*Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication"*, Geneva: United Nations Environment Program, 2011.

[53] World Bank, "*Inclusive green growth"*. Washington, DC: World Bank, 2012.

[54] L. Tawney, *"Taking renewable energy to scale in Asia"*. Pacific energy summit 2012. Seattle,WA: National Bureau of Asian Research, 2012.

[55] Luca Rubini, *"Ain't Wastin' Time No More: Subsidies for Renewable Energy, the SCM Agreement, Policy Space, and Law Reform"*, 15 Journal of International Economic Law 525, 2012, pg. 530.

On the other hand, it is very vital to have government support for renewable energy; in order to compete against traditional energy production methods. Because green technology is generally not competitive compared to conventional technologies that are subsidized. For example, fossil fuel subsidies keep electricity retail price artificially low. In order to have a competitive renewable energy generation first, environmentally harmful subsidies need to be phased out and then eventually the necessity of LCRs will be reduced. Additionally, the required innovation and quality improvement could have been reached without the LCRs. If financial incentives have been given without a LCR, more investors would like to enter the national marketplace and more renewable energy generation facilities would be established in a shorter period.

Currently, most of the LCRs have a very high rate, which increase their trade distortive effects more. Production costs show a steady increase and distort international competition. This is inevitably impacting the fight against climate change mitigation because fewer investors would like to invest in renewable energy generation facilities, whose costs are getting increase each day as a result of costly local suppliers. If “a green industrial policy” results a failure in the economic terms, it is going to be non-attractive for global investors and consequently, it turns out to be a failure from an environmental perspective. Therefore, it is substantial to examine the policy outcomes periodically and reform it according to new scientific shreds of evidence, opinion of the stakeholders and/or financial effects.

2.2.3. Green Innovation

In addition to national welfare creation, LCR measures can boost global innovators in an area that urgently needs more innovation and competition, which is generally not an explicit target of the government. LCRs can help to contest in the global marketplace and to reduce technology expenditure in the medium term. This medium-term benefit may have an effect in ignoring the short-term costs of the LCRs to the industry such as inflation in retail prices.

However, to realize a green innovation with the LCRs, the financial incentives attached to them need to be phased out in course of time in this way national firms could expose to global competition both in the international and domestic market. Otherwise, LCRs may turn into an indefinite protectionist subsidy for the sake of development of the infant industry. Here WTO regime plays an important role as being an effective forum to discuss trade disputes, to promote green innovation with LCRs. Because WTO legal regime prevents abusive use of subsidies that harm free trade principles and help its Members to withdraw LCRs, which is otherwise difficult to achieve because of the domestic industry lobbyists. By this way, these infant domestic manufactures can enter into competition in the international market.

Furthermore, governments should pay attention to "the quality of technology" and "learning-by-doing". Governments can make the local component quantity sourced by investors publicly available, in this way it can be understood; whether the LCRs are manufacturing focused or contribute to the technology development. This lack of information leads to a discussion on innovative effects of the subsidies.

Even LCRs encourage domestic companies to bring innovation and enhance the competitive advantage of a country; it is difficult to balance of first movers and latecomers, also developing and developed economies. Such a system put resource-rich but technology poor countries into a vulnerable position. They do not have a financial capacity to enact LCRs and FIT schemes, therefore the electricity ratepayers have to bear the cost of new technologies. More and new incentives are required to realize economic development of renewable energy.[56] Here regional initiatives can play an important role to reduce negative impacts on local economies, which do not have financial stability to encourage LCRs or have a small market size.

[56] Kuntze and Moerenhout, pg.18.

2.3. ALTERNATIVES FOR LCRs

Both the developing and developed countries have an increasing interest in the development of efficient renewable energy generation. They try to reach this aim by way of introducing LCRs, which have obvious trade-distorting effects. Therefore, there is an urgent need of alternatives for dealing with the LCRs measures. The alternative options will be lessen the negative effects on the global trading system and also protect the legitimate environmental concerns of the countries.

As a first step, countries should give importance to investment in the infrastructure.[57] In order to achieve development in the infrastructure, governments should provide better financing options in terms of loan guarantees for renewable energy generators.[58] Especially developing countries need to foster their growing industries in this sector. Since there is accelerating deployment of different kinds of renewable energy sources, the governments should take better advantage of them and improve their positive effects to attract further investors. Moreover, local employees should subject to training in conformity with the needs of green industry. Finally, the governments should target their efforts on WTO disputes other than the LCRs in the renewable energy sector. Because the LCR measures are adopted in various kind of sectors but lately only the ones on renewable energy have been brought to the "dispute settlement" mechanism of the WTO.[59]

[57] Stephenson, pg. 14.
[58] Idem pg.20.
[59] Idem, pg. 15.

CHAPTER THREE

INCONSISTENCY OF LCRS WITHIN WTO LAW

3.1. OVERVIEW

The WTO establishes a legal framework to create free global markets, functions as a forum to negotiate trade agreements and resolves the disputes between Members of these agreements.[60] Consultation between Member nations or through WTO is the first step to solve conflicts that arise from a WTO agreement. If the consultations result in a failure, the issue comes before the WTO Panel.[61] If the WTO Dispute Settlement Body concludes that a Member has infringed one of its agreements, it can request "compliance, implement countervailing duties or allow complainants to enact its own sanctions".[62]

The main purpose of the WTO is to achieve free and fair trade between nations. Any trade distortive measure is prohibited under different WTO Agreements. In the renewable energy subsidy regime, violated agreements are the GATT 1994, SCM and TRIMs Agreements. They may impede the enactment of some policies designed to support renewable energy technologies because the current international trade law does not have a particular method for actions designed to mitigate climate change.

3.2. VIOLATIONS OF NATIONAL TREATMENT UNDER GATT

The GATT concerns the "production and trade of goods" between Members. Its aim is to facilitate a "substantial reduction of tariffs and other trade barriers and the elimination of preferences, on a reciprocal and mutually advantageous basis".[63] Even the Members have agreed on tariff reductions after

[60] World Trade Organization, *"The GATT Years: from Havana to Marrakesh"*, https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm, (last visited April. 17, 2019).

[61] David Palmeter, "*The WTO as a Legal System"*, 24 Ford. Int'l L. J 444, 468, 2000, pg. 14.

[62] Idem, pg.21.

[63] GATT, Preamble.

long trade negotiations, if national taxes and regulations are implemented in a discriminatory fashion to protect national industry, the barriers on trade would still remain. Therefore, the national treatment obligation is very significant in promoting trade liberalization. The GATT is come into the discussion for "renewable energy incentive schemes", specifically in the matters of "national treatment and general exception" clauses. Articles III and XX within the GATT are the most important provisions for renewable energy markets in the WTO.

National treatment obliges that a Member shall not treat imports in a less favorable manner than competitive local goods, services or service supplier, once they have entered into its territory. Article III of the GATT 1994 is a key provision, which deals with the "national treatment" rule for measures affecting trade in goods. It is an "obligation of general application", which means it is applicable to all related measures on goods regardless of Members have made tariff concessions or not. The obligation embodied in Article III of GATT 1994 is one of the most important clause related to LCR, which requires the use of local products to receive a benefit and thereby distinguishing competitive commodities according to their origin. The national treatment obligation concerns "all internal regulations, taxes, and measures that affect the prices of imports or exports".[64]

National treatment rule also finds a place itself in other WTO agreements of trade in goods, such as the Technical Barriers to Trade ("TBT"), the SPS, and the TRIMS Agreements.

The purpose of this obligation was expressed by the Appellate Body in *Japan- Alcoholic Beverages II (1996),* as "*to ensure that internal measures not to be applied to imported or domestic products so as to afford protection to domestic production. Towards this end, Article III obliges Members of the WTO to provide equality of competitive conditions for imported products in relation to domestic products.*"[65] Appellate Body made further explanation regarding the purpose of obligation in *EC-Asbestos (2001)* " *to prevent Members from applying internal*

[64] GATT, Article III:4.
[65] Appellate Body Report, *Japan- Taxes on Alcoholic Beverages,* para,109.

taxes and regulations in a manner which affects the competitive relationship, in the market place, between the domestic and imported products involved 'so as to afford protection to domestic production"'.[66] National treatment rule protects the expectation of an equal competitive relationship. Therefore, a measure could violate Article III when the effect of the measure on the amount of imports is insignificant or even non-existed.

Article III: 1 states the "general principle", Article III: 2 concerns "internal taxation", whereas Article III: 4 is related to "internal regulation". Article III: 5 deals with the prohibition on internal quantitative regulation for the process of domestically sourced products. Article III:8 set forth two exceptions for the obligation in case of government procurement and special payment of subsidies to the local industry.

Paragraphs 1.4 and 5 are mainly relevant regarding the LCRs in renewable energy support policies. Paragraph 2 will only be applicable if the benefit awarded to local goods in a form of tax advantage.

3.1.1. Article III: 4 of GATT 1994

Article III:4 ensures that "internal measures not to be applied to imported and domestic products so as to afford protection to domestic production" as indicated in the relevant part;

> "The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favorable 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."

[66] Appellate Body Report, *European Communities - Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, March 12, 2001, para.98.

With regard to LCRs, less favorable treatment "is always de jure, because they clearly attached the conferral of an advantage to the use of domestic content[67]".

Derived from the interpretation of this text, the Appellate Body established a "three-tier test" for internal regulations consistency with Article III: 4 in *Korea-Various Measures on Beef (2001).* According to this, a measure infringes the national treatment principle if:

i. "the measure at issue is a law, regulation or requirement affecting their sale, purchase or use

ii. imported and domestic products are like products

iii. important products are accorded less favorable treatment"

It is not required to consider separately on whether a measure protects the local product, because unlike to Article III: 2, Article III: 4 does not refer to "general principle" provision Article III: 1.

The structure of "like products" consistency test in Article III: 4 differs from Article III: 2. The Appellate Body concluded that "*a determination of likeness under Article III: 4 is, fundamentally, a determination about the nature and extent of a competitive relationship between and among products*[68]*."* The four general criteria were adopted in likeness test as the following:

i. "the features, nature, and quality of the products

ii. the end-uses of the products, the extent products able to serve the same or similar end-uses

[67] Holger P Hestermeyer and Laura Nielsen, "*The Legality of Local Content Measures under WTO Law"*, Journal of World Trade (Law-Economics-Public Policy*)* 553, 2014, p.566.

[68] Appellate Body Report, *United States- Measures Affecting the Production and Sale of Clove Cigarettes*,WT/DS406/AB/R, April 4, 2012, para.201, (Article 2.1 TBT Agreement)

iii. consumers' tastes and habits, the extent consumers perceive and treat the products as an alternative mean of performing particular functions or satisfy demand.

iv. international tariff classification of the products"

WTO Panels and Appellate Body did not include the regulatory intent or aim and effect approach into their analysis on likeness.

The third and the final component of the consistency test with the national treatment principle is whether the measure at issue grants no "less favorable treatment". The mere fact that measure makes a differentiation between competitive like goods , is not enough to reach a judgment that this measure is contradictory with Article III: 4. Similarly, only a differentiated treatment between local and foreign products does not inevitably establish less favorable treatment; whereas the lack of differentiated treatment does not indicate there is no "less favorable treatment". Appellate Body requires the examination of measure on whether it "modifies the conditions of competition in the relevant market to the detriment of imported products". [69]

The comparison for treatment less favorable should be made in a group of foreign products and like local products as a whole. However, this does not mean that every single one in the imported products group should expose to less favorable treatment. Moreover, the *de minimis* impact of the measure does not prevent it from finding that the measure treated foreign origin goods less favorably. Even the potential effects of the measure may be sufficient to prove the less favorable treatment, in the case of no actual effects within the market. Clearly, a measure imposing an additional administrative burden on imported products may modify the competitive conditions in the marketplace and consequently, it could result a treatment less favorable. In *Thailand-Cigarettes (Philippines) (2011)*, the Appellate Body reached the conclusion that the mere

[69] Appellate Body Report, *Korea-Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS161/AB/R, WT/DS169/AB/R, January 10, 2001, para.137.

existence of supplementary obligations on foreign products does not automatically lead to the conclusion of "less favorable treatment".

3.1.2. Article III: 5 of GATT 1994

Paragraph 5 of Article III of GATT 1994 provides that:

> No contracting party shall establish or maintain any internal quantitative regulation relating to the mixture, processing or use of products in specified amounts or proportions, which requires, directly or indirectly, that any specified amount or proportion of any product, which is the subject of the regulation, must be supplied from domestic sources. Moreover, no contracting party shall otherwise apply internal quantitative regulations in a manner contrary to the principles set forth in paragraph 1.[70]

This paragraph has foreseen two different tests regarding internal quantitative restrictions. Firstly, it prohibits "internal quantitative regulations relating to the mixture, processing or use of products" in which the purchase of locally produced sources into certain extent is compulsory. Secondly, it prohibits the protecting "application of quantitative regulations" in other matters. The second rule is supplementary to the first rule and enforceable when there is no violation of the first rule.[71]

Despite its specificity compare to Article III: 4, Article III: 5 has no jurisprudence in LCR challenges. Because of the judicial economy, when the Appellate Body determined on the violation of Article III: 4, it did not separately investigate for the violation of Article III: 5.

3.1.3. Justification through GATT Article XX

The advancement and protection of "public health, consumer safety, the environment, employment, economic development and national security" are core obligations of countries. In order to protect and enhance these societal values and concerns; governments enact legislations or take measures which might constitute

[70] Marrakesh Agreement Establishing the World Trade Organization, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1A ('General Agreement on Tariffs and Trade') article III:5.

[71] Rüdiger Wolfrum, et al (eds) "*WTO, technical barriers and SPS measures",* Martinus Nijhoff Publishers, 2007, p. 36–37.

barriers to trade and violate WTO rules particularly on “non-discrimination and market access”.

“Trade liberalization, market access, and non-discrimination rules” may not compromise with other vital “societal values” and interest. Therefore, WTO law has a rule to reconcile these issues with each other. Even though the legislations or measures violate the important requirements imposed by the GATT 1994; multiple narrow exception Article XX allows Members, to prioritize specific societal values over the trade interests, if the specific conditions are fulfilled.

A Member can invoke article XX of GATT 1994, only when a measure has violated other GATT provisions. As a rule, exceptions should be interpreted narrowly; however, Appellate Body clarified Article XX as a balancing provision between the “trade liberalization, market access, and non-discrimination rules” and societal values and interest. In this sense, the application scope of Article XX is broad. However, it should not be understood as an automatic application of Article XX, even the inconsistency with the obligation set out in other WTO Agreements. Case by case examination is required to adopt Article XX. Members are free to incorporate the provisions of GATT by way of cross-reference and broaden the application scope of the exception clause under the GATT. For example, Article 3 of the TRIMS Agreement indicates, “*all exceptions under GATT 1994 shall apply, as appropriate, to the provisions of this Agreement*”.

“General exception” provision of GATT Article XX enables Member states to prioritize some policies over the objective of free trade. Within this scope, renewable energy incentive schemes can be justified, if they are able to pass the two-tier test.[72] The Panel takes a holistic approach of the regulatory

[72] Christopher Tran, “*Using GATT, Art XX to Justify Climate Change Measures in Claims under the WTO Agreements”*, Environmental and Planning Law Journal 349, 2010.

scheme in this analysis and examines the entire program, not just the discriminatory aspects. [73]

Firstly, a measure should fall under the scope of one of the exemptions provided in paragraphs (a) to (j) in Article XX. Secondly, a measure should comply with the terms and conditions of Article XX Chapeau. Therefore, the examination under Article XX begins with the concentration on the measure at issue itself and then continues with the implementation method of that measure.

Article XX sets out, certain reasons for justification of GATT violated measures in paragraphs (a) to (j). These justification reasons are associated with the protection and promotion of "societal values" such as "human, animal or plant life or health, exhaustible natural resources, national treasures of artistic, historic or archeological value and public morals". The justification grounds and accompanying requirements should be examined separately in each paragraph of the Article because each includes a different wording in expressing its strength. From the given specific grounds, paragraphs (b), (d), (g) and (j) are possibly in relation with the renewable energy subsidies and are explained below.

3.1.3.1. Article XX (b) Exception

Article XX (b) is related to measures, which are "*necessary to protect human, animal or plant life or health*". It prescribes "a two-tier test" to conclude whether a measure can be justified under this clause.

To begin with, the measure should follow the policy objectives in the fields of "protection of life or health of human, animals or plants" and later the measure should "be necessary to fulfill that policy objective". Some exemplary policy objectives can be considered as to reduce air pollution, climate change mitigation measures, waste or smoking. Because all of them contain huge

[73] Kohei Saito," *Yardsticks for 'Trade and Environment': Economic Analysis of the WTO Panel and the Appellate Body Reports Regarding Environment- Oriented Trade Measures",* Harvard Law School, 2002, p. 14–15.

potential risks for "human, animal and plant life[74]". The UNFCCC and the Intergovernmental Panel on Climate Change ("IPCC"), which are compromised by scientists, recognize "the dangers that greenhouse gas-induced climate change presents to health and life in terms of increased disease, destruction of coastlines and property, and deterioration of natural habitats, ecosystems, and agriculture[75]". Supply of zero-emission energy resources like renewable sources are useful to lower the amount of greenhouse gas and its effects on climate change and serves to purpose enacted at Article XX (b)[76].

The second element in the test, "necessity analysis", requires a more complex examination. In *Brazil-Retreated Tyres (2007)* case the Appellate Body clarified the necessity analysis as follows: " *…a panel must consider the relevant factors, particularly the importance of the interests or values at stake the extent of the contribution to the achievement of the measure's objective and its trade restrictiveness. If this analysis yields a preliminary conclusion that a measure is necessary this result must be confirmed by comparing the measure with possible alternatives, which may be less trade restrictive while providing an equivalent contribution to the achievement of the objective[77]."* The Appellate Body highlighted that, in order to reach a final judgment, "the weighing and balancing requires on determining whether a measure is necessary for a holistic operation that involves putting all the variables of the equation together and evaluating them in relation to each other possible measures after having examined them individually."

[74] The Nature Conservancy, "*Climate Change Threats and Impacts"*, http://www.nature.org/ourinitiatives/urgentissues/global-warming-climate-change/threats-impacts/ (last visited Nov. 7, 2018) (With rapid climate change, one-fourth of Earth's species could be headed for extinction by 2050.)

[75] UNFCCC *Contribution of Working Group II*, *supra* note 117, at 7–22;, *supra* note 117, Preamble.

[76] Union Of Concerned Scientists *Renewable Energy Standards—Mitigating Global Warming*,http://www.ucsusa.org/clean_energy/smart-energy solutions/increaserenewables/renewable-energy.html#.VU0yJ_lViko (last visited 18 December 2018).

[77] Appellate Body Report, *Brazil-Measures Affecting Imports of Retreated Tyres, WT*/DS332/AB/R, December 17, 2007, para. 178.

Country's actions based on the Article XX (b) can only be "considered as necessary", if no alternative measures left, which are "consistent or less inconsistent with the GATT obligations[78]." The burden of proof to identify possible alternatives that the defending Member could have taken rests upon the complaining Member. Therewithal, defending Member must show the necessity of the measure and no reasonable available alternative present to achieve its objective. [79]

During this examination, according to Appellate Body, "the more important the societal value pursued by the measure the more easy it may be considered to be necessary". The WTO Appellate Body in *EC–Asbestos* specified that "*the more vital or important the common interests or values pursued are, the easier it would be to accept as 'necessary' measures designed to achieve those ends.''*[80] On the other hand, it is argued that if the measure created a more international trade restrictive impact than it is more difficult to consider that "measure as necessary".

Thirdly, in *EC-Asbestos (2001)* case Appellate Body concluded that the discretion on the appropriateness of the level of health or the environment protection rests on the Member states. However, each Member may rely on good faith, expert testimony and scientific sources in justification of the measure[81]. Thereof, the measure should have concrete contributions in the achievement of objective, in other words, there should be "genuine relationship of the ends and means between the objective pursued and the measure at issue". In the *Brazil-Retreated Tyres (2007)* case Appellate Body emphasized that a Member cannot be forced to "employ an alternative measure" if it is not strong enough to create the same positive effects with the measure at issue in terms of pursued objective

[78] Panel Report, *United States – Standards for Reformulated and Conventional Gasoline*, , WT/DS2/R, Jan. 29, 1996, para 16.

[79] Appellate Body Report, *Brazil-Measures Affecting Imports of Retreated Tyres*, WT/DS332/AB/R, December 17, 2007. para. 156.

[80] Appellate Body Report, *European Communities–Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, Mar. 12, 2001,para.172.

[81] Idem, para. 163.

In renewable energy market incentives, if the conditions of being a beneficiary are linked to "geographic origin or export performance", they cannot be justified under Article XX (b). Because the challengers can easily prove that "alternative measures that are consistent or less inconsistent with the GATT", could have been taken. Although combating with climate change is a very significant public good, the discrimination against import products or immoderately favoritism of national industry is not necessary to reach that aim.

3.1.3.2. Article XX (d) Exception

Article XX(d) sets out a general exception for measures that are:

> necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trademarks and copyrights and the prevention of deceptive practices.

A respondent seeking to justify an otherwise GATT inconsistent measure under Article XX (d) is obligated to establish "the existence of rules that form part of its domestic legal system and that such rules fall within the scope of laws or regulations". In *Mexico-Taxes on Soft Drinks*, The Appellate Body clarified that the term "laws or regulations" in Article XX (d) refer to *"rules that form part of the domestic legal system of a WTO Member, including rules deriving from international agreements that have been incorporated into the domestic legal system of a WTO Member or have direct effect according to that WTO Member's legal system*."[82]

"Rules deriving from international agreements may become part of the domestic legal system of a Member in at least two ways. Members may either incorporate such rules through domestic legislative or executive acts intended to implement an international agreement, or certain international rules may have a direct effect within the domestic legal systems of some Members[83]". There will be

[82] Appellate Body Report, *Mexico – Taxes on Soft Drinks*, para. 70.
[83] Idem, para.71.

other means to incorporate international instruments to domestic legal systems of a Member according to the system of Member. The "nature and the subject matter" of the instruments or rule at hand are going to be a determinative factor and analyzed within the particular law system of Member. The Appellate Body emphasized in the *India-Solar Cells* case that, "even if a specific instrument form the national legal system of a Member, this does not itself establish the existence of a rule, obligation or requirement within the national legal system of a Member in meaning of a "law or regulation" under Article XX (d)[84]." Instead, "the assessment of whether an instrument operates with a sufficient degree of normativity and specificity with other relevant factors" should be made.

The "illustrative list" in the Article XX (d) strengthens the comprehension that "laws and regulations" refer to the "rules of conduct and principles governing behavior or practice that form part of the domestic legal system of Member". Therefore each domestic legal system should be analyzed separately in order to determine whether rules, obligations or requirements constitute a "laws or regulations" within the frame of Article XX (d). Appellate Body indicated in the *India-Solar Cells* case "*in a given domestic legal system several elements of one or more instruments may function together to set out a rule of conducts or course of action*[85]*."*

In *India- Solar Cells* case, The Appellate Body interpreted the scope of laws and regulations broad and included rules which a Member seek to secure compliance. It did not just take into consideration the "legal instruments that are legally enforceable (e.g. before a court of law) or that are accompanied by penalties and sanctions to be applied in situations of non-compliance[86]."

In order to conclude whether a rule falls under the scope of Article XX (d); the Dispute Settlement Body should "evaluate and give due consideration to all the characteristics of the relevant instruments". Such characteristics listed by the

[84] The Appellate Body Report, *India- Certain Measures relating to Solar Cells and Solar Modules*, WT/DS456/AB/R, September, 16, 2016, para. 5.140.
[85] Idem, para. 5.111.
[86] Idem, para. 5.109.

Appellate Body as follows and in light of these specific characteristics case-by-case basis assessment should be carried:

i. "the degree of normativity of the instrument and to the extend it operates to set out a rule of conduct or course of action within the domestic legal system of the Member
ii. the degree of specificity of the rule
iii. whether the rule is enforceable
iv. whether the rules have been adopted or recognized by a competent authority
v. the form and title are given to any instrument
vi. the penalties or sanctions that accompany to the relevant rule[87]"

3.1.3.3. Article XX (g) Exception

Article XX (g) concerns measures about the conversation of "exhaustible natural resources, if such measures have been taken in conjunction with restrictions on domestic production or consumption[88]." Similarly to Article XX (b), it provides an exemption to measures that are violating the fundamental "GATT rules for environmental protection purposes". In order to invoke Article XX (g), the Member should demonstrate three conditions are fulfilled. These are: the aim is to "conserve exhaustible natural resources, the policy is related with such conservation and restrictions on international trade are in conjunction with restrictions on domestic production or consumption[89]."

The Appellate Body introduced an extensive and revolutionary analysis of the notion of "exhaustible natural resources" in *US- Shrimp (1998)* and remarked; "*living species, though in principle, capable of reproduction and, in that sense, renewable, are in certain circumstances indeed susceptible to depletion, exhaustion, and extinction, frequently because of human activities.*"

[87] Idem, para. 5.113.
[88] GATT, *supra* note 11, Art. XX (g).
[89] The Appellate Body Report, *United States - Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R, April 29, 1996, para. 6.35.

Further in the in *US- Shrimp (1998)* the Appellate Body employed an understanding that can illuminate our way in the analysis of the all rules of WTO law, in which was invited for an examination of the treaty provisions "in the light of contemporary concerns of the Members about the protection and conversation of the environment". Since not all article was revised in the Uruguay Round in a way to reflect such concerns, the Preamble of the WTO Agreement demonstrates that the Members are completely knowledgeable about the relevance and "legitimacy of the environmental protection" as an objective of national and global policy. All covered agreements in the preamble of the WTO Agreement explicitly acknowledge the goal of "sustainable development".

Article XX (g) conditions that the measure principally aims to conservation and the implementation, should be in conjunction with the ends. In order to realize this, "a Member should show a close and real relationship between the general structure and design of the measure and the policy objective of conservation[90]." In addition, Article XX (g) conditions foreign and national products to be treated equally, thus "an even-handed manner" should be employed in the imposition of restrictions. Measures that explicitly treat domestic and foreign producers differently cannot be regarded under this exception. Consequently, the derogations from "the national treatment obligation" can unlikely to be justified under the Article XX (g) provision.

"The Panel accepted that clean air is an example of exhaustible natural resource and policy to reduce the depletion of clean air is a policy to conserve a natural resource within the meaning of Article XX (g)[91]." Therefore, renewable energy support schemes can qualify as an exception under Article XX (g), if they will able to satisfy the conditions set by the previous rulings of the Appellate Body and the article itself. In renewable energy subsidy programs, LCRs constitute prejudice to other Member's market and amount to discrimination

[90] Appellate Body Report, U*nited States–Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, October 12, 1998, para. 137.

[91] Idem, para. 6.37.

against foreign Members. Consequently, it can not fall under the scope of exception.

3.1.3.4. Article XX (j) Exception

Article XX (j) provides, "*any such measures shall be consistent with the principle that all Members are entitled to an equitable share of the international supply of such products, and that any such measures which are inconsistent with the other provisions of the Agreement shall be discounted as soon as the conditions giving rise to them have ceased to exist".*

The Preamble of the Marrakesh Agreement also prioritizes the "sustainable development". Because developing countries have a more vulnerable position in the economy as having less local production and open to disturbances in supply than developed countries. These determinants are relevant in the assessment of product availability in a specific matter and "general or local short supply" within the context of Article XX (j).

Under Article XX analysis, two components must be fulfilled. First, the measure must addresses a "particular interest", specifies in the sub-paragraphs. Second, there should be "a sufficient nexus between the measure and the interest protected", which is highlighted with the preference of terms "essential to" in Article XX (j). Moreover, the weighing and balancing test has to be established between the importance of the societal interest or value that would like to be protected and the trade restrictiveness of the challenged measure. Therefore, the "possible alternative measures" need to be considered. Here in Article XX (j) "the weighing and balancing" are going to be assessed whether a measure is "essential".

The short supply means shortage, a "deficiency in quantity" and "an amount lacking". Being "in short supply" corresponds to a condition in which the "quantity of a product that is available does not meet the demand for that product". A member can invoke the Article XX (j) exception if the product's "in

general or local short supply" exists in certain parts of its territory. Deriving from these explanations, Article XX (j) does not focus "exclusively on the availability of supply from domestic, as opposed to foreign or international sources"; if the international supply of products is stable and accessible. The party, which invoked the Article XX (j) exception, should demonstrate "the quantity of available supply" from both local and global resources "in the relevant geographical market is insufficient to meet the demand".

In the renewable energy subsidization, even the necessary generation pieces of equipment are lack of supply in the relevant region; internationally these types of equipment have generally sufficient supply. Therefore, it is very difficult to justify the LCR measures on the ground of Article XX (j).

3.1.3.5. Chapeau of Article XX

The object and purpose of the Article XX chapeau is to avoid that conditionally justified measures under the paragraphs (a) to (j), are applied in such a way to constitute a misapplication or abuse of the exception clause. According to Appellate Body, "a balance of rights and obligations must be struck between the right of Member to invoke an exception under Article XX and the substantive right of the other Member under GATT 1994". The Article XX chapeau is "an expression of good faith, a general principle of law". Therefore, the exceptions under the paragraphs (a) to (j) are "limited and conditional" and their ultimate availability is subject to the compliance with "the terms and conditions" of the chapeau. The prevailing notion of the Article XX Chapeau is to distinguish legitimate environmental measures from the ones cover protectionism. Initially, Members should make substantial efforts, "in good faith" to negotiate a bilateral solution before applying the unilateral measure. Failure to make such efforts are unjustified discrimination.

The task of analyzing and applying the chapeau is extremely sensitive since it marks out the line of balance between the rights of Members. Two requirements can guide us in the application of the measure, which are "(i) no

means of arbitrary or unjustifiable discrimination between the countries where the same conditions prevail and (ii) no disguised restriction on international trade".

As Appellate Body noted, "the chapeau of Article XX does not prohibit discrimination, but rather arbitrary and unjustifiable discrimination". Thus, it concluded that discrimination might result when the same measure is applied in a strict and rigid fashion to Members which has different conditions. The Appellate Body added that "*a measure should be designed in such a manner that there is sufficient flexibility to take into account the specific conditions prevail in any exporting Member… Article XX of the GATT 1994 does not require a Member to anticipate and provide explicitly for the specific conditions prevailing and evolving in every individual Member*."[92] Additionally, the cause and rationale of the discrimination should be analyzed in order to determine whether it is "arbitrary or unjustifiable".

Furthermore, a Member resorting to Article XX exception must show more than the measure serves to a justifiable purpose. Because there would be other measures, which are "equally or less burdensome" than other possible measures serving to that "justifiable purpose".

In the *Shrimp/Turtle* case, the Appellate Body stated that "the chapeau protects both substantive and procedural requirements" and it is:

i. "a balancing principles to mediate between the right of a member to invoke an Article XX derogation and its obligation to respect the rights of other members

ii. a qualification making the Article XX exemptions 'limited and conditional'

iii. an expression of the principle of good faith in international law

[92] Appellate Body Report, *US- Gasoline*, para. 28-29.

iv. a safeguard against *abus de droit*, the doctrine that requires the assertion of a right under a treaty to be exercised bona fide, that is to say reasonably."

Policy space for Member to protect societal values is open as long as, they comply with their obligations and respect the rights of other Members under the WTO Agreements. One should also note that the ability to enter into international agreements is an example of the "exercise of sovereignty". Therefore in joining the WTO, Members committed to complying with the WTO rights and obligations; in exchange obtained important commercial and institutional advantages.

The FIT program with LCR is likely to fail the test embodied in the Article XX chapeau because "discriminatory payment of subsidies" only to local entities is not necessary to reach the aim of environmental protection.

3.1.4. Justification through Infant Industry Exception

Article XVIII:C of the GATT allows governments to support infant industries, which are in the initial stages of their growth. In order to apply this provision, countries should first notify the WTO Members and initiate consultations. After the completion of the consultation stage, the countries are allowed to take measures in the interest of infant industries that are inconsistent with the GATT obligations. This provision permits to establish measures that violate national treatment obligation for promoting domestic infant industries.

3.1.5. Justification through Article III: 8(a)

Article III: 8(a) was a clear area for the WTO jurisprudence because any Member did invoke it until the *Canada-Renewable Energy* case. Article III: 8(a) is regulated as an exemption from the "national treatment" obligation in case of government procurement activities[93]. The government procurement exception is

[93] Appellate Body Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS426/AB/R, May 6, 2013, para 5.56.

prescribed because WTO members know that this exception has an important role in their national policy, especially to promote small businesses and local industries.

Government procurement means the purchase or lease of goods and services by governments. In many countries, the amount of procurement of goods and services by governments is very large. As the government's activity expands the amount for government procurement increases as well. Government procurement has a vital role in the economies of WTO members. In most countries, government procurement accounts for 15-20 percent of Gross Domestic Product ("GDP"). In India, it accounts for about 39 percent of GDP. There are divergent views on government procurement among WTO members, with regard to how open this sector should be to foreign commodities and services. Some developing country members regard government procurement as an important market for the domestic industries and are reluctant to open this sector to foreign commodities and enterprises. Even the developed members resort to buy national policies when the economy slowed down.

Some countries use government procurement to promote domestic industries and protect national security. For such purposes, some countries promote a "buy national product policy", in which give primacy to local products and services, and exclude or restrict the access of imported products, services and enterprises into the government procurement marketplace for the country. Such restrictive procurement policies are based on considerations such as:

i. protection and promotion of domestic products and industries vis-a-vis competition by foreign products and enterprises

ii. promotion of small business in the country

iii. promotion of underdeveloped regions in the country

iv. protection of national security.

If preference is given to domestic products for the intent of promoting local industry, the increased costs to the government and its detrimental effect to the economy as a whole may outweigh whatever advantages the preferred industries may enjoy. In addition, such restrictive policies have adverse impacts on an international open trading system. Since government procurement has a significant part in the economy, the open trading system needs a set of international rules on government.

Article III: 8(a) is going to be applicable if the legal regime at issue discriminates foreign products against competing like local products purchased by the government. In order to be qualified under this exemption clause three conditions have to be fulfilled:

i. The disputed measure should be described as "laws, regulations or requirements governing the procurement of products purchased"
ii. The measure involves "procurement by governmental agencies of products purchased"
iii. The procurement has to be executed "for governmental purposes and not with a view to commercial resale or with a view to using in the production of goods for commercial sale[94]"

Hereinafter these three conditions are going to be analyzed in a detailed manner.

3.1.5.1. Whether the Measure Constitutes "Law, Regulation or Requirements Governing Procurement"

The procurement refers to a process in which governmental agency acquired the product.[95] In order to invoke Article III: 8(a) derogation, the procurement has to occur within the scope of relevant laws, regulations or requirements, which means there should be an "articulated connection between

[94] Idem, para. 5.39.
[95] Idem. para. 5.59.

the laws, regulation or requirements and the procurement".[96] In order to find a connection, there should be a competitive relationship between the procured product by the government and the legal regime, which govern the purchase of the product. For example, both in the *Canada-Renewable Energy* and *India-Solar Cells*, there was "no competitive relationship" between the purchased product and the legal regime of the procurement. Because the government procured electricity, however, the regulation was on solar energy generation equipment.

However, the Appellate Body in *Canada-Renewable Energy* case upheld that "*what constitutes a competitive relationship between products may require consideration of inputs and process of production used to produce the product*".[97] This statement connoted the "process and production method" ("PPM"). PPMs are generally used to align trade interest with environmental aims. However, this measure might function to hide the protectionist aims under the cover of environment-friendly measures. The implication of this method would enable to create a nexus between the electricity, "product purchased by the government" and solar energy generation equipment, the "product governed by the domestic legal regime"; consequently the application of Article III: 8 (a). Therefore, taking "inputs and process" into account would allow the discrimination between electricity product with the domestic generation equipment and the foreign one. Additionally, Agreement on Government Procurement, which allows "a PPM-based distinction to be made under Article X read with Article I (u) (i) of the revised draft[98]". This is a multilateral agreement and aims to guarantee even-handed and transparent competition in government procurement.

Despite the above analysis, the Panel and the Appellate Body in *India-Solar Cells* rejected "inputs and process" argument and required the existence of a "competitive relationship between the product subject to discrimination and

[96] Idem. para. 5.58.
[97] Idem, para. 5.63.
[98] Aditya Sarmah, "*Renewable Energy and Article III:8(A) of the GATT: Reassessing the Environment-Trade Conflict in Light of the Next Generation Cases",* 9 Trade L. & Dev. 197, 2017, p.216.

product purchased[99]". The ruling of the Appellate Body in both LCR measures in solar energy generation equipment cases limits the applicability of the derogation rule of Article III: 8 (a), since the content requirement related to the equipment merely a part of the final and complete product of electricity. In addition, it could not provide a satisfactory answer to the question of whether the inputs and process need to be taken into account in the enforcement of the derogation clause.

3.1.5.2. Whether the Procurement is Done by the "Governmental Agencies"

"Governmental agencies" means the entities, which are performing in the public domain "for or on behalf of the government" within the "competencies conferred" upon them to fulfill their "governmental functions".[100] Electricity generation and distribution are government functions; because without the authorization from the government, the private sector is not able to perform its activities.

In *India-Solar Cells* case, the Appellate Body did not examine whether the procurer was a governmental agency. However, the Panel Report stated that solar electricity purchaser entities, which are in charge of the solar energy project, were acting "on behalf of the government" and under its authority. On the other hand, under the public-private partnership projects, which are common in many mega projects of the developing countries, the private company is acting "for or on behalf of the government" or performs an activity, which is exclusive for the government. Therefore, a distinct analysis is required to resolve whether the project falls under the derogation of Article III: 8(a).

[99] The Appellate Body Report, *India-Solar Cells,* para. 5.24.
[100] The Appellate Body Report, *Canada-Renewable Energy*, para. 5.61.

3.1.5.3. Whether the Procurement has been undertaken "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"

This final element is a cumulative one. It requires that the procurement is in the realm of governmental purposes and is not for "commercial resale" or for the utilization of them in the production of commercially resold goods. Therefore, a "rational relationship" has to be found between the purchase of the products and government function being perform. Within the context of LCRs of the generation equipment, it is easy to identify the core government function of providing electricity to the consumers. However, in cases other than the energy it would be complicated to extend the similar deduction. [101]

The second requirement of this element is the consideration of the complete transaction from the perspective of the buyer and seller to conclude that "the procurement and purchase" were not done with the aim of commercial sale. This analysis includes the "long-term strategy" of the party's behaviors in the market.[102] The Appellate Body is going to analyze, whether the transaction regarding the goods subject to LCRs are done at arm's length or resold commercially. In the electricity sale, the determination of whether it constitutes a commercial sale is based on the electricity supply systems structure and it varies across different jurisdictions.

The Appellate Body handled with Article III: 8(a) derogation in two renewable energy subsidy cases, which was explained in an elaborative fashion in Chapter four of this thesis. The Appellate Body employed a limited interpretation to avoid trade protectionism.

[101] Sarmah, p.213.
[102] The Appellate Body Report, *Canada-Renewable Energy*, para. 5.71.

3.2. VIOLATION OF SCM AGREEMENT

3.2.1. Overview

Subsidization means redistribution of wealth to certain beneficiaries. It impacts other countries through a distortion of trade.[103] Subsidies are considered as a very delicate issue in the international trade because on the one hand they can serve to realization of legitimate aims in economic, social and environmental policy, on the other hand, they can distort competition and create negative effects on trading partners. Still many states resort to subsidization in order to protect their domestic industry[104]. Subsidies are governed with an elaborate set of rules. Some subsidies, such as "export and local content subsidies", are, in principle, prohibited, while other subsides are not forbidden but might be actionable and withdrawn, when they cause "adverse effects" to the interest of other Members. The WTO rules on subsidies and subsidized trade are regulated in Articles VI and XVI of the GATT 1994 and more specifically in the SCM Agreement.

"The SCM Agreement reflects a balance between the Members who wanted to discipline the use of subsidies and those who wanted to discipline the use of countervailing duties[105]." The object and the purpose of the SCM Agreement is to empower and enhance rules on "subsidies and countervailing measures" in the GATT and also recognize that members have a right to resort such measures under specific situations.

SCM Agreement draws a frame for the use of subsidies, which "distort the allocation of resources within an economy" and specifically significant in relation to the renewable energy incentive schemes because they can be considered as subsidies within the scope of the Agreement. WTO law had created three

[103] Andreas F Lowenfeld, International Economic Law, 2nd ed, Oxford University Press 2008, pg. 216.

[104] Michael J Trebilcock, Understanding Trade Law, Edward Elgar Publishing, 2011, pg. 86.

[105] Appellate Body Report, *United States – Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMS) from Korea*, WT/DS296/AB/R, June 27, 2005, para 115.

categories of subsidies namely; “prohibited, actionable and non-actionable subsidies”. In January 2000, the provision on “non-actionable subsidies” has expired[106] and now only two categories of subsidies remain. Each kind of subsidy has its own “substantive and procedural rules”.

Members can reply to subsidized trade, which causes “injury” to their national industry producing the “like product”, pursuant to Article VI of the GATT 1994 and Articles 10 to 23 of the SCM Agreement, by imposing “countervailing duties” on subsidized goods. However, comparable to “the anti-dumping measures”, “countervailing duties” can only be imposed when the relevant investigative authority properly establishes that there are “subsidized” products and “injury” to national industry and the “causal link” between these two.

3.2.2. Definition of Subsidy

The SCM Agreement Article 1.1 defined subsidy as a “*financial contribution by a government or any public body within a territory of a member that confers a benefit*.”

3.2.2.1. Financial Contribution

Article 1.1. sets out an “exhaustive list” of types of financial contribution. The list includes:

i. “direct transfer of funds, such as grants, loans and equity infusions

ii. potential direct transfers of funds or liabilities, such as loan guarantees

iii. government revenue, otherwise due, that is foregone or not collected

iv. the provision by a government of goods or services other than general infrastructure

v. the purchase by a government of goods

[106] SCM Agreement Article 31.

vi. government payments to a funding mechanisms or through a private body.

vii. or any form of income or price support in the sense of Article XVI of GATT 1994"

"A contribution having a financial value can also be made in kind through governments providing goods or services, or through government purchases[107]." Government procurement of products is regarded as a subsidy because it has a "potential to artificially increase the revenues of that company[108]." In the FIT program, the issue of subsidy is controversial because "the program does not correspond to what would be considered classic examples of subsidy; such as direct transfer of fund or loans by a government on more beneficial terms than available on market[109]." Therefore, the closest option for their purchasing guarantee scheme of the FIT is the procurement of products by a government as indicated in "Article 1.1 (iii) of the SCM Agreement"[110]. Because "electricity is defined as good in the Harmonized System Nomenclature, developed by the World Customs Organization, also a definition used in the WTO[111]."

Even the list in Article 1.1 on types of "financial contribution" is exhaustive, the concept of "financial contribution" is widespread. Therefore, transactions such as "an interest rate reduction, debt forgiveness or the extension of a loan maturity are also covered by the provision"[112]. The existence of the financial contribution should be determined by taking into consideration to

[107] Appellate Body Report, *United States - Final Dumping Determination on Softwood Lumber from Canada*, WT/DS264/AB/R, August 11, 2004, para. 52.

[108] Peter van Den Bossche and Werner Zdouc, The Law and Policy of the World Trade Organization. Cambridge: Cambridge University Press, 2015, pg. 754.

[109] Wilke, pg.11.

[110] Emmanualsen, pg.28.

[111] Thomas Cottier, Garba Malumfashi, Sofya Matteotti---Berkutova, Olga Nartova, Joëlle de Sépibus, and Sadeq Z. Bigdeli, "*Energy in WTO Law and Policy"*, NCCR Trade Working Paper No. 2009/25, 2009, pg.5, http://phase1.nccr trade.org/images/stories/projects/ip6/IP6%20Working%20paper.pdf (last visited April 7, 2019).

[112] Appellate Body Report, *Japan- Countervailing Duties on Dynamic Random Access Memories from Korea (DRAMs)*, WT/DS336/AB/R, November 28, 2007, para.251.

measure's nature, not only its effects that it will give rise to. Because the intervening actions might have far-reaching consequences[113].

"Income or price support" is also covered in the concept of the financial contribution. The governments introduce these measures in order to secure the income of particular sectors or sustain the price of a product. In connection to the reference of Article XVI of GATT, "income or price support must increase exports of the subsidized product or decrease exports of similar products.[114]."

3.2.2.2. Financed by Government, Public Body or Private Body

In order to categorize "a financial contribution" as a subsidy under the scope of Article 1.1. of the SCM Agreement, "the financial contribution" must be performed "by a government or public body, including regional and local authorities as well as state-owned companies". "Public body" under Article 1.1(a) (1) encompasses entities that "possess, exercise or are vested with governmental authority". Therefore this provision does not differ the private bodies, which execute duties that would normally be "vested in the government".

The normal government functions interpreted under GATT, the Uruguay negotiations and in *US-Export Restraints* case and resolved that this term refers to "government practices such as taxes and expenditure; not the broad notions of intervention by government[115]". However, Rubini advocates including government interventions not just about the expenditure and taxation, rather the ones with a strong correlation to government practices. Because some measures have no cost to government but still constitute a financial contribution.[116] Additionally "the term government or public body is broader than to encompass

[113] Appellate Body Report, *US – Countervailing Duty Investigation on DRAMS*, para. 117.

[114] Luca Rubini, The Definition of Subsidy and State Aid: WTO and EC Law in Comparative Perspective, Oxford: Oxford University Press, 2009, pg. 123.

[115] Rubini,2009, pg. 119.

[116] Rubini, 2009, pg.121.

only the government in a narrow sense"; instead, "regional and local authorities as well as state-owned enterprises" have included to the concept[117].

Initially, the case law on the issue largely concentrated on government control and interpreted the "public body as an entity controlled by the government[118]". However, this approach has been abandoned in the more recent rulings. In the *US-Antidumping and Countervailing Duties,* the Appellate Body concluded that what need to be examined is the whether the entity "exercises or vested with the governmental authority and the formal link with the government[119]." Here, the governmental authority delegation does not necessarily spell out in its statue; rather a de facto enjoyment of such powers is sufficient.

The Appellate Body has given less emphasis on formalistic requirements and only looked for a meaningful authority over an entity, in order to prevent circumvention of the Article 1.1 (a) 1 of the SCM Agreement. Consequently, it searched for three elements to be fulfilled in order to define entrustment or direction of governmental authority. Those are "(i) explicit and affirmative action, (ii) to address a particular party and (iii) an action should encompass the party to undertake[120]." Still, the Appellate Body left a discretion area by indicating that "*no two governments are exactly alike, the precise contours and characteristics of a public body are bound to differ from entity to entity, State to State, and case to case*".[121] The Panel in the *US-Export Restraints* case did not forget to distinguish the affirmative actions deriving from the government intervention but the results are due to the "prevailing circumstances at a particular time and the free choices of actors in the market[122]." Additionally, the instances where a "government is

[117] Van den Bossche and Zdouc, pg. 758.

[118] Appellate Body Report, *Korea– Measures Affecting Trade in Commercial Vessels*, WT/DS273/P/R, March 7, 2005, para 7.50

[119] Appellate Body Report, *United States – Definitive Anti--Dumping and Countervailing Duties on Certain Products from China*, WT/DS379/AB/R, March 11, 2011, paras. 317-318.

[120] Appellate Body Report, *United States–Measures Treating Exports Restraints as Subsidies*, WT/DS194/R, June 29, 2001, para 8.29.

[121]Appellate Body Report, *U.S.-Anti-dumping and Countervailing Duties*, para 317.

[122] Appellate Body Report, *US– Exports Restraints* para 8.31.

only using its general regulatory powers" should be distinguished from the intervention.[123]

In the FIT Programs, the entity purchasing electricity is "de facto vested with governmental authority". However, with the new approach of the Appellate Body, it is difficult to determine what is public body, because "electricity markets and its bodies have generally a fragmented system with various bodies such as network operators and transmission companies[124]." In addition to that, FIT's could be recognized as a regulation of the "electricity market" rather than the "delegation of a governmental function".

3.2.2.3. Benefit

Furthermore, in order to categorize as a subsidy, the "financial contribution" should confer to a benefit. The "benefit" is conferred if the receiver has obtained "a financial contribution" in conditions "more favorable" than those accessible to any other receiver in the market. In order to decide whether "a benefit" aroused the Appellate Body in the *Canada-Aircraft* case held that the marketplace needed to be taken as a standard to confirm "recipient of the financial contribution has better off than it would have been without the financial contribution[125]". Therefore, the Appellate Body should find the "relevant market and then the appropriate benchmark within that market[126]".

However, it is challenging to find an "undistorted market benchmark" in many cases, as highlighted by the Appellate Body in *Japan-DRAMS* case.[127] But continued its finding in the same case as "*There is but one standard – the market standard – according to which rational investors act*". In *US-Softwood Lumber IV*, the Appellate Body accepted the possibility of using other benchmarks in case

[123] Appellate Body Report, *US – Countervailing Duty Investigation on DRAMS*, para 115.
[124] Wilke, pg.14.
[125] Appellate Body Report, *Canada –Measures Affecting the Export of Civilian Aircraft*, WT/DS70/AB/R, August 2, 1999, para. 114.
[126] Andreas F Lowenfeld, International Economic Law, 2nd ed, Oxford University Press 2008, pg. 242.
[127] Van den Bossche and Zdouc, pg.762.

of the distorted market, such as "when the government is a provider of good" in the markets and distorts its prices.[128] The Appellate Body grounded its decision in benefit issue on the focus of recipient; therefore, the conferral of benefit has been realized without any encumbrance on the government.

3.2.2.4. Specificity

The WTO subsidies rules do not implemented to all "financial contributions by a government that confer a benefit". In addition, this contribution should target a specific group. Article 2 of the SCM Agreement categorizes four kinds of specificity:

i. "enterprise specificity, i.e. in which a government targets a particular company(ies)

ii. industry specificity, i.e. in which a government targets a particular sector(s)

iii. regional specificity; i.e. in which a government targets producers in specific parts of its territory

iv. prohibited subsidies specificity, i.e. in which a government targets export goods or goods using domestic inputs."

In order to recognize a measure as subsidy under the SCM Agreement, it has to be "specific" in one of the above four ways. "Article 2.1 (a) establishes that a subsidy is specific if the granting authority or the legislation pursuant to which the granting authority operates, explicitly limits access to that subsidy to eligible enterprises or industries[129]." The term "certain enterprises" refer to a single enterprise, industry, or group of enterprises or industries that are specialized in one sector. Such a determination can only be made case-by-case basis.

---

[128] Gilbert Gagné and François Roch, *"The US---Canada Softwood Lumber Dispute and the WTO Definition of Subsidy"* 7 World Trade Review 547, 2008, pg. 569.

[129] Appellate Body Report, *US-Anti Dumping and Countervailing Duties (China) (2011*), para. 372.

Article 2.1 (b) of the SCM Agreement sets out that “specificity shall not exist if the granting authority or the legislation establishes objective criteria or conditions governing the eligibility for and the amount of the subsidy”. Such criteria or conditions are stringently attached to and provided in an official document to allow verification. “Objective criteria and conditions” are defined as neutral, which do not favor specific industries over others, meaning that horizontal in the application.

While Article 2.1 (a) sets out criteria or conditions that favor specific industries, Article 2.1(b) provides “criteria or conditions” that protect against “selective eligibility”. Article 2.1 (a) therefore, concentrates not on whether a “subsidy” has been provided to particular industry, but on whether access to that “subsidy” has been clearly restiricted. This implies that the center of examination is about whether only “certain enterprises” are eligible for the “subsidy”, not on whether they, in fact, obtain it. Likewise, Article 2.1 (b) denotes the analysis on “objective criteria or conditions” administrating the eligibility for and the amount of “a subsidy”.

The reference in Article 2.1 (c) to “any appearance of non- specificity” emerging from the application of Article 2.1 (a) and (b) suggest that the “conducts or instruments of a granting authority may not clearly satisfy the eligibility requirements of Article 2.1 (a) or (b), but may nevertheless give rise to specificity de facto”. In these conditions, the consideration of other factors, listed in Article 2.1 (c), is provided in order to conclude whether the “subsidy” at issue is in fact “specific”.

The factors listed in Article 2.1 (c) are:

i. “the use of the subsidy program by a limited number of certain enterprises

ii. the predominant use of a subsidy program by certain enterprises

iii. the granting of disproportionately large subsidies to certain enterprises

iv. the manner in which discretion has been exercised by the granting authority for granting a subsidy, including the frequency of applications for a subsidy are refused or approved and the reasons for such decisions are of particular relevance in this context."

Regional specificity identifies in Article 2.2 of the SCM Agreement, and provides that: *"a subsidy which is limited to certain enterprises located within a designated geographical region within the jurisdiction of the granting authority shall be specific*". Finally, according to Article 2.3 of the SCM Agreement, any in law or in fact "export or local content subsidies" within the scope of Article 3, i.e. "any prohibited subsidy, shall be deemed to be specific".

The motivation behind the specificity element is to provide the governments a realm to enact subsidies for public goods or attached to objective criteria or conditions.[130] However, "subsidies for renewable energy" are "by definition available only to certain industries and enterprises", which involve in generating green energy.[131] Therefore, even the FIT program is designed as broadly as possible, still, particular industries on the renewable energy sector are going to be benefited from it.

3.2.3. Types of Subsidy

The agreement categorizes the three types of subsidies: "prohibited, actionable" and now expired type of "non-actionable subsidies".

3.2.3.1. Prohibited Subsidies

"Prohibited subsidies" are considered as "specifically designed to distort trade" and the consequence is removal. Two main categories of "prohibited subsidies" are export and local content subsidies. "Exports subsidies" are defined as *"subsidies contingent, de jura or de facto, based on solely or as one of several*

[130] Sadiq Z. Bigdeli, "*Resurrecting the Dead? The Expired Non---Actionable Subsidies and the Lingering Question of 'Green Space'"*8 Manchester Journal of International Economic Law 2, 2011, pg. 21.

[131] Wilke, pg. 17.

other conditions, upon export performance". A subsidy is contingent when it is granted conditionally or when its presence is subordinate to the receiver's exports. Article 3.1 (b) of the SCM Agreement defines the local content subsidies as contingent to the use of local over foreign products, "directed to reduce imports from other countries, in favor of domestic producers[132]". Unlike in Article 3.1 (a), the phrases "in law or in fact" are missing in Article 3.1 (b). Nevertheless, according to the previous rulings of Appellate Body, this does not necessarily suggest that Article 3.1 (b) is only applicable to in law contingency. In *Canada-Autos (2000)* Appellate Body believed that such an understanding "would be opposed to the object and the purpose of the SCM Agreement because it would ease the circumvention of Member's obligation."[133]

The remedies for "prohibited subsidies", whether they are export or local content subsidies, are provided in Article 4 of the SCM Agreement. According to Article 4.1, the complaining Member first should ask for a consultation from a Member claimed to be conferring or preserving a "prohibited subsidy". Such a request for consultations shall include a "statement of available evidence with regard to the existence and nature of the subsidy in question". If such consultations are not successful to solve the dispute, the conflict could be transferred to a dispute settlement Panel, and then to the Appellate Body, for adjudicating. Article 4 of the SCM Agreement is foreseen a number of "special or additional rules and procedures", which prevail over the Dispute Settlement Understanding ("DSU") rules in case of a conflict. The most significant difference between "the rules and procedures" of Article 4 and the DSU rules and procedures relates to periods. The periods under Article 4 are half-longer than the time frames provided under the DSU.

Panels and the Appellate Bodies emphasized that prohibited subsidies must be withdrawn immediately, within the period designated by the Panel.

[132] Paolo R Vergano and Eugenia C Laurenza, "*Subsidies to Renewable Energy Sources and International Trade: Issues and Tools to Reconcile Trade Rules and Environmental Policies" 5 Global Trade & Customs Journal* 223, 2010, p. 228.

[133] Appellate Body Report, *Canada-Certain Measures Affecting the Automotive Industry*, WT/DS139/AB/R, WT/DS142/AB/R, May 31, 2000, para.139.

Remedies for violations of WTO obligations are only prospective but according to the Panel in *Australia- Automotive Leather II (2000*), the obligation under Article 4.7 to withdraw the prohibited subsidy necessitates the company that received a non-recurrent "prohibited subsidy" to repay it to the subsidizing Member. The Panel reasoned this as follows: *"A finding that the term 'withdraw the subsidy' may not encompass repayment, would give rise to serious questions regarding the efficiency of the remedy in prohibited subsidy cases involving one-time subsidies paid in the past, whose retention is not contingent upon future export performances"*.[134]

WTO Members heavily criticized the ruling of the Panel, because of its retroactive character. To date, no other panels made a similar ruling.

If the Panel's recommendation to eliminate a prohibited subsidy is not applied within the given period, the Dispute Settlement Body ("DSB") must, upon the request of the original complainant(s), authorize "appropriate countermeasures" according to Article 4.10 of the SCM Agreement. In "prohibited subsidies" disputes, relevant countermeasures could be the suspension of concessions or other obligations, i.e. "retaliation measures".

3.2.3.2. Actionable Subsidies

Most subsidies are actionable rather than prohibited. Actionable subsidies can only be challenged by the Member state, if it has "adverse effects" on another Member. Article 5 paragraphs (a) to (c) categorizes three types of "adverse effects" on the interests of other Members:

i. "injury to the domestic industry of another Member

ii. nullification or impairment of benefits effecting directly or indirectly other Members

[134] Panel Report, Australia- Subsidies Provided to Producers and Exporters of Automotive Leather II, WT/DS126/R, May 25, 1999, para.45.

iii. serious prejudice, including the threat of prejudice, to the interests of another member"

The below, detailed explanation regarding these effects is going to be given.

3.2.3.2.1. Injury To The Domestic Industry Of Another Member

Article 5(a) of the SCM Agreement regulates the actionable subsidies, which have "adverse effects" on the interests of other Members. Here, the injury should occur because of the effects of the subsidizing imports on the local enterprises, which is producing the like product.

The footnote 46 of the SCM Agreement describes the concept of "like product" as follows:

> "a product which is identical, i.e. alike in all respects to the product under consideration, or in the absence of such a product, another product which, although not alike in all respects, has characteristics closely resembling those of the product under consideration."

SCM Agreement has a narrower scope of "like product" in comparison to analysis derived from the case law relating to Articles I and II of the GATT or the description in the Agreement on Safeguards. The "likeness" analysis of the SCM Agreement shares some similar characteristic with the GATT 1994. In *Indonesia-Autos (1998),* the Panel concluded:

> "Although we are required in this dispute to interpret the term 'like product' in conformity with the specific definition provided in the SCM Agreement, we believe that useful guidance can nevertheless be derived from prior analysis of 'like product' issues under other provisions of the WTO Agreement[135]."

Article 16.1 of the SCM Agreement defines the "domestic industry" as:

> "The domestic producers as a whole of the like products or … those of them whose collective output of the products constitutes a major proportion of the total domestic production of those products."

[135] Panel Report, *Indonesia – Certain Measures Affecting the Automobile Industry*, WT/DS54, 55, 59 64/R, July 23, 1998, para.14.174.

There are two exceptions to this definition of “domestic industry”. First, domestic producers might be excluded from the scope of “domestic industry”, if they have a relationship with the exporters or importers or themselves import the subsidized products. Second, in rare conditions, if the territory of a Member could be divided into two or more “competitive markets”, then the producers in each different market can be considered as a distinct “domestic industry”.

“Material injury, a threat of material injury and material retardation of the establishment of a domestic industry” are included in the concept of injury within the scope of SCM Agreement.

In the determination of “injury” to the local industry, concrete shreds of evidence and an objective review must be taken into consideration, according to Article 15.1 of the SCM Agreement;

1. the amount of the “subsidized imports” and its impact on the prices of like products within the domestic marketplace, what required to pay attention are the substantial increase of the subsidized imports, a substantial price undercutting because of the “subsidized imports” or “depress or suppress prices” to a substantial degree resulted from the imports.

2. The effect of these imports on the local manufacturers of “like products”, the analysis must involve an examination of all related economic factors on the enterprise’s condition. Article 15.4 lists the subsequent particular factors: *“an actual and potential decline in the output, sales, market share, profits, productivity, return on investments or utilization of capacity; factors affecting domestic prices and finally actual and potential negative effects on cash flow, inventories, employment, wages, growth or the ability to raise capital or investment*”.

The examinations of all factors are compulsory in each case. However, these factors are not exhaustive. If needed other related factors might be taken into consideration as well. In *China-GOES (2012),* The Appellate Body

emphasized that Article 15.4, also necessitates "*an examination of the impact of the subsidized imports on the domestic industry*".

The determination of a "threat of material injury" must be based on concrete realities and not solely on allegations, assumptions or minimal possibility. For the existence of material injury threat, the subsidy should create explicitly predicted and imminent effects. The non-exhaustive list to determine the threat includes, inter alia: the "nature of the subsidy" and its effects on trade, a substantial rise in "the volume of subsidized imports" and the prices of the imports, which create "depressing or suppressing effect on domestic prices".

Eventually, the presence of a "causal link between subsidized imports and injury to the domestic industry" should be established according to Article 15.5 of the SCM Agreement.

The subsidized imports may not be the only reason for the "injury" suffered by "the domestic industry". Other factors may also create adverse effects on the "domestic industry", including:

1. The amount and prices of non-subsidized imports at issue
2. An inconsistency in demand or shifts in the "consumption patterns"
3. Trade-restrictive measures and contest between the foreign and local manufacturers
4. The enhancement in technology
5. The" export performance and productivity" of the local enterprises.

As set out in Article 15.5 third sentence, in the existence of these factors, the injury cannot be associated with the "subsidized imports".

Article 15.7. of the SCM Agreement provided factors to resolve whether a subsidy causes injury in as follows:

1. the “nature” of subsidy and its effects on trade
2. “a significantly increased volume of subsidized imports into the domestic market”
3. an imminent and significant increase of exports to the complainant’s domestic market, more than other “export markets” to absorption capacity “additional exports”
4. “significant depressing or suppressing effect on domestic prices” that will initiate an increasing demand for imported products; and
5. records of goods at issue.

3.2.3.2.2. Nullification or Impairment of Benefits

The maintenance and grant of subsidy itself should cause “nullification or impairment of benefits”. The mere existence of subsidy program is sufficient to consider that programs potential effects on income flow. It is not necessarily implemented. The nullification arises when the subsidy program effects the tariff arrangements systematically, which results a displacement of foreign origin like products from the subsidizing Members market.

3.2.3.2.3. Serious Prejudice, Including Threat, To The Interests Of Another Member

According to Article 6.3 of the SCM Agreement, “serious prejudice” may appear when “a subsidy” has one of the subsequent impacts:

1. “The subsidy displaces or impedes imports of a like product from another Member into the market of the subsidizing Member Displacement means an economic system in which exports of a like product are replaced by the sales of a subsidized product.

2. The subsidy displaces or impedes the export of a like product of another Member from the third country market.

3. The subsidy results in a significant price undercutting by the subsidized product in comparison to the like product of another Member in the same market or significant price suppression, price depression or lost sales in the same market. Price suppression means that the prices are prevented or inhibited from an increase or they actually show an upward trend, but the rise is less than what is expected and would have been. Price depression means a downward trend at prices.

4. The subsidy leads to an increase in the global marketplace share of the specifically the average market share of the subsidizing Member within the previous three years is going to be taken as a benchmark during the comparison."

In US-*Upland Cotton (2005)*, the Panel reached a conclusion that negative effects on complaint's production and/or trade of the product challenged under Article 6.3, might be considered within the meaning of prejudice under Article 5(c) of the SCM Agreement. In the same case, the Appellate Body Report noted that Article 6.3(c) does not require any constraint on the geographical area. The scope of market limitation on geography will base on the commodity itself and its ability to be traded between countries. The Appellate Body relied on the explanation fundamental economic proposition that: "*a market compromises only those products that exercise a competitive constraint on each other. This is the case when the relevant products are substitutable*."

The article on serious prejudice is not going to be applicable "when the trade imbalance results from a natural disaster or emergency" or the complaint decreases the export of same product voluntarily.[136]

In the determination of "significant price suppression" Panel noted in the *US-Upland Cotton (2005)* that; the nature of the subsidies is a

[136] SCM Agreement, Article 6.7.

determinative factor in the trends of the price and particularly whether the nature of these subsidies has a recognizable price-suppressive effect.

The Appellate Body explained in the *US-Upland Cotton (Article 21.5-Brazil) (2008)*, that:

> " a claim of present serious prejudice relates to the existence of prejudice in the past, present and that may continue in the future. By contrast, a claim of the threat of serious prejudice relates to prejudice that does not yet exist but is imminent such that it will materialize in the near future. Therefore, a threat of serious prejudice claim does not necessarily capture and provide a remedy with respect to the same scenario as a claim of present serious prejudice."

The SCM Agreement requires "the establishment of a causal link between the subsidy and the significant price suppression". Thus, in this respect, in all forms of "serious prejudice" under Part III of the SCM Agreement, the complaining Member should demonstrate more than the presence of the relevant subsidies and its negative implications on its interests, moreover, it should prove that the challenged subsidies have caused these effects. [137]

Panels and Appellate Body have recognized the relevance of a number of factors for an assessment of serious prejudice, such as: "*the nature of the subsidy, the way in which the subsidy operates, the extent to which the subsidy is provided in respect of a particular product or products, conditions in the market and the conceptual distance between the activities of the subsidy recipient and the products in respect of which price suppression or depression is alleged".*[138]

3.2.3.3. Non-Actionable Subsidies

The provision on permissible, "non-actionable subsidies" abolished on January 1, 2000 and the WTO Members have failed to agree for their renewal. The conflict arose between developed and developing countries. While the former

[137] Appellate Body Report, *United States-Measures Affecting Trade in Large Civil Aircraft (2nd complaint),*WT/DS353/AB/R, March 23, 2012, para.913.

[138] Panel Report, *Korea-Measures Affecting Trade in Commercial Vessels*, WT/DS273/R, March 7, 2005, para. 7.560.

would like an extension, the latter saw no need that.[139] The expired non-actionable subsidies categorized under three classes, which were "regional aid, environmental subsidies, and subsidies for research and development purpose, provided they did not exceed agreed quantitative threshold". Article 8 of the SCM Agreement reflects a certain tolerated "financial contribution". Article 31 of the SCM Agreement explained that this provision had a transitory nature:

> The provisions of paragraph 1 of Article 6 and the provisions of Article 8 and Article 9 shall apply for a period of five years, beginning with the date of entry into force of the WTO Agreement. Not later than 180 days before the end of this period, the Committee shall review the operation of those provisions, with a view to determining whether to extend their application, either as presently drafted or in a modified form, for a further period.

With the extinction of the non-actionable subsidies category, exceptions for good-intended "industrial subsidies" are no longer applicable. As an outcome of this, climate change moderation subsidies fall under the category of "actionable or prohibited subsidies", depending on their terms and conditions. Even the SCM Agreement compromises from comprehensive substantive and procedural provisions, it has been criticized for neglecting to differentiate "socially constructive" subsidies from "protectionist or objectionable subsidies".[140] The detailed explanation about the rationale of Article 8 of the SCM Agreement has given at Chapter five of this thesis.

3.3. VIOLATION OF TRIMS

3.3.1. Overview

TRIMs Agreement emerged at the Uruguay Round of Multilateral Trade Negotiations and is the product of long and contentious negotiating history. TRIMs Agreement has provisions related to investment but covers it in a fragmented way. The TRIMs Agreement was an attempt to liberalize global

[139] WTO Doc. G/SCM Agreement/M/24 of 26 April 2000.

[140] Alan 0. Sykes, "*The Questionable Case for Subsidies Regulation: A Comparative Perspective",* 2 J. Legal Anal. 473, 2010, pg.1.

investment.[141] Trade analysts turned their attention to trade-distorting effects of national trade policies, rather than focusing on reduced tariff and non-tariff barriers, which were successfully covered under the GATT.[142] Regulations on investment often have trade-distorting effects. The regulations might take many forms; such as "local content requirements, local equity requirements, foreign exchange restrictions and export requirements". Such requirements "affect trade flows or competitive relationships[143]".

The underlying aim of the "trade-related investment measures" is to ensure promoting and protecting domestic industry, enhance regional development, industrialization, export expansion, and technology transfer.[144] Developing nations have generally embraced such measures to protect their economy against the power of large Multinational Corporations ("MNC"s).[145] They were able to restrict the scope of Agreement into the trade in goods and incorporate a transition period. While developed nations succeed to set out explicit prohibitions against certain investment measures.

As Professor Kurtz stated that, "there has never been a comprehensive, multilateral agreement of foreign investment".[146] TRIMs Agreement does not prohibit the conferral of "investment incentives", as resorted to attract foreign direct investment in both developed and developing countries. What the Agreement prohibits is the conditioned grant of specific advantages upon compliance with any listed TRIMs. There were no new provisions regarding the investment measures that did not fall under the scope of GATT. However, the

[141] Paul Civello, "*The TRIMs Agreement: A Failed Attempt at Investment Liberalization"*, 8 Minn. J. Global Trade 97, 1999, pg.126.

[142] Terence P. Stewart ed. al, THE GATT Uruguay Round: A Negotiating History (1986-1992), 1995, pg. 23.

[143] Edward M. Graham and Paul R. Krugman, "*Trade-Related Investment Measures, in Completing The Uruguay Round: A Results-Oriented Approach To The GATT Trade Negotiations"* pg. 147.

[144] Patrick Low and Arvind Subramanian, "*TRIMs in the Uruguay Round: An Unfinished Business?",* presented at The Uruguay Round and the Developing Economies, A World Bank Conference, Jan. 26-27, 1995, pg. 7.

[145] Graham & Krugman pg.148-49.

[146] Jurgen Kurtz, "*A General Investment Agreement in the WTO - Lessons from Chapter 11 of NAFTA and the OECD Multilateral Agreement on Investment"*, University of Pennsylvania Journal of International Economic Law 713, 2002, pg. 13.

preamble of the TRIMs Agreement states the purpose as follows: *"to elaborate ... further provisions beyond GATT that may be necessary to avoid the] adverse effects of TRIMs on trade and to promote the expansion and liberalization of world trade and to facilitate investment across international frontiers so as to increase the economic growth of all trading partners, particularly developing country Members, while ensuring free competition".*[147]

The Agreement does not differentiate foreign and local investment, as stated in the Panel report of *Indonesia-Autos* case:

> the use of the broad term 'investment measures' indicates that the TRIMs Agreement is not limited to measures taken specifically in regard to foreign investment ... nothing in the TRIMs Agreement suggests that the nationality of the ownership of enterprises subject to a particular measure is an element in deciding whether that measure is covered by the enterprise.[148]

TRIMs Agreement has introduced some asymmetries especially with regard to MNCs. TRIMs has been used by host countries to deal with the restrictive trade business policies pursued by the MNCs. For instance, MNCs may import more for their companies and manipulate the transfer prices of imports. In this sense, LCRs or foreign exchange neutrality have a mitigating effect against such measures. Also, even TRIMs phase out the restriction on imports or exports imposed by the host government, it does not require abolishment of export restriction imposed by the MNCs on their affiliates and subsidiaries. Besides, the TRIMs Agreement fails to confront the unequal effects of TRIMs on competitors within the same economic sector.

3.3.2. Relationship with GATT 1994

TRIMs Agreement preamble states its aim as to "prevent trade restrictive and distorting effects of investment measures". The relationship between TRIMs Agreement and GATT 1994, whether it is only an interpretation of Articles III and XI of the GATT or it has an autonomous scope of application, is one of the issues

[147] TRIMs, Preamble.

[148] Panel Report on I*ndonesia – Certain Measures Affecting the Automobile Industry*, WT/DS54, 55, 59 64/R, July 23, 1998, para.54.

in the application of the Agreement.[149] The Panel considered that question in the *Banana III* case as follows:

> the TRIMs Agreement essentially interprets and clarifies the provision of Article III (and also of Article XI) where trade-related investment measures are concerned. Thus the TRIMs Agreement does not add to or subtract from those GATT obligations, although it clarifies that Article III: 4 may cover investment-related matters.[150]

Deriving from there, TRIMs Agreement provides clarification to "national treatment and the prohibition on quantitative restrictions" through an illustrative list of inconsistent "trade-related investment measure". Article III: 4 of GATT and Article 2.1. of the TRIMs cover the same subject matter and the latter refers and clarifies the former. In this sense, if a measure is under the scope of the "illustrative list", it is considered as a violation of the related GATT provision. This illustrative list under the paragraph 1 (a) covers measures that necessitate the purchase or use of locally manufactured goods by an enterprise, or oblige that an enterprise's purchase or utilization of foreign origin goods be restricted to a certain volume.

This concept was confirmed at the Panel Report of *Canada-Renewable Energy/Feed-in Tariff* case and indicated:

> Article 2.2 of the TRIMs Agreement does not impose any obligations on Members, but rather informs the interpretation of the prohibition set out in Article 2.1. In particular, Article 2.2 explains that the TRIMs described in the Illustrative List of the Annex to the TRIMs Agreement are to be considered inconsistent with Members' specific obligations under Articles III:4 and XI:1 of the GATT 1994.[151]

The Illustrative lists attached to the TRIMs serve for two purposes. First, they help to judges to avoid errors; because the judge can easily detect the breach of the law when finding similar facts to the ones in the list. Secondly, it informs

---

[149] Zed Books, Protecting Foreign Investment: Implications of a WTO Regime&Policy Options *Chapter 5 "Implications of the TRIMs Agreement For Developing Countries And The Way Forward"*, pg. 136.

[150] Appellate Body Report, *European Communities – Regime for the Importation, Sale and Distribution of Bananas*, WT/DS27, September 25, 1997, para. 7.185.

[151] Panel Report, *Canada – Measures Affecting the Renewable Energy Generation Sector*, WT/DS412/R, WT/DS426/R, December 19, 2012, para. 7.119.

judges and WTO Members about the category of measures that can fall under the legal discipline.

The TRIMs Agreement also includes several other provisions, which reaffirm GATT principles such as; transparency requirements, exceptions and dispute settlement procedures.[152] Article 3 of the TRIMs Agreement provides that the GATT's exception clause of Article XX is going to be applicable to TRIMs as well. Moreover, the Agreement also establishes a Committee on Trade-Related Investment Measures.[153] This Committee is primarily responsible for consulting with member nations and monitoring for the Council for Trade in Goods regarding "the operation and implementation" of the TRIMs Agreement.

TRIMs that are violating national treatment rule under Article III:4 of GATT 1994 cover those which are compulsory or enforceable under national law or executive regulation or compliance with it, is required to confer a benefit. These measures are exemplified as:

a. "the purchase or use of products of domestic origin or from any domestic source by an enterprise, specified in terms volume or value of products, or in terms of a proportion of volume or value of its local production; or

b. that an enterprise's purchases or use of imported products be limited to an amount related to the volume or value of local products that it exports[154]."

These are regulatory obligations; hence the government does not provide any financial contribution. The examples in the Illustrative List are limited to regulatory nature. The case law examined in Chapter Four, the measure of local content requirement was attached to gain certain financial advantages by a

[152] Article 6 reaffirms the transparency and notification obligations of GATT Article X.. Article 3 stipulates that all exceptions under GATT apply to the TRIMs Agreement. Article 8 appropriates GATT's dispute settlement process embodied in GATT Articles XXII, XXIII, and the Dispute Settlement Understanding of the Uruguay Round Agreements.

[153] TRIMs Agreement Article 7.

[154] Aaron Cosbey and Petros C. Mavroidis *"Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO"*, Journal of International Economic Law, 2014, pg. 17.

government and they are under the scope of the SCM Agreement. Therefore, the producers were not prohibited to use foreign content products, if they could go ahead without the governmental support.

3.3.3. Relationship with the SCM Agreement

Measures and programs usually categorized as investment incentives are generally characterized as subsidies subject to the disciplines of the SCM Agreement. Therefore, "TRIMs and SCM Agreement are partial substitutes in this respect[155]." The chapeau of the Illustrative List defines TRIMs which violate the national treatment obligation must be "necessary to obtain an advantage".[156]

The benefit analysis under TRIMs and SCM shows substantial differences. The term "advantage" included in the TRIMs Agreement means, "government favors producers who comply with the LCR[157]". Within this context, an advantage can take different forms than a "financial contribution" and unlike in the SCM Agreement, benefit analysis does not necessitates a comparison with a market benchmark. If a preferential advantage has been provided to local producers that violate Article 2.1 of the TRIMs Agreement. Here the competitive relationship between foreign and domestic "like products" is protected.

CHAPTER FOUR

CLEAN ENERGY TRADE WAR: 'NEXT GENERATION' CASES ANALYSIS

4.1. OVERVIEW

The increasing trend of renewable energy generation by states in order to provide clean energy to its society without any environmental or social cost, result

[155] Idem, pg. 24.

[156] TRIMs Agreement Annex, para. 1

[157] The relevant part of the Annex ("Illustrative List") to the TRIMs Agreement, para. 1(a), reads that illegal TRIMs include, inter alia, "compliance ... is necessary to obtain an advantage, and which require: (a) the purchase or use by an enterprise of products of domestic origin or from any domestic source."

in the development of cross border trade of renewable energy goods. Consequently, countries would like to enhance their domestic capability to optimize clean energy technology and increase the value of renewable energy subsidies. Climate change matter within the frame of the WTO subsidy rules is new to the WTO dispute settlement system since trade and environment issues generally raised under Article XX of the GATT.

Specifically, solar energy generation was challenged before the WTO and named as "next generation" cases because of the discrepancy of the related law from the previously challenged cases. Particularly, Article III: 8 (a) of the GATT was received attention of the WTO for the first time in these next generation cases. However, the reports of the Dispute Settlement Body of the WTO regarding the FIT programs with LCR provide little guidance as to what extend the SCM Agreement regulates renewable energy subsidies.

4.2. HOW THEY ARE DIFFERENT FROM "CLASSIC" CASES?

Classic environment and trade cases of the 1990s were primarily about developed countries implementation of environmentally friendly measures in order to protect natural and living resources. Under these measures, market access in developed countries was attached to the implementation of similar measures; in this way, local competitive producers would not be in a disadvantaged position. In addition, measures served as a tool to discipline the developing country trade partners. The exemplary cases under this, *Tuna-Dolphin, Shrimp/Turtle and US-Gasoline*, concerned with Article XX of GATT and the implementation of equilibrium between environmental protection and trade protectionism.

Measures, which oblige exporting states to harmonize their policy with the importing states, do not violate the WTO rules; if they are able to pass the Article XX Chapeau test. Hence, WTO jurisprudence on environmental issues has evolved under this context. On the other hand, "next generation cases" are based on the "industrial policies with environmental benefits and protectionist

results"[158]. Main aims of the governments, which apply these policies, are to build up a labor market in the renewable energy sector, secure energy resources, and technological advancement. Further, some states impose an export restriction with the hope that domestic manufacturers can easily access to these environment-friendly products which otherwise would have been profitably exported[159].

On the contrary to the "classic" cases, "next generation" cases often bring developing countries in the forefront, as in the example of *India – Solar Panels*, because they implement policy measures to protect not just environment but also local producer against the foreign exporters with the LCRs.

LCRs implementation would like to guarantee long-term development and "positive externalities" in the national market, such as growth in renewable energy goods production. It sets as a contingency to enter the market or benefit from the government support. However, environmental groups oppose to such measure because these policy is going to be annulled with high probability and consequently discourage states to implement environmentally-friendly policies in the concern of countermeasures from other countries and international organizations. This hinders the long-term progress in renewable energy goods.

In the "classic" cases defendant can invoke the Article XX exception of GATT and use "environmental and health concerns" to justify protectionist measures. Article XX (b) demands that the measure is to be "necessary to protect human, animal or plant life or health". Furthermore, it requires that measure should be "least trade restrictive" to fulfill this aim. Under the examination of the Article XX Chapeau, "genuine relationship of ends and means between the objective pursued and measure at issue" has to be found. Therefore, it is very difficult to argue that LCRs can be justified under this test since the same environmental objectives can be reached without the use of LCRs. It is also hard to justify LCRs capacity building feature and the conversation of "exhaustible natural resources" under Article XX (g) of GATT, which enable an exemption if

[158] Wu and Salzman, p. 413.
[159] Idem, p. 419.

the measure is "related to the conversation of natural resources as there exists a reasonable means and ends relationship". Otherwise "even-handedness" requirement will not be satisfied. Additionally "next generation" cases extensively involved with the SCM Agreement, which has no exception clause regarding to seek equilibrium between trade and environmental interest. In the academy, there is a lively discussion to include an exception similar to the GATT into the SCM Agreement, which was discussed in Chapter five of this thesis; however, no consensus has been reached yet.

As an alternative way for defense, the respondents invoked Article III: 8(a) and Article XX(j) of the GATT, but both of these defenses was declined by the Appellate Body, because of the narrow interpretation of the provisions. The detailed explanation of Article III: 8(a) exception can be found in Chapter three of this thesis. This limited extent of the applicability of the provisions, hindered governments to pursue renewable energy policies. As a result, WTO decisions on "next generation" cases have generally unfavorable to environmental concerns.[160].

The biggest reason for these undesirable negative results on renewable energy generation is because the WTO structure is not well equipped to deal with trade in energy goods. Technically, there is no provision in the GATT, which exclude the trade of "energy goods". However, it does not take the issue in a pragmatic fashion[161]. It is partly because energy resources abundant states did not participate the negotiation process of GATT, as well as large oil mega corporations prefer to settle the disputes outside of the "global trading system"[162]. Most importantly, as a strategic good, negotiations regarding the energy were generally politicked and leading to a deadlock, since the energy abundant countries would like to maintain their sovereignty over the natural resources, while the energy deficit countries focused on securing the energy supply by diversification of energy sources to reduce dependency. This contrast leads to a

[160] Idem, p. 455.

[161] Gabrielle Marceau, "*The WTO in the Emerging Energy Governance Debate",* 5(3) Global Trade & Customs Journal. 83- 93 (2010), pg. 83.

[162]Anna Marhold, "*The World Trade Organization and Energy: Fuel for Debate",* 2(8) Esil Reflections 1, 2008, pg.2.

lack of coverage to energy goods in the WTO regime. Energy interests are at the center of the "green industrial policy initiatives", therefore the WTO can no longer ignore the fact that "energy goods" are not defined within its framework. Furthermore, the dispute settlement mechanisms of the WTO have to determine whether energy from renewable and conventional sources is "like products".

4.3. CANADA-RENEWABLE ENERGY CASE

The Dispute Settlement Body of the WTO decided in *Canada-Renewable Energy/Feed-in Tariff* case whether a renewable energy support policy is compatible with WTO rules and obligations, particularly LCR. This is the first dispute regarding the renewable energy subsidy program before the WTO. The case represents a new approach to the measures with a public motivation for clean energy and in wider context green subsidies.[163]

4.3.1. Case Review

Japan, and later joined to it EU, filed a dispute against Canada in 2010. The challenged measure was FIT program concerning the policy and pricing structure of the electricity generating system, which was enacted by the Government of Ontario. The center of the disputes focused on the obligation to employ locally manufactured devices for renewable energy generation facilities, if these facilities would like to benefit from "guaranteed prices" under the Ontario's FIT Program. Within the frame of Green Energy and Green Economy Act of 2009, the Renewable Energy Standard Offer Program ("RESOP") was introduced a new FIT program, which has a wider scope of application and more attractive contract prices.

The FIT program has two foundational objectives. First is to support the establishment of renewable energy generation facilities in Ontario's electricity supply system, in order to create diversity a supply-mix. Consequently, the coal-fired facilities will be closed and greenhouse gas emissions will be reduced.

[163] David P. Stewart, *"First WTO Judicial Review of Climate Change Subsidy Issues"*, 107 Am. J. Int'l L. 864, 2013, pg. 21.

Second is to enhance domestic investment in the manufacture of r"enewable energy generation equipment" and fulfill policy targets of green innovation and employment.

The Ontario electrical system, which has overseen by the Ontario Power Authority ("OPA") is a complex hybrid arrangement whereby both "public and private entities" participate in the generation, distribution and sale of electricity. The OPA, as the major electricity supplier, accommodates renewable energy generators – "wind, photovoltaic solar, renewable biomass, biogas, landfill gas and waterpower"- through special FITs, which guaranteed minimum prices per kWh of electricity supplied into the Ontario electric system under twenty or forty year contracts with the OPA. Upon entering into a contract with the OPA, such generators and owners are required to build and maintain renewable generating facilities according to OPA-set standards. In the development and construction of such facilities, owners are required to satisfy a minimum domestic content level- their facilities must be composed of required levels of Canadian- purchased goods and services.[164] Ontario did not grant any flexibility such as export credits, which allow producers to compensate for their lack of local content with selling locally produced goods to outside of LCR jurisdiction. Further, the legislation has foreseen a categorization for each separate activity and required a certain percentage to be sourced locally for them. For example, consulting services by Ontarian residents were credited at the level of 20%.

The goal of this program was not just to promote and increase the role of renewable energy, but also with the LCR to create new green industries in the field of renewable energy technology manufacturing sector.

Japan claimed that the LCRs were inconsistent witthe "national treatment" rule in Article III: 4 of the GATT 1994, that obliges Members to not discriminate locally- manufactured products over the foreign ones and Article 2.1 of the TRIMs, which mandates a prohibition on "trade-related investment measures"

[164] Panel Report, *Canada-Renewable Energy*, paras. 7.158-7.161.

violating GATT Article III. In addition, Japan and EU litigated the program under the SCM Agreement Articles 3.1 (b) and 3.2 on the ground that, it constitutes a prohibited subsidy and grants a benefit on the condition of using local products over foreign origin products.

The Panel finalized its report in favor of complainants as to the claim of national treatment rule violation and found that this program accord less favorable treatment to foreign origin goods according to Article III:4 of GATT and Article 2.1 of the TRIMs, on December 19, 2012. However, the Panel had a divided opinion on the claim that guaranteed prices under the FIT Program conferred to "benefit" and consequently a "subsidy" under the SCM Agreement. Likewise, the Appellate Body Report agreed with the Panel's ruling on violation of the "national treatment obligation" but again could not reach a precise conclusion in relation to subsidy matter.

4.3.2. Legal Analysis

The FIT program and its related FIT and micro-FIT contracts contained the challenged "Minimum Required Domestic Content Levels". The LCR scheme included various kinds of activities from the production of particular types of equipment in Ontario to local employment and consulting services. This scheme violated Article 2.1 of the TRIMs Agreement and Article III: 4 of the GATT by both the Panel and the Appellate Body.

4.3.2.1. Analysis of LCR Measures

In the result of its examination, Panel has found that this measure has a two-dimensional effect. It is an "investment measure" insofar it was designed to encourage investment in the local manufacture of equipments deployed in the renewable energy generation facilities. On the other hand, it is "trade-related" since the FIT program required "Minimum Required Domestic Content Level".[165] In order to benefit from the FIT program, it was obligatory in the solar electricity

[165]Idem, para. 7.108.

projects to utilize certain kinds of solar energy generation products manufactured in Ontario, in a level between 25% and 60% depending on the technology being used.[166] The Appellate Body agreed on these conclusions of the Panel as well and found Canada violated its obligations under the TRIMs Agreement and Article III: 4 of the GATT because the participation to the FIT program considered an "advantage" under Article 1(a) of the TRIMs Illustrative List.[167] Therefore, Canada's LCR is trade-related investment measures within the scope of Article 2.1 of the TRIMs Agreement, which prohibits certain TRIMs contained in the Illustrative List annexed to Article 2.2 of the Agreement. The TRIMs violation was therefore straightforward and without question. In this case, the Panel adopted a different method in determining the violation of the "national treatment obligation". Normally, the Panel makes the analysis of like product under Article III:4 of the GATT. However in *Canada-Renewable Energy*, the Panel has first taken into consideration the Illustrative List in paragraph 1 of the Annex to the TRIMs Agreement, because it provides a list of measures as an example, which constitute "less favorable treatment" to foreign origin products than to locally manufactured products under Article III:4 of the GATT.

As a result of this, the Panel found that a separate analysis under Article III:4 was not necessary after the examination of Articles 2.1 and 2.2 of the TRIMs Agreement. [168] According to the report of the Panel; "*secondary analysis under Article III:4 of the GATT 1994 would only be necessary where the panel provided a 'partial resolution of the matter at issue,' or that an additional finding with respect to a stand-alone Article III:4 claim 'is necessary so as to allow for prompt compliance' or would compel the panel to request different types of relief."*

[166]Eugenia Constanza Laurenza and Bruno G Simoes, "*How Canada - Renewable Energy Supports the Use of the Alternative Commercial Reasonableness Standard in Future Feed-in Tariff Disputes",* Global Trade and Customs Journal 104, 2014, p. 106.

[167] Panel Report, *Canada–Renewable Energy*, para.7.165.

[168] Appellate Body Report, *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, May 6, paras. 5.93-5.95

4.3.2.2. Defense under Article III:8 (a)

This is the first case on Article III:8 (a), therefore both the Panel and the Appellate Body has carefully examined the scope of the clause. Because Article III: 8 (a) is a valid derogation for both the Article III:4 of GATT and Article 2.1 of TRIMs Agreement. The Appellate Body Report indicated that as:

> "The Panel reasoned that 'any government procurement transactions covered by the terms of Article III:8(a) of the GATT 1994 will be removed from the scope of the obligations set out in Article III, including Article III:4' and 'where a particular TRIM involves the same kind of government procurement transactions described in Article III:8(a), it cannot be found to be inconsistent with the obligation in Article 2.1 of the TRIMs Agreement."[169]

The Panel has searched for three feature in order to determine whether Article III:8 (a) derogation has a scope of application in the case. First, "*whether the measure is a law, regulation, or requirement governing procurement; second, whether the measure involves procurement by governmental agencies; and third, whether the procurement is undertaken for governmental purposes and not with a view to commercial resale*". In the first feature, the Panel concluded that the LCR on solar energy generation products is an obligation administrating the procurement of electricity because there is a "very clearly a close relationship between the electricity allegedly being procured and the LCR on energy generation product".[170] In the second feature, the Panel reached the conclusion that the procurement was conducted by the government agencies. In the final, it indicated the resale of electricity purchased through the FIT program is "commercial and that the government indeed earns a profit".[171] Consequently, Canada's defense on Article III:8 (a) has failed because of the third feature.

The Appellate Body upheld that the "entity procuring electricity for the government is a governmental agency and such an agency performing functions

[169] Idem, para. 5.10.

[170] In the preliminary part of its report, the Panel noted that no party had contested that electricity is a good. The Panel's Report assumes that electricity is a good, even noting its intangible nature. Panel Report, para. 7.11-7.127. But it does not specifically address whether electricity from certain clean energy sources is not a 'like' product to electricity from carbon-intensive (or other non-favored sources of) energy. Idem, para. 5.228.

[171] Panel Report, *Canada–Renewable Energy*, para. 7.151.

of government and acting on behalf of the government". The Appellate Body draw the applicability frame of Article III: 8 (a) pursuant to "whether the particular products subject to discrimination are in a competitive relationship with the products purchased under the measure in question". Because the derogation article should be relevant with the "national treatment" rule in Article III. This suggests the imported product must be in a "competitive relationship" with the procured product. Then the Appellate Body referred to "consideration of inputs and process of production" as being possibly related to "what constitutes a competitive relationship between products". The approach of inputs and process of production leads to the analysis of whether the products discriminated are "like" and/or "directly competitive to or substitutable with the product purchased under the challenged measure". As a result of this analysis, the Appellate Body indicated that the derogation clause is applicable to the products in a "competitive relationship". Therefore, it reversed the Panel's analysis on the first feature and reached the conclusion that discriminatory measures were not covered by the Article III:8 (a) because electricity and electricity generation equipment is not in a competitive relationship.[172] The Appellate Body did not broaden its analysis on Article III:8(a) to the extent of inputs and process of these generation equipment's purchase by way of procurement. In relation to the Panel's decision on the failure to fulfill the third requirement of Article III:8 (a), the Appellate Body stated that:

> "Purchase that does not fulfill the requirement of being made 'for governmental purposes' will not be covered by Article III:8(a) regardless of whether it complies with the requirement of being made 'not with a view to commercial resale'. These are cumulative requirements. We, therefore, disagree with the Panel's proposition that where a government purchase of goods is made 'with a view to commercial resale', it is for that reason also not a purchase 'for governmental purposes."[173]

In addition to above analysis the Appellate Body indicated that, "Article III: 8 (a) does not cover purchases made by governmental agencies with a view to reselling the purchased products in an arm's –length sale and with a view to using the product previously purchased in the production of goods for sale at arm's

[172] The Appellate Body Report, *Canada-Renewable Energy*, para.5.79.
[173] Idem, para.5.69.

length". Therefore, commercial resale and profit resale should be differentiated from each other.[174]

4.3.2.3. Analysis of Subsidy

In order to reach a conclusion on subsidy feature of the FIT program under the Article 3.1 (b) and 3.2. of the SCM Agreement; the Panel and the Appellate Body have to prove that subsidy existed under Article 1.1 of the SCM Agreement. In order to fall under this article, the FIT Program has to "constitute a financial contribution by a government, confer a benefit and designed conditional upon the use of domestic over imported electricity generation equipment". After the fulfillment of the above conditions, the prohibited subsidy has to be "specific" according to Article 2.3 of the SCM Agreement.

Both the Panel and the Appellate Body ruled that "*the FIT program constituted a financial contribution in the form of government purchases of goods according to Article 1.1(a) (1) (iii) of the SCM Agreement*". All parties in the dispute have agreed that the procurer, OPA is a "public body"; the disagreement occurred regarding the Hydro One, which is the largest distribution utility in the province. However, the Panel found in its assessment that, the Hydro One is also a public body. Because first and foremost, it is an "agent" of the Government of Ontario and governmental authorities described an agent, "*as an entity which had been assigned or delegated authority or responsibility; or has a statutory authority and responsibility to perform public function or service*".

The controversial aspect of this case concerned the subsidy issue: whether this kind of government intervention in the market for electricity to promote renewable energy generation conflicts with the SCM Agreement. The heart of the discussion, in this case, is the existence of the "benefit" under Article 1.1 (b). According the Panel and the Appellate Body, Article 14(d) of the SCM Agreement serves as a relevant article, since it stipulates that benefits exist if the purchase is made for "more than adequate remuneration" in the "prevailing

[174] Idem, para.5.71.

market conditions", which include inter alia "price, quality, availability, marketability, transportation and other conditions of purchase or sale". In order to determine "prevailing market conditions", the comparison between a market benchmark is required.[175]

The majority of the Panel in this case concluded that, since the entire market for electricity generation, distribution and sale is rife with governmental regulation and because government intervention is necessary to guarantee an electricity supply that is secure, stable and sustainable in the long run, there is not a valid benchmark against which a market comparison can be made. The Panel has taken Ontario's electricity market as a single market regardless of generation technologies.[176] Because it noted that, "the consumers did not distinguish electricity according to its generation technology".

The Panel described Ontario's wholesale electricity market "as deprived of effective competition".[177] In case of a lack of competitive and undisturbed market, "out-of-province markets" can be taken as a benchmark in the benefit analysis. In *Canada-Renewable Energy* case, both the Panel and Appellate Body rejected the four "out-of-province electricity markets" submitted by complainants.[178] Because none of them represented market conditions that would invite adequate investment so as to enable themselves to equip with renewable and non-renewable generating facilities and secure electricity supply.[179] All of them have been subjected to a great extent of government intervention and the prices reflected electricity from blended sources. Thus, it is impossible to find a 'benefit', which is a necessary

[175] Panel Report, *Canada-Renewable Energy*, para. 5.183.
[176] Idem, para 7.318.
[177] Appellate Body Report, *Canada-Renewable Energy*, paras 5.149, 5.160; Panel Report, *Canada-Renewable Energy*, paras.7.274, 7.308.
[178] Appellate Body Report, *Canada-Renewable Energy*, paras 5.152, 5.167, 5.193; Panel Report, *Canada-Renewable Energy*, paras 7.306, 7.310.
[179]Appellate Body Report, *Canada-Renewable Energy*, para 5.152; Panel Report, *Canada-Renewable Energy*, para 7.310.

conclusion under the SCM Agreement to find the existence of an "actionable subsidy". [180]

The Panel stated that its appropriate benchmark should consist of "*the terms and conditions that would be offered by commercial distributors of electricity acting under a government-imposed obligation to acquire electricity from generators operating solar PV and wind power plants of a comparable scale to those functioning under the FIT Program.*"[181] According to the Panel comparison of return rates of the clean energy projects under the FIT Program with "the average cost of capital in Canada for projects having a comparable risk profile in the same period"[182] would allow the benefit analysis of FIT Program under Article 1.1(b) of the SCM Agreement. Since the Panel rejected the benchmarks submitted by the complainants, it concluded that the "factual record contained no sufficient information to conclude the comparison."[183]

A dissenting member of the Panel, as well as the Appellate Body, did not uphold this ruling.[184] The main question of the Appellate Body is whether solar electric energy generators would have joined Ontario's solar energy market without the FIT program. [185] The Appellate Body ruled that a valid comparison of price-setting methodology can and should be made. According to the Appellate Body, the government intervened to the electricity market, in order to balance generator supply and customer demand or to execute an energy supply mix that covers renewable energy generation. This intervention affected the electricity prices, but still, the prices remained as market prices within the scope of benefit examination under Article 1.1 (b) of the SCM Agreement.[186] The FIT should be compared with other relevant markets for solar power generation in order to identify "more than adequate remuneration" as per Article 14 (d) of the SCM

[180]Panel Report, *Canada-Renewable Energy*, paras. 7.283-7.320.
[181] Idem, para. 7.322.
[182] Idem para. 7.323.
[183] Idem para 7.326.
[184] Idem, para. 9.23.
[185] Appellate Body Report, *Canada-Renewable Energy*, para. 5.199.
[186] Idem, paras 5.185-5.186.

Agreement.[187] The Appellate Body has benefited from the previous decisions of the WTO dispute settlement mechanism in order to define and analyze the "relevant market" and "prevailing market conditions" concepts.

In the *US-Upland Cotton* case, the Appellate Body viewed products to be in the same market when they engaged "in actual or potential competition in that market."[188] In *EC-Large Civil Aircraft*, the Appellate Body indicated that products must be "sufficiently substitutable so as to create a competitive constraint on each other" in order to be recognized as contesting in the same market.[189] Therefore the competition between the products matters when the subsidy has given advantage to one of them. FIT Program has a possible effect of displacing electricity demand from conventional sources to renewable ones by securing the purchase of increased renewable electricity supply at higher prices and give an advantageous position to renewable sources.

According to Appellate Body in *EC-Large Civil Aircraft*, the definition of the market should take into account both the demand- side and supply-side aspects.[190] However, in the *Canada- Renewable Energy* case the Appellate Body favored the "supply-side factors", which opened a door for the implementation of the WTO's "like product" test.[191] Here, The Appellate Body remarked that the government's choices might indicate that "customers are willing to purchase electricity that generated from the combination of different production technologies, even if it is more costly than electricity that is generated completely from conventional sources".[192] The WTO jurisprudence has identified four criteria to define the like products, which are **"**(1) the physical properties, nature, and quality of products; (2) the end-uses of products; (3) consumers' tastes and habits;

[187] Idem, para 5.234.

[188] Appellate Body Report, *United States- Subsidies on Upland Cotton*, WT/DS267/AB/R, March 3, 2005, paras 408-409.

[189] Appellate Body Report, *European Communities and Certain Member States - Measures Affecting Trade in Large Civil Aircraft,* WT/DS316/AB/R, May 18, 2011, para 1120.

[190] Appellate Body Report, *Canada–Renewable Energy*, para. 5.171.

[191] Rajib Pal, *"Has the Appellate Body's Decision in Canada-Renewable Energy / Canada-Feed-in Tariff Program Opened the Door for Production Subsidies?"*, 17:1 J Int'l Econ L 125, 2014, pg.131.

[192] Appellate Body Report, *Canada–Renewable Energy*, para. 5.177.

and (4) the tariff classification of products". The likeness test also includes the switch of suppliers' production from one product to another. Giving that, the renewable energy generation facilities are very costly compared to conventional ones, it is very unlikely that suppliers find these two sources as substitutable. The Appellate Body has drawn attention to intermittent electricity generation of solar-PV generation and consequently its incapability of competing with the conventional sources. According to this reasoning renewable electricity cannot exercise "any form of price constraints" on conventional electricity and evolve in a separate market, consequently is not a like product with the conventional energy.[193]

Additionally, the Appellate Body has given importance to accuracy in comparison of market prices and indicated that the prices should refer to the same period, the same kind of generation technology, the same overall supply-mix, same or similar projects and supply contract of same duration; with appropriate adjustments if required.[194]

The Appellate Body concluded that markets for renewable energy established with the government intervention and electricity from renewable and non-renewable generation facilities "are not substitutable at the wholesale level". Then the Appellate Body distinguished "non-subsidized" government-created markets from "government interventions in support of certain players in markets that already exist", the latter conferred benefits to certain enterprises or industries. Appellate Body explained the issue as "*Where a government creates a market, it cannot be said that the government intervention distorts the market, as there would not be a market if the government had not created it*[195]*."* The FIT Program falls under the latter scenario, as it is only available to solar PV generated electricity and to suppliers, who comply with the LCR measure obliges the utilization of domestic products from Ontario. The Appellate Body's separate

[193] Idem, paras 5.174, 5.178.
[194] Idem para 5.235.
[195] Idem para 5.188. Specificity did not mandate a decision in the present case.

market approach signaled a green light to protectionist policies.[196] However, the separate market approach does not have any ground on Article 1 and 2 of the SCM Agreement. Additionally, this separate market explanation complicated the determination of benefit analysis. It should be underlined that designation of different costs in order to reduce the lack of competitiveness of the renewable energy generation equipment does not mean to create a separate market.[197] The restricted analysis of "benefit" by way of incorporated the concepts such as "prevailing market conditions" and "more than adequate remuneration" promotes protectionism and subsidies, which impair global market access.[198] Another question raised in response to a separate market approach is that how many generators needed to be established in order to be considered as an existing market?

Nevertheless, the Appellate Body ruled that it could not make this comparison because the record in the case lacked sufficient facts. Also, it criticized the Panel for "failing to explore the possibility that Renewable Energy Supply ("RES") or Quebec wind energy prices could serve as comparable benchmarks[199]." The Appellate Body viewed RES contracts as theoretically suitable market benchmark for comparison with the FIT program. RES system aimed at securing an energy supply mix of renewable and non-renewable energy generation sources but limited the mix only to wind power. However, the Appellate Body indicated that the RES-related evidence had not adequately discussed before the Panel. In addition to RES, the Appellate Body also found a lack of sufficient evidence for comparability standard required for out-of-province

[196] Alexandre Genest, *"The Canada - FIT Case and the WTO Subsidies Agreement: Failed Fact-Finding, Needless Complexity, and Missed Judicial Economy"*, 10 McGill Int'l J. Sust. Dev. L. & Pol'y 237, 2014, p.15

[197] Lisebeth Casier and Tom Moerenhout, "*WTO Members, Not the Appellate Body, Need to Clarify Boundaries in Renewable Energy Support" Commentary*", online: International Institute for Sustainable Development www.iisd.org, 2013, pg. 5.

[198] Rubini, 2009, pg.57.

[199] Appellate Body Report, *Canada–Renewable Energy*, paras 5.217-5.219, 5.232, 5.243-5.244.

benchmark, Quebec wind energy generation. Thus, the Appellate Body could not rule on the benefit issue.[200]

Even the Appellate Body cannot complete the legal analysis of the benefit issue due to the insufficient evidence of the market benchmark; its reasoning provided a substantial framework for the benefit analysis. The Appellate Body ruled that the appropriate benchmark in the benefit determination could be conducted with the prices for the same product, "if those prices are determined by a price-setting mechanism ensuring market prices or prices determined through competitive bidding or negotiated prices".[201]

The Appellate Body did not take into consideration of the exception for the benefit analysis under the Article 1.1 (b) of the SCM Agreement, because there is no textual basis for the "introducing legitimate policy considerations into the determination benefit".[202]

As a result of the analysis, the Appellate Body recommended that "the DSU should request Canada to bring its FIT Program in conformity with its obligations under GATT and the TRIMs Agreement".[203] This meant to abolish of the FIT program or eliminate the LCR. The Panel's and Appellate Body's Reports could not determine that the challenged LCR scheme is linked to the subsidy.

As indicated in the dissenting opinion of the Panel's report, the Panel and the Appellate Body could have applied a simplistic "benefit test", which would have consisted the determination of whether "the governmental purchases of goods conferred an advantage to its recipients in light of the recipients' position in the market with and without the advantage[204]". The "benefit test" could also include the feature of whether the "financial contribution makes the recipient 'better off than it would otherwise have been, absent that contribution[205]". In

[200] Idem, paras 5.241, 5.245.
[201] Idem,para 5.228.
[202] Idem para. 5.185.
[203] Idem para. 6.2.
[204] Idem,para. 5.148; Panel Report, *Canada-Renewable Energy*, para. 7.271.
[205]Appellate Body Report, *Canada–Renewable Energy*, para. 6.24.

accordance with that test, at the first glance FIT program seemed to provide benefit with the higher tariff levels form the market price for conventional electricity sources. However, the LCR measures only compensate for a producer's purchase of renewable energy generation equipment and distribution of renewable energy, which are not going to be done in the lack of government incentive. Here the producers receive only compensation, did not become better off than any other producer in the market.[206]

The exact ramifications of the *Canada-Renewable Energy* cases are unclear, but the Appellate Body did confirm that, in principle, government support for renewable energy may constitute an actionable subsidy that violates the SCM Agreement. The Appellate Body has overruled LCRs but did not declare FIT itself as a violation of WTO rules. This ruling thus enhances the case for negotiation by WTO member of an exemption for certain types of green subsidies that benefit the environment.

4.4. INDIA-SOLAR CELLS

The increasing energy need results in substantial problems in the Indian economy. The electricity shortage was 11% and approximately 40% of the residents had no access to electricity in 2009.[207] Solar energy stands out as an encouraging source because the country is very rich in terms of sunshine days per year that can help the country to meet its rising energy need and meanwhile stabilize energy security, mitigate fossil fuel consumption and reduce emissions. However, there are several constraints for India to reach those aims without government support. First, the unfavorable business environment impedes lenders to invest in solar energy projects because they are considered to have a high risk. Second, India has a lack of infrastructure to produce and transmit generated

[206] Robert Howse and Petrus B. van Bork, "*Options For Liberalizing Trade In Environmental Goods In The Doha Round Issue",* ICTSD Trade And Environment Series Issue Paper No. 2, https://www.ictsd.org/themes/environment/research/options-for-liberalising-tradeinenvironmental-goods-in-the-doha-round, 2006, pg. 13.

[207] G. Sargsyan, M. Bhatia, S. G. Banerjee, K. Raghunathan and R. Soni, "*Unleashing the potential of renewable energy in India",* ESMAP note, Washington, DC: World Bank, 2010, pg. 14.

electricity. Third, India's technological development in solar energy generation is not developed enough.

The Indian Government has established the Jawaharlal Nehru National Solar Mission ("NSM") in order to realize the solar energy potential in November 2009. It is part of India's National Action Plan on Climate Change, which plans to operate eight solar energy generation facilities.[208] NSM's implementation was divided into three phases. Phase 1 was going to be a pilot phase and 1000 megawatt ("MW") of solar and concentrated solar power ("CSP") installations were going to be planted. The main aim of Phase 2 was to strengthen the accomplishments of Phase 1 and further launched 6000 MW of installation. Phase 3 would then increase the installation to 10,000 MW within five years. The aim of the phasing structure of the installation policy was to assess and interpret the progress at the end of each phase and modify FIT if necessary.

In order to promote the local manufacturing capabilities, generate green jobs and becoming a dominant player in the global market with the export power; the government of India attached the LCRs for solar PV and CSP plants to the FIT program.[209] In the first batch of Phase 1, the LCR on solar PV implemented in the production of solar modules, which were made of crystalline silicon cells, hence only promoted the assembly stage of the production.[210] In the second batch, the LCR also introduced to the production of crystalline silicon cells itself. Meanwhile, the rate of LCRs for solar thermal plants in the NSM was determined at the level of 30% in all the projects.[211]

---

[208] Government of India, Ministry of New and Renewable Energy, Jawaharlal Nehru National Solar Mission: Towards building solar India. New Delhi: Government of India, Ministry of New and Renewable Energy, 2009.

[209] CEEW/NRDC, "*Laying the foundation for a bright future: Assessing progress under phase 1 of India's National Solar Mission (Interim Report)",* New Delhi: Natural Resources Defense Council and Council on Energy, Environment, and Water, 2012.

[210] Oliver Johnson, "*Promoting green industrial development through local content requirements: India's National Solar Mission"*, Climate Policy, 16:2, 178-195,OI:10.1080/14693062.2014.992296, 2016, pg. 187.

[211] Government of India, Ministry of New and Renewable Energy, Jawaharlal Nehru National Solar Mission: Guidelines for selection of new grid connected solar power projects. New Delhi: Government of India, Ministry of New and Renewable Energy, 2010.

Phase 1 of the NSM was completed in early 2013. In order to proceed to Phase 2, the Indian government conducted a research and found that LCR had limited potential negative impacts. Solar PV manufacturing witnessed an oversupply, the prices decreased and many companies failed to survive.[212] The thin film turned out to be the cheaper option because LCR did not cover it, thus it has better financing options, for example, from the Export-Import Bank of the United States ("Ex-Im Bank") and Overseas Private Investment Corporation. Additionally, research and development ("R&D") investments were almost non-existent and manufacturing competitiveness is hindered. LCR was considered to fail in economic terms, because of the inadequacies of the LCR as an instrument and the low-cost manufacturing of China. However, the government authorities found that the local manufacturing capacity has increased by approximately 3 to 7 percent.[213] Also, they expected that the price of solar modules to show a downward trend in the international market because of the technology advancements. The positive effects of the LCR will have better results if the price falls.[214] As a result of this, they were in search of a different scheme and enacted a new measure to support the industry. The WTO's ruling over Ontario's LCR scheme did not have any effect on the redesigning of Phase 2 of the NSM. The only change in the new phase was to applying LCR to 50% of the allocated 750 MW in the first batch of Phase 2, and implementing it to cells and modules made of both crystalline silicon and thin-film technologies.[215] Because it is found that, just impose LCRs on crystalline silicon damaged the effectiveness of the measure. The thin film gained a competitive advantage against the crystalline silicon, since its cost increased due to the LCR measure. Additionally, Indian policy about LCRs only focused on manufacture but not to services, therefore job creation remained stable.

---

[212] REN21 Secretariat "*Renewables Global Status Report"*, Paris, 2012.

[213] Gary Clyde Hufbauer, et al., *"Local Content Requirements: A Global Problem."* Peterson Institute for International Economics, 2013pg.69.

[214] Stephenson, pg. 12.

[215] Spark Network, *"A detailed report on India's National Solar Mission phase II batch I."* http://www.renewableenergyworld.com/rea/blog/post/2013/11/detailed-report-on-indias-national-solarmission- phase-ii-batch-i, November 5, 2013.

4.4.1. Case Review

Following the ruling in the *Canada-Renewable Energy* dispute, on February 6, 2013, the United States asked for a consultation with India concerning the Jawaharlal Nehru NSM program Phase 1. The United States alleged India's NSM program with the same provision in the *Canada-Renewable Energy* dispute since it was also required the use of domestically produced solar cells and modules in order to be eligible for the financial contributions as "long-term tariff rates" for their generated renewable electricity.

Accordingly, the United States asserted that India has failed to comply with Article III:4 of the GATT 1994, Article 2.1 of the TRIMs Agreement. Even the US initially filed a complaint about the violation of the SCM Agreement, it withdraws the LCR allegations under the SCM Agreement. India defended that its LCRs scheme in the Jawaharlal Nehru NSM on the ground that it is a "government procurement" under the Article III:8(a) of GATT, because solar energy is in the first place bought by the National Thermal Power Corporation, which is a public body.[216] Additionally, India claimed that its violation of national treatment obligation can be justified under the exception of Article XX(d) and (j), since its aim was to fulfill its obligations arising from other international and domestic legal instruments, and the products of solar cells and modules were in "short supply" within its borders.

4.4.2. Legal Analysis

Under their analysis, the Panel and the Appellate Body resolved that India's LCRs are indistinguishable in every aspect from the previously examined LCR in *Canada-Renewable Energy* case. Therefore the below the violations of Article III: 4 of GATT and Article 2.1 of the TRIMs Agreement are not going to be analyzed again. Instead, India's defense arguments have taken at hand in an elaborative fashion. Since the USA dropped its allegations under the SCM Agreement, the Appellate Body did not analyze Article 3 of the SCM Agreement

[216] Kuntze and Moerenhout, pg. 22.

as well. The reason for US's withdrawal regarding the SCM allegations is the belief that the claims under the TRIMs Agreement and GATT are more likely to prevail.

4.4.2.1. Defense under Article III: 8(a)

The Panel rejected India's argument based on Article III:8(a) of the GATT 1994. Because LCR measures are covered the solar cells and modules, whereas the India government purchased electricity. In defense to this ruling, India claimed that "(*i) solar cells and modules are indistinguishable from solar power generation, (ii) solar cells and modules can be characterized as inputs for solar power generation and (iii) Article III: 8(a) cannot be applied in a narrow manner that would require direct acquisition of the product purchased in all cases*."

The Panel and the Appellate Body decided that he LCR measures are *"laws regulation or requirements governing procurement and that the procurement under the LCR measures is by governmental agencies and that the procurement under the LCR measure is of products purchased for governmental purposes and not with a view to commercial resale".*

The discriminatory treatment was directed to solar cells and modules originating from the US. Nevertheless, India did not purchase the solar cells and modules, rather the electricity produced from those solar cells and modules was procured by the government. As a response to this argument, India submitted that solar cells and modules were "effectively procuring" by the Central Government in virtue of purchasing electricity produced from those cells and modules.

Deriving from the previous ruling of the Appellate Body in *Canada-Renewable Energy,* inputs and process of production was discussed in relation to a competitive relationship. The US argued that India "relies on the factual assumption that solar panels and modules are input to the generation of solar power, but they are actually capital equipment that is not consumed or incorporated in the power generated". The Appellate Body disregarded the

discussion that the input is an "integral" or "ancillary" nature. In the *Canada-Renewable Energy* case, the Appellate Body developed a limited scope of competitive relationship standard and adopted it in the *India-Solar Cells* as well. Therefore rejected India's argument that "*solar cells and modules cannot be treated as distinct from the solar power and the purchasing electricity generated from such cells and modules is effectively procuring the cells and modules".* Neither the Panel nor the Appellate Body ruled that the input equipment would be related with the examination under Article III: 8(a). On the one hand, The Panel Report of the *India-Solar Cells* case identified that "*it would be difficult to characterize the Indian solar energy supply transaction as a commercial resale from the perspective of the governmental agencies, which act as a seller*."[217] According to India "*this overly restrictive interpretation of Article III:8 (a) would result in imposing unnecessary fetters on governmental actions"*.

4.4.2.2. Defense under Article XX (j)

Further India justified LCR measures based on the Article XX (j) of GATT, which allows an exception in case of an "essential to the acquisition or distribution of products in general or local short supply". India submitted that a "*justification for invoking Article XX (j) would need to rest on whether a measure essential to redress such a situation of general or local short supply".* According to India, purchase or distribution of locally produced solar cells and modules is fundamental to reach the targets of energy security and ecologically sustainable development. India submitted, "sole dependence on imported solar cells and modules brings risks associated with supply-side vulnerabilities and fluctuations".[218] Consequently, LCR measures can reduce the risks linked to foreign dependence and government intervention is necessary in order to minimize the dependence on imports.

According to the Panel findings, a "short supply" can exist where a product that is available globally is however; "*in short supply in certain local*

[217] Appellate Body Report, *India--Solar Cells,* paras. 7.185-7.186.
[218] Panel Report, *India--Solar Cells,* Add.1, Annex B-3, para. 49.

markets and general or local short supply could only exist in circumstances where a product is not produced or manufactured in a particular market".[219] The Panel noted that "*the words products in general or local short supply do not refer to products of national origin in general or local short supply*[220]*."*

Additionally, Panel considered that for reaching a conclusion on Article XX (j) of the GATT, "there must be some objective point of reference to serve as the basis for an objective assessment of whether there is a 'deficient or amount lacking the quantity of a product that is available'".[221] Nevertheless, India was not successful in explaining what would constitute "*a lack of domestic manufacturing capacity amounting to a short supply"*.[222] The term product in short supply does not cover the product "at risk of being in short supply[223]". The Panel interpreted the Article XX (j) in a way to include "only the imminent risks of such shortage would be covered". However, India could not establish such a probable and close risk. Therefore, the LCR measures did not justified under the Article XX (j).

The Appellate Body also disagreed with India that a "*lack of sufficient domestic manufacturing capacity will necessarily constitute a product shortage in a particular market.*" The Appellate Body assumed that there are equal risks in disruption of the imports supply to a particular market and domestic production. In addition, Article XX (j) does not contain an obvious differentiation in domestic or international market restraints. The emphasis should be given to the entire amount of products that are available in a specific geographical area or marketplace.

4.4.2.3. Defense under Article XX (d)

Further India suggested that it has an obligation "*to ensure ecologically sustainable growth while addressing India's energy security challenge and*

[219] Idem, para. 42.
[220] Panel Report, *India--Solar Cells*, para. 7.223.
[221] Idem, para. 7.225.
[222] Idem, para. 7.226.
[223] Idem, para. 7.245.

ensuring compliance with its obligations relating to climate change".[224] According to India, this commitment has its roots "in four international instruments and four domestic instruments[225]". Therefore, it perceived LCR measures as the only necessary mean to promote domestic production of solar cells and modules. Deriving from this, India based its defense on the exception clause of Article XX (d), which permits a departure from the "national treatment" rules in situations where it is "necessary to secure compliance with laws or regulations".

India specifies the international law obligations, which are embodied in the Preamble of the WTO Agreement, UNFCCC, the Rio Declaration on Environment and Development (1992) and UN Resolution A/RES/66/288 (2012). Based on the above-given instruments, India argued for the Article XX (d) exception could be applicable to the dispute at hand. In *Mexico-Taxes on Soft Drinks* case, the Appellate Body concluded that laws or regulations under the Article XX (d) refer to "rules that form part of the domestic legal system of a WTO Member".[226] Therefore, in order to give a direct effect to the international agreements, they first should have incorporated into the national legal system of the countries.

India asserts without an incorporating legislation, the international instruments could gain a direct effect because the "executive branch of the Central Government" can take actions to implement or execute them. According to India, "*legislative action to incorporate an international instrument is required only when there is conflicting domestic legislation and it is not the case with respect to the international instruments of this dispute*".

Second, India submitted that the Supreme Court of India has recognized and given effect to the principle of "sustainable development" under international environmental law. By this way, this principle has become a part of governance in

[224] Idem, para. 7.268.
[225] Idem, para. 7.268.
[226] Idem, paras. 7.290 and 7.293.

India and the need for securing compliance with it has raised. The principle of sustainable development has driven from the provisions of various international environmental law instruments, including UNFCCC, UN Conference on Environment and Development in 1992, Agenda 21, Convention on Biological Diversity and Rio+5 Summit of 1997. The Supreme Court did not go into whether these provisions or principles were legally binding. Therefore, this Decision and observation by the Supreme Court only serve to indicate the importance of the international instruments and rules in interpreting regulations of India's national law and to guide decision-making process of the "executive branch of the Central government". In conclusion of these explanations, the Appellate Body found that these international instruments did not form the domestic legal system of India.[227]

Under the examination of Article XX (d), the Panel analyzed whether the provisions of India's international and domestic legal instruments set out the rules of ensuring ecologically sustainable growth. If the Panel satisfied that such a rule exist, then further considered whether this rule qualified as "laws and regulations" under the scope of Article XX (d).

The Panel first considered whether the international instruments submitted by India are "laws or regulations" and then turned to the national regulations. The Panel accepted India's statement on how its national legal system functions, but merely implement and give effect to international instruments is not enough to be categorized as "laws and regulations" under Article XX (d). As explained below, other characteristics of the instrument have to be given importance.

In the second step, India argued that when all the indicated domestic legal instruments have taken into account as a whole, it could be observed that they "mandate achieving ecologically sustainable growth" and the LCR measures are needed to secure compliance with this principle. Nevertheless, the Panel found no link between the LCR measures and Section 3 of the Electricity Act, which has foreseen the enhancement in clean energy generation. Therefore on the contrary to

[227] Appellate Body Report, *India-Solar Cells*, para.5.148.

the claims of India, the Appellate Body reached the conclusion that the Panel did not limit its interpretation on "secure compliance" only to measures that are legally enforceable and non-compliance has beard legal consequences.

However, the Panel determined that the relevant passages of the National Electricity Policy, National Electricity Plan and the National Action Plan on Climate Change are outside the extent of "laws or regulations". On the other hand, Section 3 of Electricity Act, 2003 could be considered within the frame of Article XX (d), but LCR measures are not designed to achieve the aims in Section 3 of Electricity Act.

The Panel's findings indicated that India had failed to establish that its LCR measures are implemented to "secure compliance with laws and regulation within the meaning of Article XX (d) of the GATT".

However, India challenged this decision before the Appellate Body and claimed that National Electricity Policy, National Electricity Plan and National Action on Climate Change provide an ambit for executive action and compromise with the binding laws. Within India's domestic legal system, non-binding instruments are recognized as laws for the purpose of Article XX (d). Additionally, India disagrees with the restriction on the scope of "secure compliance only with the measures that prevent actions otherwise would be illegal under the laws and regulations at issue." Also, India remarked for a different assessment for the Electricity Act 2003, compare to non-binding incitements. India claimed all the domestic instruments ensure the "ecologically sustainable growth" and LCR measures are enacted to ensure compliance with this obligation. On the other hand, United States responded to this claim on the basis that, even the important and critical objectives had laid out in the legal instruments; it did not include them within the scope of Article XX (d) because they did not enforce a regulation.

The Appellate Body did not uphold with the Panel's decision, regarding the scope of "laws and regulations" under Article XX (d) is restricted to "legally

enforceable rules of conduct under the domestic legal system of a Member".[228] Analysis of whether an instrument qualifies as "law or regulation" includes an assessment of whether the measure represents "specific rules, obligations or requirements that operate with a sufficient degree of normativity ". Here, the legal enforceability plays a substantial and determinative function in indicating that such an instrument has a high level of normativity. Depending on the national legal structure of a Member, there will be different means to indicate that an instrument possesses a required level of normativity.

The Appellate Body analyzed demonstrated instruments by India. According to the analysis, it found that the National Electricity Policy aims to determine guidelines for the "attainment of certain objectives[229]". The National Electricity Plan is designed as a "reference document".[230] The National Action Plan on Climate Change regulates India's federal policy on climate change mitigation and designates measures for India's development objectives, while also accommodates environmental protection aims and combats climate change effectively.[231] In conclusion, these passages and provisions are found to be "hortatory, asprinational, declaratory and solely descriptive".[232]

In terms of the Electricity Act, 2003; Section 3(1) qualifies the Central Government in preparation of the National Electricity Policy. Section 3(2) obliges the Central Government to announce this policy regularly. Section 3(3) authorizes the Central Government to evaluate and amend this policy. Section 3(4) requires the preparation of National Electricity Plan by the Central Electricity Authority in conformity with the National Electricity Policy and publish this plan once in five years.[233] Therefore, Section 3 introduces the obligation and authorizes the relevant entities to "periodically prepare, publish and review the National Electricity Policy and Plan". These obligations are different from to ensure ecologically

[228] Panel Report, *India-Solar Cells*, para. 7.311.
[229] National Electricity Policy (Panel Exhibit IND-14), para. 1.8.
[230] National Electricity Policy (Panel Exhibit IND-14), para. 3.1.
[231] National Action Plan on Climate Change (Panel Exhibit IND-2), p. 13.
[232] Panel Report, *India-Solar Cells*, para. 7.313.
[233] Idem, paras. 7.312 and 7.327.

sustainable development, address India's energy security need and create compliance with its commitments in combating climate change.[234]

Furthermore, Section 3 does not give information about the level of the normativity of the National Electricity Policy and Plan; even it sets out the legal basis of them. To what extent these instruments are to be pursued and compiled under the national legal system of India are not clear.

In the next step, the Appellate Body analyzed the compliance with the chapeau Article XX, whether the measure was "essential" to the purchase of solar cells and modules under the Article XX (j) or "necessary" to secure compliance under the Article XX (d). Since the Panel and Appellate Body concluded that LCR measures did not fall within the scope of Article XX (j) and Article XX (d), they did not find it essential to make additional findings regarding the Chapeau of Article XX.

4.4.3. Ongoing Dispute between India and USA

In response to initiation of WTO dispute by the United States, India initiated a counter complaint regarding the local renewable energy programs of the USA, whom also relating to solar energy programs with LCR in September 2016. LCRs for the renewable energy industry follow WTO law in the United States federal level. Even the US has a large and stable market, some US states have employed LCR measures of certain green industrial policies. Specifically, India alleged that LCRs and subsidies established by the states of California, Washington, Massachusetts, Montana, Connecticut, Michigan, Delaware, and Minnesota violate the SCM Agreement. These contested renewable energy programs include FITs as in the Canada and India, but also renewable portfolio standards and other governments support programs.

[234] Panel Report, India-Solar Cells, paras. 7.330-7.332. Section 3 of the Electricity Act, 2003 requires that the "Central Government shall, from time to time, prepare the national electricity policy and tariff policy … *based on optimal utilization of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy*".

California Public Utilities Commission offers additional incentives to customers in the amount of 20%, for installing energy production or storage technologies from a California supplier under California's Self-Generation Incentive Program ("SGIP").[235] Within the scope of Michigan's program, producers earn renewable energy credits, if they construct their system with the equipment produced in Michigan and employ Michigan residents. Those credits may be traded, sold or transferred. Massachusetts Clean Energy Centre's Commonwealth Solar Hot Water Program ("CSHWP") makes a discount to residential and commercial-scale projects; if they install Massachusett origin products from one of the qualified manufacturers under Massachusetts' Commonwealth Solar II Project.[236] Montana provides tax incentives for biodiesel bending and storage in case they use Montana-produced feedstock. Washington State's Renewable Energy Cost Recovery Incentive Program provide higher incentives as well, in case of deployment of locally manufactured renewable energy generation equipment.

India alleged that the US programs violate Article 3.1 (b) and 3.2 of the SCM Agreement because the measures constitute a subsidy pursuant to Article 1.1 of the SCM Agreement. Because the financial incentive is granted or maintained contingent upon the use of local over foreign products.[237] Additionally, India complained that Article III:4 of the GATT was also violated because the measures provide less favorable treatment to products than that provided to like products. In relation to this, Article 2.1 of the TRIMs Agreement and Article 2.2 with the paragraph 1 (a) of the Illustrative List was also breached, since the subsidy scheme has given advantage for the deployment of locally manufactured products.

[235] California Public Utilities Commission, *Self-Generation Incentive Program Handbook*, 2012.

[236] Massachusetts Clean Energy Center, "*Commonwealth Solar II.*" Massachusetts Clean Energy Center, 28 June 2012. http://www.masscec.com/index.cfm/cdid/11241/pid/11159 (last visited 10/09/2018).

[237] Idem, pg. 4.

The Panel was established on 24 April 2018 and published its report on 27 June 2019. The Report refrained from an analysis on contentious issue of subsidy. Rather only focus on violation of national treatment rule.

If the Panel preferred to make conclusions on subsidy issue, it would first analyze whether the eleven contested state-level renewable energy incentive programs fall under the scope of SCM Agreement. The measures at hand in the *US- Certain Measures Relating to the Renewable Energy Sector* case compromise of FITs, renewable energy portfolio standards and other government support programs. Deriving from the Appellate Body's Report in *Canada-Renewable Energy* case, the Panel might find that "*definition of a certain supply-mix by the government cannot in and of itself be considered as conferring a benefit within the meaning of Article 1.1(b) of the SCM Agreement*".[238] Because the Appellate Body has concluded in the former case; *"where a government creates a market, it cannot be said that the government intervention distorts the market as there would not be a market if the government had not created it."*[239] Thereby, in the *US-Renewable Energy* case, the Panel might find that the contested schemes create new markets and do not confer benefits under SCM Article 1.1(b). However, if the Panel would find that the disputed measures provide a "benefit" under Article 1.1(b), it is going to proceed with the examination on whether the subsidies are "prohibited or actionable". If the examination reaches that stage, it could be the first time, where the Panel analyzes whether a renewable energy subsidy causes adverse effects to another Member country's interest. In order to determine the adverse effects of the subsidy, the Panel needs to search for factual and economy related information.

[238] Appellate Body Report, *Canada-Renewable Energy,* para.5.175.

[239] Petros Mavroidis, *"The Regulation Of International Trade: The WTO Agreements On Trade In Goods"* 221, 2016.

CHAPTER FIVE

CALL FOR REFORM AT WTO

5.1. OVERVIEW

The WTO does not have energy or environment specific agreements. Apparently, the enactment of environmental and renewable energy incentive schemes contradicts with WTO rules. Despite the clear conflict between renewable energy incentive schemes and the trade principles, the measures cover environmental protection is not excluded from the WTO system. The preamble of the GATT and the Marrakesh Agreement indicate the importance of review of the WTO obligations from the perspective of "sustainable development" requirement. Since the "next generation" cases are related to different WTO agreements, the integrated and dynamic interpretation method of the principle of sustainable development needs to be taken. However, the line between the inherent importance of sustainable development and objective of free trade has to be carefully drawn. So far, the harmonization of trade and environment obligations has only been achieved within the frame of Article XX of the GATT[240].

Some scholars have argued in favor of modifying the SCM Agreement to allow subsidies "promoting a public good", in order to support compliance with trade and environment obligations like in the Article XX of the GATT[241]. Others have called for an amendment of the WTO provisions to create a bigger policy space for "environmental and renewable energy subsidies"[242].

The current regime of the WTO is not well equipped to harmonize and optimize the relation between trade, energy, and the environment. It cannot analyze the disputed matters in a holistic manner. The partite creates a risk of increase in trade of energy goods and "sustainable development". Addressing issues relevant with renewable energy generation in a systematic and consistent

[240] Sarmah, p.217.
[241] Cosbey and Mavroidis, pg. 12.
[242] Steve Charnovitz, "*Green Subsidies and the WTO",* The World Bank, 2014, p. 3.

manner within the international trading regime has an ultimate significance, in order to shape a sustainable development at energy in the future. Otherwise, legal uncertainty and increased number of litigations might chill investment in renewable energy by disincentivizing Member governments from adopting new renewable energy support programs.[243] As a result, this could impede the global fight against climate change.

5.2. WHY RENEWABLE ENERGY SUBSIDIES CHALLENGED INSTEAD OF FOSSIL FUELS?

Government subsidies for different forms of energy are highly influential on investors' choices and consumers' consumption patterns, which are also affected the international trade and the environment. The biggest discrepancy within these subsidy programs is between renewable energy subsidies and fossil fuel subsidies. The latter is able to get through WTO scrutiny because renewable energy subsidy rules drafters are less skilled to draft WTO compatible programs. This threatens the development of an environmentally friendly jurisprudence on energy trade disputes.

Traditionally environmental advocates have targeted the elimination of government subsidies for fossil fuels. However, both the political commitments and detailed by-passed subsidy programs on this matter make it very hard to deal. Fossil fuel producer countries oppose to new WTO rules regarding energy subsidies. Despite the growing concerns about climate change and its reflections on trade, specifically on the WTO's role about fossil fuel subsidies; little concrete progress has taken place.

The most commonly preferred "fossil fuel subsidy" is "dual pricing scheme"[244].Under this scheme, "governments set a lower price for domestic

[243] Sophie Wenzlau, *"Renewable Energy Subsidies and the WTO*", 41 Environs: Envtl. L. & Pol'y J. 339,2018, pg. 348.

[244] Yulia Selivanova, "*The WTO and Energy: WTO Rules and Agreements of Relevance to the Energy Sector"*, ICTSD Program on Trade and Env't, 11-12, 2007, pg.14.

consumption of fossil fuels than the price charged for exported fuel[245].” However, this form of subsidy does not infringe the subsidy rules set out at the SCM Agreement, since it is neither a prohibited nor an actionable subsidy, even it has problematic features both from trade and environment perspectives. In relation to trade, it provides cheap energy inputs to industries compare to its competitors. From an environmental perspective, dual pricing lowers the consumer’s price and consequently encourage the overconsumption of fossil fuels.

Under the current framework of the SCM Agreement, it is not possible to subject dual pricing scheme to one of the articles. Regulations setting this scheme were avoided from increasing exports or use of domestic products over a foreign one. Dual pricing is also not specific to particular companies or industries. Additionally, it could be observed that Members have already developed dual pricing scheme before joining and negotiating the WTO rules, therefore according to some critics this scheme was purposely excluded from the subsidy framework of the SCM Agreement.[246]

Globally renewable energy subsidies corresponded to $88 billion in 2011, which is “one-sixth of the fossil fuel subsides”[247]. However, they are challenged before the WTO more than fossil fuel counterparts. Most of these disputes deal with the legality of the LCRs, which mandate the use of domestic inputs to qualify for government support. This violates number of WTO rules since it discriminates foreign products.

The previously challenged environmentally protective renewable energy programs created pressure on governments to limit the support of such innovations. The local and regional governments generally drafted these programs. Therefore, they are lack of WTO compatibility and more focused on to bring benefit to local constituents. Whereas fossil fuel subsidies are generally part

[245] Idem, pg.15.
[246] Idem, pg.16.
[247] Int'l Energy Agency, “*World Energy Outlook 2012”*, available at http://www.worldenergyoutlook.org/media/weowebsite/2012/WEO2012_Renewables.pdf., Nov. 12, 2012, pg. 21.

of a national policy and the drafters of them incline to consider WTO rules and have diplomatic support of their governments when needed.

In conclusion, the WTO subsidy rules are discouraging renewable energy development while ignoring the remaining support for fossil fuel subsidies. Renewable energy programs with LCRs are an indication for governments to show that they are subsidizing their own enterprises and investors. However, this political decision creates tension between trade and environment protection objectives and put environmentally friendly projects in a vulnerable position before the WTO.

5.3. SUSTAINABLE ENERGY TRADE AGREEMENT

Under WTO law, energy and energy products do not enjoy any special status; there is no special WTO regime governing energy trade. Since the rules of the WTO and the GATT apply to all modes of trade, they are applicable to trade of energy goods and services. Energy raw materials, such as supplies of fossil fuels, uranium, energy generation equipment, energy services such as electricity and energy itself are all traded internationally and are thus subject to the rules of international trade. Energy-related trade now has a substantial influence on the environment and this impact will no doubt increase. Special traits of the energy sector give rise to important issues under international trade law. Most of these questions were not litigated before the WTO or in other legal fora.

WTO is not alien to sector-specific agreements such as Agreement on Agriculture or the Agreement on Textile and Clothing. For example, the Agreement on Agriculture has specific provisions for measures in the subsidies and tariffs of agricultural sector. These provisions can prevail over the general provisions of the WTO agreements. Therefore, in order to have an elaborative regulation on the energy sector, WTO should work on the Sustainable Energy Trade Agreement (“SETA”). SETA may be a productive “solution to coordinate

national policies aiming to lower the cost of renewable energy policies[248]." As the foregoing demonstrates, energy subsidization constitutes a special matter whose reform is not possible within the contours of current WTO law. WTO members should negotiate a special framework agreement on energy subsidization that deals with the particular and unique problems of energy production and include energy services as well.

Negotiations under the SETA could be an excellent option to address renewable energy concerns and find a trade-friendly solution. Sustainable energy trade initiative presents SETA initially as a plurilateral option, and to be multilateralized by time.[249] Here the International Center for Trade and Sustainable Development ("ICTSD") proposes Government Procurement Agreement ("GPA") as a model, which has a binding effect on signing Members. Dering from the GPA model an energy agreement, which is applied to its signatories, can be challenged only by the complainant if the defendant had ratified the agreement.

SETA could address barriers to trade and help to clarify existing ambiguities in energy governance regime. A concentrated approach to sustainable energy will provide effective and operational governance for the issue. Given the researches on the green innovation, which is brought by the LCRs, WTO law on an incentive program with LCRs should be changed into a more detailed and coherent structure. An integrated approach for the issues of "tariffs, non-tariff barriers, subsidies, procurement, and services; especially in relation to trade of energy is needed to be taken[250]." By this way, a holistic approach to incentive programs with LCRs could have been established.

[248] The idea of a SETA was already proposed in the study by the ICTSD on "*Fostering Low Carbon Growth: The Case for a Sustainable Energy Trade Agreement.*" November 2011, ICTSD Issues Paper, available at http://www.ictsd.org/downloads/2011/12/fostering-low-carbon-growth-the-case-for-a-sustainable-energy-trade-agreement.pd, pg.13.

[249] Idem, pg 12..

[250] Kuntze and Moerenhout, p.35.

Theoretical and empirical studies have shown that LCRs and other performance requirements may have positive developmental consequences and improve host country welfare by promoting additional linkages to FDI. Taking away this advantage from the developing countries might hamper their development process and the motivation for renewable energy generation. SETA can provide a sectoral reservation to TRIMs illustrative list. In order to avoid permanent protection, SETA could foresee a time limit in the application of existing LCRs. Another option will be an agreement on the regional content requirement ("RCR") instead of LCRs in the scheduled projects during the phase-out period. RCRs may have less trade distortive effects and can be balancing against the environmental objectives. It is also suggested to bring a cap under the SETA to the "LCR percentages at a moderate level" for the agreed phase-out or permanently[251]. Moreover, a peace clause can be agreed on, so the existing LCRs are not going to be challenged before the WTO Dispute Settlement during the phase-out period[252].

SETA can also reduce the costs of renewable energy by supporting individual countries. It can coordinate "policies and measures", and take into consideration both "socio-economic ambitions and climate concerns[253]". Reaching an agreement on SETA would decrease the risk for repeated trade conflicts before the WTO and provide transparency and certainty into the renewable energy generation business. It can also enable alternative and innovative strategies to the liberalization of sustainable energy goods and services.

5.4. ENVIRONMENTAL GOODS AGREEMENT

Trade policy plays a chief role in combating the climate change, by addressing tariffs and non-tariff barriers and subsidy schemes of renewable energy technologies. Therefore, the WTO Ministerial Decision on Trade and Environment established a CTE in 1994. The CTE has given authority to propose

[251] Stephenson, pg. 17.
[252] Idem.
[253] Kuntze and Moerenhout, p.53.

appropriate suggestions on "rules to enhance the positive interaction between trade and environment policies for the promotion of sustainable development". The CTE was invited to discuss the below subjects:

i. "the relationship between the international trade law and environmentally sensitive trade measures
ii. the relationship between environmental measures related to trade and the international trade law
iii. the relationship between the international trade law and extra charges and taxes or requirements for environmental purposes, such as standards and technical regulations, packaging, labeling and recycling
iv. the transparency provisions of the international trade law with respect to the measures enacted for environmental purposes and environmental measures and requirements which have significant trade effects
v. the relationship between dispute settlement mechanisms in the international trade law and in Multinational Environmental Agreements ("MEA"s)
vi. the effect of environmental measures on market access, especially in relation to developing countries and environmental benefits of removing trade restrictions and distortions
vii. the issue of exports of domestically prohibited goods
viii. the relevant provision of the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPs")
ix. the work program envisaged in Decision on Trade in Services and the Environment
x. charged the relevant bodies for establishing appropriate relations with inter-governmental and non-governmental organizations[254]."

[254] Decision on Trade and Environment, in WTO, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations, Cambridge, UK: Cambridge University Press, 1994, p.411.

CTE could not take any significant decision, even it is open to the participation of each Member. The Final Declaration of the Doha Ministerial Conference in November 2001, adopted a Trade and Environment Work Program which covers the following matters:

i. "The relationship between WTO rules and trade restrictions in MEAs
ii. Criteria for granting observer status and information exchange
iii. Reduction and elimination of trade barriers for environmental goods and services
iv. Fisheries subsidies"[255]

As sector specific agreement, 17 parties started to negotiate Environmental Goods Agreement ("EGA") in July 2014. Doha Ministerial Declaration suggested such an agreement framework, and this suggestion was discussed at the WTO Committee on Trade and Environment Special Session intensely.[256] The discussion was mainly center the inclusion of reduced tariff rates on environmental goods and the developing countries mainly advocate this proposal. Tariff concessions made by the negotiator parties will cover all WTO members pursuant to "the most-favored nation principle". EGA offered a significant initial step to address" trade barriers in renewable energy technologies". Because reduced prices on renewable energy technologies could raise the demand and ease the country's transition to low-carbon industry, which is the commitment of 48 nations at the UN Climate Conference in Marrakesh.[257] Removing trade tariffs could contribute to this goal in a great extent, even the majority of tariffs on clean energy goods are low. Because generally clean energy technologies involve a

[255] WTO, Ministerial Conference, Fourth Session, Doha, November 9-14, 2001, Ministerial Declaration, WT/MIN(01)/DEC/1, November 20, 2001, paras. 31-3.

[256] World Trade Organization, Ministerial Declaration of November 14, 2001, prg. 31(iii), /MIN(01)/DEC/1, 41 ILM 746, 751, 2002.

[257] World Future Council "48 *Vulnerable Countries lead 100% Renewable Movement"* https://www. worldfuturecouncil.org/48-vulnerable-countries-lead-100-renewables -movement/, 2016, pg. 14.

different variety of components and many of them traded across countries before the final assembly. Elimination of all range of tariffs would lower the final product prices and make renewable energy even more advantageous than fossil fuels.[258] Elimination of tariffs mostly contributes to the developing countries, since they tend to have higher import tariffs in order to generate fiscal revenues. This raises the import costs and lack of domestic industry in the subject matter; makes deployment of clean energy economy very hard for them. Therefore, EGA would enhance trade, lower the costs of "environmental goods", and decrease carbon emissions.[259]

Nevertheless, the agreement's potential contribution to environment and opportunity to integrate the developing countries into "global value chains" in field of renewable energy technology was limited, due to the non-participation of developing countries into the negotiation process. Developing countries ignore the advantages of joining the EGA, such as access to renewable energy technologies at reduced cost and enhancement of these technologies supply and use in many countries. Their integration to a possible new system could make private investment attractive in local renewable energy technologies and services, as well as develop domestic capacities. Trade reforms in clean energy technologies and EGA have also additional benefits in the realization of "sustainable development" objectives; such as energy access, cleaner air and health and decrease at fossil fuel imports.

However, most of the discussion was centered on tariffs and this created less attraction within the Members. The Agreement was designed to enter into force when "critical mass" is reached, which requires the involvement of a substantial majority of products within the global trade. The strength of the agreement can only be enabled with the engagement of more countries and with an extensive embracement of issues and sectors.

[258] ICTSD, 2011, pg. 9.

[259]Development Solutions,"*Trade Sustainability Impact Assessment on the Environmental Goods Agreement"* Final Report for the European Commission." http://www.egatradesia.com/sites/all/docs/Final_Report/EGA_Trade_SIA_Final_Report, 2016, pg 16.

The list of "environmental goods and services", which was agreed by 21 members of Asia-Pacific Economic Cooperation ("APEC") members, was taken as a basis in the EGA negotiations of WTO. APEC Members are representing 54 percent of world economic output. They underlined the aim of enhancement in environmentally respectful development at their Honolulu Declaration by "accelerating the transition toward a low-carbon economy in a way that enhances energy security and creates new sources of economic growth and employment". Within this frame, they declared that the APEC economies will "eliminate non-tariff barriers and local content requirements that distort environmental goods and services trade and green energy market[260]". APEC members agreed on such a list in order to develop trade and reduce barriers in "environmental goods and services". This list covered the products such as "solar panels, renewable bamboo-based products, parts for biomass boilers, industrial air pollution control plants and crushing machines used for water treatment or recycling[261]".

However, Parties could not able to agree on the definition of "environmental good", because there is no universally accepted definition for it. The OECD defined environmental goods as "measure prevent, limit, minimize, or correct environmental damage to water, air, and soil, as well as problems related to waste, noise and ecosystems[262]". Delegations proposed to proceed to negotiations by grouping environmental goods into three sections as "(i) goods need an immediate elimination of tariffs, (ii) goods whose tariff elimination can be delayed and (iii) goods which are considered as sensitive and should be excluded from the EGA list".[263] Most of the goods on the EGA list contributed to a positive environmental service, for example decreasing air or water pollution but

[260] APEC Leaders Honolulu Declaration Annex C available at http://www.apec.org/meeting-papers/leaders-declarations/2011/2011_aelm.aspx. November 13, 2011.

[261] Idem.

[262] Organization for Economic Cooperation and Development (OECD). "*Trade that Benefits the Environment and Development: Opening Markets for Environmental Goods and Services"*,http://www.oecd.org/tad/envtrade/tradethatbenefitstheenvironmentanddevelopmentopeningmarketsforenvironmentalgoodsandservices 2005, pg. 22.

[263] SETI Alliance, *"What Now EGA Parties",* http://seti-alliance.org/en/news/2016-04-28-what-now-ega-parties. 27 April 2016.

themselves inherently lack environmental characteristics, such as filter or pump. Some also have criticized the EGA negotiations because of the embodiment of goods with uncertain environmental benefits, including ones with "dual use".[264] Very little emphasis was given to the "environmentally preferable goods, which have a smaller carbon footprint".[265]

The biggest reason for dichotomy on the definition of environmental goods is derived from the technological disparity and political objectives. Because the developing counties, specifically the APEC bloc, attempted to give a limited understanding to them, whereas the developed countries, specifically the OECD bloc, wanted a broader approach to the concept.[266]

Consequently, environmental goods are grouped into four different categories: "1) sanitation and waste management, 2) drinking water distribution and storage, 3) renewable energy and 4) environmentally preferable goods[267]". These products can contribute to combat with pollution and health problems in developing countries. [268] Moreover, they can reduce negative externalities of environmentally harmful activities, such as a harmful effect on human health.

The EGA could benefit countries in order to address their environmental protection objectives and integrate it into their development strategies. Lowering tariffs on environmental goods would enable developing countries to export high quality of products and consequently enhance the life quality of their citizens. However, in the lack of regulation in the area of environmental goods trade, it will be very difficult to reach the aim of sustainable development.

---

[264] Transport & Environment, "*Briefing: Environmental Goods Agreement*", https:// www.transportenvironment.org/publications/briefing-environmental-goods-agreement. September 2015, pg. 16.

[265] Haley Knudson, Dina Margrethe Aspen and John Eilif Hermansen, "*An Evaluation of Environmental Goods for the WTO EGA: EGs for Developing Countries"*. Trondheim: Norwegian University of Science and Technology. https://www.regjeringen.no/contentassets/866db6809113469cbc e57141e7042774/ntnu_ega.pdf, 2015.

[266] Howse and Van Bork, p. 5-7.

[267] Monica Araya, "*The Relevance of the Environmental Goods Agreement in Advancing the Paris Agreement Goals and SDGs. A Focus on Clean Energy and Costa Rica´s Experience*", Geneva: International Centre for Trade and Sustainable Development (ICTSD). 2016, pg 20.

[268] Knudson et al., pg. 6.

On the other hand, Daniel Esty, a distinguished critic, has identified the following four environmentalist objections to the global trading system.

i. "Trade might harm environment because uncontrolled economic growth is likely to result excessive depletion of natural resources and waste production, when there is no environmental safeguards.

ii. Without integrated environmental protections rules in the trade system, intensive market access might disregard environmentally sensitive regulations.

iii. Trade restrictions must be designed to promote worldwide environmental protection, specifically to address international environmental problems and to strengthen MEAs.

iv. Countries with soft environmental standards have a competitive advantage in the international market; this creates pressure on countries with high environmental standards for lowering their environmentally-sensitive requirements[269]."

5.5. INTERNATIONAL DISTRIBUTIVE JUSTICE AT WTO

WTO compliance does not make a differentiation between developing and developed Members. However, some authors criticize the WTO Agreements as promoting improvement in resource-rich countries and deteriorate the development potential of resource-poor countries[270]. The proposal is here to modify WTO law, in a way to differentiate the WTO obligations according to the status of the countries. This approach is known as the principle of international distributive justice, which distributes obligations according to prevailing conditions.

[269] Daniel C. Esty, "*The Greening of the GATT"* , Washington DC: Institute for International Economics, 1994, p.42.

[270] Ahmad Shaban Alı Saıf Altaer, "The WTO and Developing Countries: The Missing Link of International Distributive Justice", University of Portsmouth, 2010, p.20.

The status can be categorized as developed, developing and least-developed Members, according to their GDP per capita, resource-owing and trade capacity. Accordingly, the degrees of obligations can vary from absolute to nil. The principles of "general obligations" under WTO law such as national treatment or most-favored nations can be re-conceptualized to impose obligations to a specific group of Members for the specific measures that they require to comply.

The concept of distribution of obligations is suitable to the nature of WTO law, since it is principally under the scope of the law of obligations. Because countries accepted various treaty obligations towards specific Members, and due to the most-favored nation principle these are extended to all WTO Members[271]. However, it becomes distinct from other laws of obligation, when consider certain rights are aroused in the course of trade[272]. The rights under the WTO law are subject to conditionality, meaning that some requirements needed to be meet in order to benefited from that right. The Appellate Body reaffirmed this understanding in some of its rulings such as in *US-Shrimp*, it illustrates the fact that the "WTO Agreement as a law of rights involves action that is highly conditioned and contextualized, and that exists within a larger matrix of rights and obligations[273]".

International distributive justice principle is adopted in MEA's and climate law.[274] Paragraph 31 (i) of the Doha Declaration indicates that;

> "With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on:

[271] Chios Carmody, *"A Theory of WTO Law"*, vol 11, no.3, *Journal of International Economic Law*, 2008, pg. 545.

[272] Idem, p.545-550.

[273] Appellate Body Report, *US –Shrimp*, para 156.

[274] E.g. Principle 23 of the Stockholm Declaration: "… it will be essential in all cases to consider the systems of values prevailing in each country, and the extent of the applicability of standards which are valid for the most advanced countries but which may be inappropriate and of unwarranted social cost for the developing countries"., Articles 3(1) of the UNFCCC, "The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities".

> (i) the relationship between existing WTO rules and specific trade obligations set out in MEAs. The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question."

The efforts that created the UNFCCC and later the Kyoto Protocol include various well-structured provisions of "common but differentiated responsibility" value. The preamble to the UNFCCC affirms unequivocally that global climate-change mitigation measures will take "full account the legitimate priority needs of developing countries[275]". Article 4 (3) of the Kyoto Protocol also embraces international distributive justice as follows:

> The developed country Parties and other developed Parties included in Annex I shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1[276].

The provisions of UNFCCC and Kyoto Protocol give developed nations responsibility from the current high level of greenhouse gas ("GHG") emissions because their industrialization started long before the developing countries. Therefore, the cost of mitigating these effects remained in the developed nations with the "common but differentiated responsibilities".

Participation to global trade system is more difficult for the developing countries compared to developed ones because they also struggle with internal economic policies, stabilization and balance of payment deficits[277]. Especially the disputes arising from TRIMs Agreements constitute a huge constraint on developing and least developed countries, as it can be perceived that in many of these cases developing countries are the respondent party. WTO also accepts that transition to the TRIMs Agreement consistent system is difficult for developing and least developed countries. TRIMs Agreement is commenced with the

[275] United Nations Framework Convention on Climate Change, FCCC/INFORMAL/84, GE.05-62220 (E) 200705, 9 May 1992, http://unfccc.int/resource/docs/convkp/conveng.pdf.

[276] The Kyoto Protocol to the United Nations Framework Convention on Climate Change, 11 December 1997. p.8.

[277] Stephen Haggard, Developing Nations and the Politics of Global Integration, Brookings Institution Press, 1995, pg. 4 - 5.

statement of "*taking into account the particular trade, development and financial needs of developing country Members, particularly those of the least-developed country Members."* With regard to this Article 4 of the TRIMs Agreement states that;

> A developing country Member shall be free to deviate temporarily from the provisions of Article 2 to the extent and in such a manner as Article XVIII of GATT 1994, the Understanding on the Balance-of-Payments Provisions of GATT 1994, and the Declaration on Trade Measures Taken for Balance-of-Payments Purposes adopted on 28 November 1979 (BISD 26S/205-209) permit the Member to deviate from the provisions of Articles III and XI of GATT 1994.

Member states are allowed to make transition adjustments according to their resources and facilities[278]. Many of the developing nation's resource and expertise are not fully develop to comprehend the actual scope and purpose of TRIMs obligations. This creates a tension in the WTO negotiations and disturbs the efficiency and the integration agendas[279]. Article 3(5) of the UNFCCC refers to this matter:

> The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Here the UNFCCC missed the opportunity to introduce "international distributive justice" into the WTO system. The integration of "common but differential responsibility" to the WTO agreements can reduce the next generation disputes and help to increase trade capacity of developing countries because not all WTO Members are included in Annex 1 of the Kyoto Protocol. Distribution of obligations requires minor adjustment to the existing WTO law; hence this approach to reform at the international trade system will be less burdensome.

---

[278] JS Mah, "*Reflections on the Trade Policy Review Mechanism in the World Trade Organisation"*, vol. 31, no. 5, Journal of World Trade, 1997, pp. 49-56.

[279] B. Bora, "*Trade-Related Investment Measures and the WTO: 1995-2001",* United Nations Conference on Trade and Development, Geneva, 2001, pg. 24.

5.6. RESTORE NON-ACTIONABLE SUBSIDIES CATEGORY

Under the SCM Agreement, any form of export subsidy is prohibited and domestic subsidies for renewable energy or green technology are actionable if a WTO member country believes that its domestic production or exports are adversely affected. Until 2000, the SCM Agreement contained an exemption for certain environmental subsidies, but this exemption under Article 8 of the SCM Agreement has expired. Thus, under current WTO law, renewable energy subsidies and green technology subsidies are actionable. However, the recent cases show us that WTO should reinstate a carefully crafted exemption for renewable energy and green technology subsidies because the recent WTO adjudications showed us that the Appellate Body could not conclude on whether the subsidies are allowed under the SCM Agreement. Comprehensive rules for renewable energy subsidies could benefit both members and the environment, by reducing legal uncertainty and balancing trade and renewable energy concerns.

The non-actionable subsidies covered certain research and environment-related subsidies. The rationale behind the article was to allow certain subsidies without the risk of fronting countermeasures. The origin of the distinction between "prohibited, actionable and non-actionable subsidies" dated back to Tokyo Round and known as "traffic light" approach. The initial proposal by the USA was as follows:

> New international rules, on subsidies and offsetting measures, should deal with all three of these problems. The objective of these rules would be to categorize all types of subsidy practices and set forth the conditions by which offsetting measures could be taken against such practices. In particular, rules are needed to:
>
> 1. Effectively delineate that category of subsidies that should be prohibited;
>
> 2. Place limits and constraints on the use of domestic subsidies' that benefit exports to the detriment of other nations;
>
> 3. Delineate which subsidy measures should be permitted;
>
> …
>
> Permitted. The permitted category would consist of practices that are considered to have minimal impact on international trade. Permitted practices would be limited to those specifically agreed as falling within that category. Such practices

and any practices judged to result in a de minimis subsidy would not be subject to offsetting measures[280].

Although it did not explicitly mention the environmental subsidies, this proposal showed its effect in various other official GATT publications. The matter of non-actionable subsidies has resurfaced during the Uruguay rounds by the EU. However, the EU's proposal did not target the green subsidies.[281] Eventually, environmental subsidies came into the center of discussion as non-recurring subsidies at the Cartland drafts[282]. "Non-recurring subsidies would be provided in order to transform existing facilities according to the new environmental requirements", if the new environmental standards create a considerable financial burden on economic operators[283].

As suggested in the above chapter the FITs without the LCRs used by the Ontario and India, aim to foster significant "global public good", which is combating against climate change. Climate change has been called as the "greatest market failure" the world has ever faced. It is capable of "shaving off 5% of the world GDP per year[284]". "Almost all of the world's nations have explicit international legal obligations to address the problem[285]."

Additionally, there should be a distinction between the trade-related investment measures aim global public good and the ones aim benefits at a domestic level. In the former measures, even other countries have felt the costs of them, the benefits relying upon them felt by all of the countries. FITs do not contain inherently protectionist measures when they are taken without LCRs. Because they are going to provide benefits to all investors and traded goods from

[280] MTN/NTM/W/26, 28 October 1975, at pp 7 and 8.

[281] "Tax concessions, regional or structural adjustment, and indirect subsidies have considered under the scope of permitted subsidies". MTN.GNG/NG10/W/7 of 11 June 1987, at pp 4–5.

[282] "Cartland drafts were named after Mike Cartland, the Ambassador for Hong Kong, China who was chairing the negotiating group on Subsidies."

[283] Terence P. Stewart, *"The GATT Uruguay Round: A Negotiating History (1986–1992)*" Boston, Mass: Kluwer Law, Deventer, the Netherlands, , 803–1008, 1993, pg 901, and pp 908–9.

[284] Stern. 2006, pg. 34.

[285] Those obligations are found in the UNFCCC, done at New York, 9 May 1992, 31 ILM 849), Art. 4, and the Kyoto Protocol, Art. 3. "Both developed and developing countries have obligations, albeit of a different character, and they exist in both the Convention and the Protocol."

all provinces without discrimination. Indeed, studies show that FITs "foster a rapid deployment capacity for renewably generated electricity[286]."

The Appellate Body in the *Canada-Renewable Energy* case avoided finding FIT itself to be a subsidy. Even it denied the importance of rationale for FITs "since the SCM Agreement does not contain an exemption article[287]"; it explained the "underlying environmental rationale for government intervention" to electricity market:

> Governments intervene by reducing reliance on fossil energy resources and promoting the generation of electricity from renewable energy resources to ensure the sustainability of electricity markets in the long term. Fossil energy resources are exhaustible, and thus fossil energy needs to be replaced progressively if electricity supply is to be guaranteed in the long term. Government intervention in favor of the substitution of fossil energy with renewable energy today is meant to ensure the proper functioning or the existence of an electricity market with a constant and reliable supply of electricity in the long term. [288]

And

> In this respect, if, on the one hand, higher prices for renewable electricity have certain positive externalities such as guaranteeing long-term supply and addressing environmental concerns, on the other hand, lower prices for non-renewable electricity generation have certain negative externalities, such as the adverse impact on human health and the environment of fossil fuel energy emissions and nuclear waste disposal. Considerations related to these externalities will often underlie a government definition of the energy supply-mix and thus be the reason why governments intervene to create markets for renewable electricity generation[289].

Despite these statements, the Appellate Body did not defend the idea that legitimate and important policy objectives could be a basis for special treatment under SCM Agreement without an exception clause. Therefore, some authors defend the arguments in favor of "constructing the SCM Agreement as a tool to

[286] Judith Lipp, "*Lessons for effective renewable electricity policy from Denmark, Germany and the United Kingdom"*, 35(11) Energy Policy, 2007, 5481–95, pg. 5488.
[287] The Appellate Body Report, *Canada-Renewable Energy*, para. 5.182.
[288] Idem, para 5.186.
[289] Idem, para 5.189.

challenging protectionist subsidies only", which prioritize "to increase the income of producers[290]."

After the increasing case law, the discussion to re-instate Article 8 of the SCM Agreement was heated, which is also an easier way for the negotiators. However, the re-instating of this provision is not going to be sufficient to resolve problems, as Article 8.2 had foreseen statutory caps to be benefitted from the assistance of subsidy.[291] Therefore, to ensure a wider exemption is warranted, Members should negotiate the SCM Agreement. They should consider the fact that "subsidies can distort, as they can address distortions". For this reason, the rationale of the subsidization should be the taken into account, while drawing a distinction between subsidies that have "public good rationales" and the ones solely transfer income from taxpayers to national industry.

For example, if the same electricity prices are paid for renewable and conventional sources, the social benefits of the former form of generation and the environmental damage of the latter form of generation is going to be disregarded. Subsidies such as FITs will be a remedy to transfer its social benefits in the form of financial contribution.

The rationale is also important to determine which instruments are going to be legally outlawed. The aim of the FIT program is to correct market failure deriving from the environmental costs and benefits of the electricity generation. Even FIT program with the LCRs is likely to be justified from an industrial policy and from environmental perspective by creating more "environmental benefits"

[290] Simon Lester, *"The Problem of Subsidies as a Means of Protectionism: Lessons from the WTO EC-Aircraft Case",* 12 Melbourne Journal of International Law, 2011, 1–28, pg. 25.

[291] Article 8.2. of the SCM Agreement "assistance to promote adaptation of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms, provided that the assistance:

i. is a one-time non-recurring measure; and

ii. is limited to 20 per cent of the cost of adaptation; and

iii. does not cover the cost of replacing and operating the assisted investment, which must be fully borne by firms; and

iv. is directly linked to and proportionate to a firm's planned reduction of nuisances and pollution, and does not cover any manufacturing cost savings which may be achieved; and

v. is available to all firms which can adopt the new equipment and/or production processes"

than costs, it is still challenging to justify it under legal terms because cost and benefit analysis mostly relies on economic terms.

The most rational and functional exception clause would be integrating the features of Article XX of GATT and Article 8 of the SCM Agreement[292]. As in the Article XX of GATT set of permissible rationale can be indicated and then their conformity with the chapeau, the least trade restrictive measure to reach that objective can be ensured. The non-actionable subsidies might cover the provisions, which pursue global public good and whose effects benefited countries outside of the implementing one. Such as; subsidies which neutralize the externalities arising from the combat with climate change (as FITs) or "advance research and development in clean technologies[293]". The objectives should be outlined broadly to cover measures more than climate change; and include biodiversity reservation, decrease of water pollution and prevention of deforestation. Additionally, an exception for R&D and public health subsidies might have spillover benefits in pursuit of global environmental protection.

[292] Mavroidis, pg. 45.
[293] Idem, pg. 46.

CONCLUSION

This dissertation aimed at analyzing existing law in the WTO on local content subsidies granted towards renewable energy generation projects. It currently proved difficult to fulfill environmental protection obligations embedded in MEAs, without some sort of government support to private entities. Because renewable energy facilities have a higher cost for both establishment and production stages, which affects the final price of the electricity itself. Therefore, countries may be required to provide a scheme that attracts project developers to invest and consumers to support new renewable energy initiatives. Consequently, countries designed FIT program with LCR, which mandates the use of a specific amount of local goods and services by renewable energy generators in order to profit from subsidies or other benefits.

LCRs could lower the cost of green policies, create new green employment and improve technological innovation in that country with possible spillover effects on other countries. However, they also have negative consequences, namely the difficulty of financing, possible counter-measures by the WTO Members and their lack of value creation globally. The most important issue in LCRs is to avoid excessive protectionist measures under the cover of environmental protection since, generally, the rationale behind the LCRs is to create national welfare and gain public support for renewable energy initiatives. Therefore, LCRs were prohibited under the GATT and Covered Agreements, which encourage Members to search for alternative incentive schemes; such as providing easy financing options for renewable energy project developers by governments.

The relevant WTO legal texts applicable to LCRs were the GATT 1994, the SCM and TRIMs Agreements. The LCR measures violate the “national treatment” obligation embedded in Article III: 4 of the GATT 1994 since LCRs qualify as “laws, regulations and requirements”. It further affected “internal sale” of foreign products, since it conferred advantages to local products. Herein the imported and local components should be “like products”. Finally, this

arrangement should constitute “less favorable treatment to foreign investors”. The violation of “national treatment” rule could not be justified under the exception clause Article XX of the GATT 1994 since LCRs did neither fulfill the conditions set out under relevant paragraphs (b), (d), (g) and (j) nor its chapeau. The derogation clause provided in Article III:8 (a) was also not applicable since the product that was procured, i.e. electricity, and the product that was subjected to LCR measure, i.e. solar energy generation equipment, were different from each other.

Furthermore, LCR was categorized as a prohibited subsidy under the SCM Agreement. Initially, the LCR measure should be qualified as a “subsidy” according to Article 1.1 of the SCM Agreement. Therefore, a “financial contribution by a government or any public body within the territory of a Member” should exist and “benefit” should be conferred. Even if the LCR was governed by a private entity, it could qualify as a “financial contribution” if the private entity is “entrusted or directed” by the government and its task “would normally be vested in the government”. The most contentious requirement in renewable energy subsidy analysis is thus whether the “financial contribution has received on more favorable terms than prevailing market conditions for challenged goods or services”. In addition to those requirements, a financial contribution should target a specific group according to Article 2.

Furthermore, the LCR scheme also violates TRIMs Agreement’s “Illustrative List”, which exemplifies certain measures violating Article III: 4 of the GATT 1994. The Illustrative List defines the “trade-related investment measure” as “mandatory or enforceable under domestic law, and compliance with them is necessary to obtain an advantage, and they require the purchase or use of products of domestic origin or from any domestic source” and in the particular cases the LCR scheme was found to comply with this definition.

The first dispute brought before the WTO on renewable energy LCR subsidies was *Canada-Renewable Energy*. The Appellate Body found in this

dispute that the LCR measures violated the "national treatment obligation" and that Canadian measures fell within the scope of the TRIMs' "Illustrative List". The Appellate Body also dismissed Canada's defense under Article III: 8(a) since the regulation governing the procurement and the purchased product were not in a "competitive relationship". However, the Appellate Body could not finalize its assessment under the prohibited subsidy analysis. The non-completed analysis was the "conferral of benefit". Both the Panel and the Appellate Body concluded that the wholesale electricity market in Ontario was not the right benchmark for the "benefit analysis". Because electricity generated from renewable energy facilities had a different "cost structure, operating costs and characteristics" than conventional electricity sources. Therefore, the Appellate Body was in search of market price only for renewably generated electricity, but could not able to find a comparable market price. However, it ruled that LCRs constituted "prohibited subsidy" under Article 3.1 (b) of the SCM Agreement as it prohibited subsidies "contingent upon the use of domestic over imported products".

The second case on renewable energy subsidies before the WTO was *India-Solar Cells.* US challenged India's LCR scheme for solar-PV equipment on the same grounds with *Canada-Renewable Energy.* However, later it withdrew its claims on the SCM Agreement, because of the non-completed analysis of "comparable market benchmark" in the *Canada-Renewable Energy.* Additionally, the US could reach the desired result only claiming the violations of GATT and TRIMs Agreement. India's defense under Article III: 8 (a) has been disregarded with the same reasoning with *Canada-Renewable Energy.* Other defense under Article XX (j) could not justify the LCR measures, as there was no "general or local short supply" and the wording in the article did not refer to the origin of the product itself. Similarly, Article XX (d) did not serve as a reason for exemption because no international or domestic legal obligation required the project developers to employ and purchase domestic goods. As a counter maneuver, India initiated a dispute against the US on the same grounds and the Panel Report was published on 27th June, in favor of India. The Panel found that state-level LCR

measures of the USA violated the national treatment obligation. It did not make further analysis with regard to subsidy issue for the sake of judicial economy.

The final Chapter of the thesis sought to shed light on the quest for new agreements and possible reforms in existing WTO Agreements. Further legal analysis and research is required to generate a possible trade deal on renewable energy or another instrument such as a plurilateral agreement within the WTO umbrella. If achieved, those legal tools might help countries to approach and regulate incentive measures including LCRs in more specific and coherent manner. However, as it is clear to any international trade student, the negotiation process in the WTO is currently facing a considerable impasse. Since energy-related issues are a part of a large and comprehensive set of the multilateral trade issue, any early harvest for trade negotiations on this important matter does not seem to be likely within foreseeable future. Nevertheless, the problems faced by the multilateral trading system should not impede the global community to develop trading rules and modify them as to meet the new challenges of the 21st century.

Furthermore, it is clear to many that there would be no single resolution to the trade and environment conflict. Rather, the process of addressing the problem needs to continue before the WTO and among the Membership since this matter would also need to be kept in the future agenda of the negotiation rounds for possible new trade and investment agreements. Since the recourse to renewable energy technologies so far proves to be a vital solution to combat climate change, trade disputes are prone to increase inevitably due to the economic and political costs of these technologies and potential market access problems that they may face. Therefore, the process of reconciling trade and the environment will remain an ongoing concern.

BIBLIOGRAPHY

Altaer, Ahmad Shaban Alı Saıf	The WTO and Developing Countries: The Missing Link of International Distributive Justice, University of Portsmouth, 2010.
APEC Leaders Honolulu Declaration	Annex C at http://www.apec.org/meeting-papers/leaders-declarations/2011/2011_aelm.aspx. 13 November 2011
Araya, Monica	*The Relevance of the Environmental Goods Agreement in Advancing the Paris Agreement Goals and SDGs. A Focus on Clean Energy and Costa Rica´s Experience.* Geneva: International Centre for Trade and Sustainable Development (ICTSD), 2016.
Araya, Monica & Amorim, Alice	*Climate plans to 2050: Lessons and emerging practice – Nivela Concept Note*. http://www.nivela.org/updates/climate-plans-to-2050- lessons-and-emerging-practice/en. 2016
Bartels, Lorand	*The WTO Legality of the Application of the EU's Emission Trading System to the EU Emissions Trading System to Aviation*' 23 The European Journal of International Law 429, 2012.
Bigdeli, Sadiq Z.	'*Resurrecting the Dead? The Expired Non---Actionable Subsidies and the Lingering Question of "Green Space"'* 8 Manchester Journal Of International Economic Law 2, 21, 2011.
Birnie, Patricia &Boyle, Alan & Redgwell, Catherine	International Law and the Environment, Oxford University Press, Third Edition, 2009.
Bora, B	*Trade Related Investment Measures and the WTO: 1995-2001*, United Nations Conference on Trade and Development, Geneva 2001
California Public Utilities Commission	Self-Generation Incentive Program Handbook, 2012

Carmody, Chios	*A Theory of WTO Law*, vol 11, no.3, Journal of International Economic Law, pp. 545, available at http://jiel.oxfordjournals.org/cgi/content/full/11/3/527, 2008.
Casier, Lisebeth & Moerenhout, Tom	*WTO Members, Not the Appellate Body, Need to Clarify Boundaries in Renewable Energy Support Commentary*, International Institute for Sustainable Development <www.iisd.org>, 2013.
CEEW/NRDC	*"Laying the foundation for a bright future: Assessing progress under phase 1 of India's National Solar Mission (Interim Report)",* New Delhi: Natural Resources Defense Council and Council on Energy, Environment, and Water, 2012
Charnovitz, Steve	*Green Subsidies and the WTO,* The World Bank, 2014.
Civello, Paul	T*he TRIMs Agreement: A Failed Attempt at Investment Liberalization*, 8 Minn. J. Global Trade 97,1999.
Cosbey, Aaron & Mavroidis, Petros C.	*Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO*, Journal of International Economic Law, 11–47, 2014.
Cottier, Thomas & Malumfashi, Garba & Berkutova, Sofya Matteotti & Nartova, Olga & de Sépibus, Joëlle & Bigdeli, Sadeq Z.	*Energy in WTO Law and Policy*, NCCR Trade Working Paper No. 2009/25, 5 http://phase1.nccrtrade.org/images/stories/projects/ip6/IP6%20Working%20paper.pdf, 2009.
Development Solutions	*Trade Sustainability Impact Assessment on the Environmental Goods Agreement*, Final Report for the European Commission." http://www.egatradesia.com/ sites/all/docs/Final_Report/EGA_Trade_SIA_Final_Report., 2016

Emanuelsson, Sara	Feed-in Tariffs for Renewable Energy and the WTO Agreement on Subsidies and Countervailing Measures - Are Feedin Tariffs Specific Subsidies? Göteborgs Universitet
Esty, Daniel C.	*The Greening of the GATT,* Washington DC: Institute for International Economics, 1994.
Farrell, John	*Maximizing jobs from clean energy*, 28, The New Rules Project, 2011.
Fischer, C. & Preonas, L.	*'Combining Policies for Renewable Energy: Is the Whole Less Than the Sum of Its Parts?'*, International Review of Energy and Resource Economics, 4(1) 2010.
Gagné, Gilbert & Roch, François	*The US---Canada Softwood Lumber Dispute and the WTO Definition of Subsidy',* 7 World Trade Review 547, 569, 2008.
Genest, Alexandre	*The Canada - FIT Case and the WTO Subsidies Agreement: Failed Fact-Finding, Needless Complexity, and Missed Judicial Economy*, 10 McGill Int'l J. Sust. Dev. L. & Pol'y 237, 2014.
Government of India, Ministry of New and Renewable Energy	Jawaharlal Nehru National Solar Mission: Towards building solar India. New Delhi, 2009
Government of India, Ministry of New and Renewable Energy	National Electricity Policy, Panel Exhibit IND-14.
Government of India, Ministry of New and Renewable Energy	National Action Plan on Climate Change, Panel Exhibit IND-2.
Government of India, Ministry of New and Renewable Energy.	Jawaharlal Nehru National Solar Mission: Guidelines for selection of new grid connected solar power projects. New Delhi, 2010.
Graham, Edward M. & Krugman, Paul R.	Trade-Related Investment Measures, in Completing The Uruguay Round: A Results-Oriented Approach To The Gatt Trade Negotiations 147.

Haggard, Stephen	Developing Nations and the Politics of Global Integration, Brookings Institution Press,1995.
Hestermeyer, Holger P & Nielsen, Laura	*The Legality of Local Content Measures under WTO Law*, Journal of World Trade (Law-Economics-Public Policy) 553, 2014.
Howse, Robert & Van Bork, Petrus B.	*Options For Liberalizing Trade In Environmental Goods In The Doha Round Issue,* Ictsd Trade And Environment Series Issue Paper No. 2, https://www.ictsd.org/themes/environment/research/options-for-liberalising-tradeinenvironmental-goods-in-the-doha-round, 2006.
Hufbauer, Clyde et al	*Local Content Requirements: A Global Problem,* Peterson Institute for International Economics,2013
ICTSD	*Global Platform on Climate Change, Trade and Sustainable Energy*, November 2011.
International Centre for Trade and Sustainable Development (ICTSD)	F*ostering Low Carbon Growth: The Case for a Sustainable Energy Trade Agreement*, ICTSD Issues Paper,http://www.ictsd.org/downloads/2011/12/fostering-low-carbon-growth-the-case-for-a-sustainable-energy-trade-agreement.pdf, 2011.
International Energy Agency	*KEY RENEWABLES TRENDS: EXCERPT FROM RENEWABLES INFORMATION 3,* https://euagenda.eulupload/publications/untitled-69169-ea.pdf, 2016.
International Energy Agency	*World Energy Outlook 2012,* available at http://www.worldenergyoutlook.org/media/weowebsite/2012/WEO2012_Renewables.pdf., Nov. 12, 2012.
International Energy Agency	*CO2 Emissions from Fuel Combustion: Highlights*, Paris: IEA 2013.
Jacobs, David	*Renewable Energy Policy Convergence in The EU: The Evolution of Feed-in Tariffs in Germany, Spain And France,* Ashgate Publishing Company, 27, 2012.

Johnson,Oliver — *Promoting green industrial development through local content requirements: India's National Solar Mission*, Climate Policy, 16:2, 178-195,OI:10.1080/14693062.2014.992296, 2016.

Knudson, Haley & Aspen,Dina Margrethe & Hermansen, John Eilif — *An Evaluation of Environmental Goods for the WTO EGA: EGs for Developing Countries*. Trondheim: Norwegian University of Science and Technology, https://www.regjeringen.no/contentassets/866db6809113469cbce57141e7042774/ntnu_ega.pdf, 2015.

Koplow, Doug — *Subsidies to Energy Industries*, Encyclopedia of Energy 5, 749–764, 2004.

Kuntze, Jan-Christoph & Moerenhout, Tom — *Local content Requirements and the Renewable Energy Industry – A good match?,* ICTSD Issues Paper

Kurtz, Jurgen — *A General Investment Agreement in the WTO - Lessons from Chapter 11 of NAFTA and the OECD Multilateral Agreement on Investment,* University of Pennsylvania Journal of International Economic Law 713, 2002.

Laurenza, Eugenia Constanza & Simoes, Bruno G — *How Canada - Renewable Energy Supports the Use of the Alternative Commercial Reasonableness Standard in Future Feed-in Tariff Disputes,* Global Trade and Customs Journal 104, 2014.

Lester, Simon — *The Problem of Subsidies as a Means of Protectionism: Lessons from the WTO ECAircraft Case*, 12 Melbourne Journal of International Law, 1–28, 2011.

Lewis, Joanna & Wiser, Ryan — *Fostering a Renewable Energy Technology Industry*, 30, Environmental Energy Technologies Division, Ernesto Orlando Lawrence Berkeley National Laboratory, 2005.

Lipp, Judith — *Lessons for effective renewable electricity policy from Denmark, Germany and the United Kingdom,* 35(11) Energy Policy 5481–95, 2007.

Low, Patrick & Subramanian, Arvind	*TRIMs in the Uruguay Round: An Unfinished Business?*, presented at The Uruguay Round and the Developing Economies, A World Bank Conference, Jan. 26-27, 1995,
Lowenfeld, Andreas F	International Economic Law, Oxford University Press, 2nd ed., 2008.
Lyster, Rosemary & Bradbrook, Adrian	Energy Law and the Environment. New York: Cambridge University Press, 2006.
Mah, JS	*Reflections on the Trade Policy Review Mechanism in the World Trade Organisation*, vol. 31, no. 5, Journal of World Trade, 1997.
Marceau, Gabrielle	*The WTO in the Emerging Energy Governance Debate*, 5(3) Global Trade & Customs Journal. 83, 93, 2010.
Marhold, Anna	*The World Trade Organization and Energy: Fuel for Debate*, 2(8) Esil Reflections 1, 2008.
Massachusetts Clean Energy Center	*Commonwealth Solar II*, Massachusetts Clean Energy Center, http://www.masscec.com/index.cfm/cdid/11241/pid/11159, 2012.
Mathews, John	*China's Continuing Renewable Energy Revolution - Latest Trends in Electric Power Generation*, ASIA PAC. J., http://apjjf.org/2016/17/Mathews.html, 2016.
Mavroidis, Petros	*The Regulation Of International Trade*, The WTO Agreements On Trade In Goods 221, 2016.
Moon, Gillian	*Capturing the Benefits of Trade? Local Content Requirements in WTO Law and the Human Rights-Based Approach to Development*, 13, 2009.
Nath, I.	*Cleaning Up after Clean Energy: Hazardous Waste in the Solar Industry*, Stanford Journal of International Relations, 11(2), 2010.

Natural Resources Defense Council and Council on Energy, Environment and Water.	*Laying the foundation for a bright future: Assessing progress under phase 1 of India's National Solar Mission,* Interim Report, New Delhi, 2012.
OECD	*The Environmental Effects of Trade, Report,* 1994.
Organization for Economic Cooperation and Development (OECD)	*Trade that Benefits the Environment and Development: Opening Markets for Enviromental Goods and Services,* http://www.oecd.org/tad/envtrade/tradethatbenefitstheenvironmentanddevelopmentopeningmarketsforenvironmentalgoodsandservics, 2005.
Pal, Rajib	*Has the Appellate Body's Decision in Canada-Renewable Energy / Canada-Feed-in Tariff Program Opened the Door for Production Subsidies?,* 17:1 J Int'l Econ L 125, 2014.
Palmeter, David	*The WTO as a Legal System,* 24 FORD. INT'L L. J 444, 468, 2000.
REN21 Secretariat	*Renewables global status report,* Paris, 2012.
Rio Declaration on Environment and Development	done at Rio de Janeiro, 31 ILM 874, 14 June 1992.
Rivera-Batiz, Luis A. & Maria-Angels, Olivia	International trade: Theory, strategies, and evidence. Oxford: Oxford University Press,2003.
Rubini, Luca	*The Definition of Subsidy And State Aid: WTO and EC Law in Comparative Perspective* (n 92) 123,
Rubini, Luca	*Ain't Wastin' Time No More: Subsidies for Renewable Energy, the SCM Agreement, Policy Space, and Law Reform,* 15 Journal of International Economic Law 525, 2012.

Saito, Kohei — *Yardsticks for 'Trade and Environment': Economic Analysis of the WTO Panel and the Appellate Body Reports Regarding Environment- Oriented Trade Measures*, Harvard Law School, 2002.

Sargsyan, G. & Bhatia, M. & Banerjee, S. G.& Raghunathan, K. & Soni, R. — *Unleashing the potential of renewable energy in India*, ESMAP note, World Bank, Washington, DC, 2010.

Sarmah, Aditya — *Renewable Energy and Article III:8(A) of the GATT: Reassessing the Environment-Trade Conflict in Light of the Next Generation Cases*, 9 Trade L. & Dev. 197, 2017.

Selivanova, Yulia — *The WTO and Energy: WTO Rules and Agreements of Relevance to the Energy Sector*, ICTSD Program on Trade and Env't, 11-12, http://dspace.cigilibrary.org/jspui/bitstream/123456789/28428/1/The%20WTO%20and%20energy.pdf1, 2007.

SETI Alliance — *What Now EGA Parties*, http://seti-alliance.org/en/news/2016-04-28-what-now-ega-parties, April, 27, 2016.

Sharp, B — *Blame Solar for Sky-High Ontario Power Bills*, Financial Post, October, 29 2013.

Sorrell, S — *Who Owns the Carbon? Interactions between the EU Emissions Trading Scheme and the UK Renewables Obligation and Energy Efficiency Commitment*, Energy and Environment, 14(5), 2003.

Sovacool, Benjamin K. — *Reviewing, Reforming, and Rethinking Global Energy Subsidies: Towards a Political Economy Research Agenda*, Ecological Economics 135, 150–163, 2017.

Spark, Network	*Detailed report on India's National Solar Mission phase II batch I*,http://www.renewableenergyworld.com/rea/blog/post/2013/11/detailed-report-on-indias-national-solarmission- phase-ii-batch-i, November 5, 2013.
Stephenson, Sherry	*Addressing Local Content Requirements in a Sustainable Energy Trade Agreement*; International Centre for Trade and Sustainable Development, Geneva, Switzerland,2013.
Stern, Nicholas	*Review on the Economics of Climate Change*, Chapter 16: Policy Responses for Mitigation, London, UK: Her Majesty's Treasury, 2006.
Stern, Nicholas	*What is the Economics of Climate Change?*, 7 World Economics 1, 2006
Stewart, David P.	*First WTO Judicial Review of Climate Change Subsidy Issues*, 107 Am. J. Int'l L. 864, 2013.
Stewart, Terence P.	*The GATT Uruguay Round: A Negotiating History (1986–1992),* Boston, Mass: Kluwer Law, Deventer, the Netherlands, 803–1008, 1993.
Streich, Michael	*Green Energy and Green Economy Act, 2009: A "FIT" Greening Policy for North America?*, 33 Houston Journal Of International Law 419, 2011.
Sykes, Alan O.	*The Questionable Case for Subsidies Regulation: A Comparative Perspective*, 2 J. Legal Anal. 473, 2010.
Tawney, Letha	*Taking renewable energy to scale in Asia*, 26. Pacific Energy Summit, Seattle,WA: National Bureau of Asian Research, 2012.
The Kyoto Protocol to the United Nations Framework Convention on Climate Change	11 December 1997.

The Nature Conservancy	*Climate Change Threats and Impacts*, http://www.nature.org/ourinitiatives/urgentissues/global-warming-climate-change/threats-impacts/
Tran, Christopher	*Using GATT, Art XX to Justify Climate Change Measures in Claims under the WTO Agreements,* Environmental and Planning Law Journal 349, 2010.
Transport & Environment	*Briefing: Environmental Goods Agreement*, https:// www.transportenvironment.org/publications/briefing-environmental-goods-agreement. September 2015
Trebilcock, Michael J	Understanding Trade Law, Edward Elgar Publishing, 86, 2011.
U.N. Framework Convention on Climate Change,	Adoption ofthe Paris Agreement, at art. 4.1, U.N. Doc. FCCC/CP/2015/10/Add.l ,http://unfccc.int/files/essential-background/convention/application/pdf/english_paris agreement.pdf, Dec. 12, 2015.
UNEP	Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication United Nations Environment Program,Geneva, 2011.
Union Of Concerned Scientists	*Renewable Energy Standards—Mitigating Global Warming*,http://www.ucsusa.org/clean_energy/smart-energy solutions/increaserenewables/renewable-energy.html#.VU0yJ_lViko
United Nations Framework Convention on Climate Change	UNFCCC/INFORMAL/84, GE.05-62220 (E) 200705, 9 May 1992, http://unfccc.int/resource/docs/convkp/conveng.pdf
Van den Bossche,Peter & Zdouc, Werner	The Law and Policy of the World Trade Organization. Cambridge: Cambridge University Press, 2015

Veloso, Francisco	*Local content requirements and industrial development: Economic analysis and cost modeling of the automotive supply chain*, 216. Engineering Systems Division, Massachusetts Institute of Technology, 2001.
Vergano, Paolo R & Laurenza, Eugenia C	*Subsidies to Renewable Energy Sources and International Trade: Issues and Tools to Reconcile Trade Rules and Environmental Policies,* 5 Global Trade & Customs Journal 223, 2010.
Wallach, Lori & Sforza, Michelle	The WTO: Five Years of Reasons to Resist Corporate Globalization, New York: Seven Stories Press, 1999.
Wenzlau, Sophie	*Renewable Energy Subsidies and the WTO*, 41 Environs: Envtl. L. & Pol'y J. 339 , 2018.
Wilke, Maria	*Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Review*, International Centre for Trade and Sustainable Development, Trade and Sustainable Energy Series Issue Paper No 4, 11, 2011.
Wolfrum, Rüdiger et al (eds)	WTO, Technical Barriers and SPS Measures Martinus Nijhoff Publishers, 2007.
World Bank	*Inclusive Green Growth,* Washington, DC: World Bank, 2012.
World Future Council	*48 Vulnerable Countries lead 100% Renewable Movement,* https://www. worldfuturecouncil.org/48-vulnerable-countries-lead-100-renewables -movement/, 2016.
World Trade Organization	MTN/NTM/W/26, 28 October 1975.
World Trade Organization	MTN.GNG/NG10/W/7, 11 June 1987.
World Trade Organization	The GATT Years: from Havana to Marrakesh,https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm

World Trade Organization — General Agreement on Tariffs and Trade, April 15, 1994, LT/UR/A--1A/1/GATT/1 http://docsonline.wto.org.

World Trade Organization — Fourth Session, Doha, 9-14 November 2001, Ministerial Declaration, WT/MIN(01)/DEC/1, 20 November 2001

World Trade Organization — Ministerial Declaration of 14 November 2001, prg. 31(iii), /MIN(01)/DEC/1, 41 ILM 746, 751 (2002).

Wu, Mark & Salzman, James — *The Next Generation of Trade and Environmental Conflicts: The Rise of Green Industrial Policy*, 108 Northwestern University Law Review , 419-420, 2014.

WTO DISPUTE SETTLEMENT BODY DECISIONS

The Panel Reports

Panel Report — United States – Standards for Reformulated and Conventional Gasoline, WT/DS2/R, Jan. 29, 1996.

Panel Report — European Communities–Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/R, September 128, 2000.

Panel Report — Mexico – Tax Measures on Soft Drinks and Other Beverages, WT/DS308/R, October 7, 2005.

Panel Report — India-Certain Measures Relating to Solar Cells and Solar Modules, WT/DS456/R, February 24, 2016.

Panel Report — United States- Standards for Reformulated and Conventional Gasoline, WT/DS2/R, May 20, 1996.

Panel Report — Canada – Measures Relating to the Feed-in Tariff Program, WT/DS426/R, December 19, 2012.

Panel Report — United States – Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMS) from Korea, WT/DS296/R, February 21, 2005.

Panel Report — United States-Final Dumping Determination on Softwood Lumber from Canada VI ,WT/DS264/R, April 13, 2004.

Panel Report	Australia- Subsidies Provided to Producers and Exporters of Automotive Leather II,WT/DS126/R, May 25, 1999.
Panel Report	Korea-Measures Affecting Trade in Commercial Vessels, WT/DS273/R, March 7, 2005.
Panel Report	Indonesia – Certain Measures Affecting the Automobile Industry, WT/DS54, 55, 59 64/R, July 23, 1998.
Panel Report	Canada – Measures Affecting the Renewable Energy Generation Sector, WTO Doc WT/DS412/R, WT/DS426/R, December 19, 2012.
Communication From The Panel	United States – Certain Measures Relating To The Renewable Energy Sector WT/DS510/4, October 15, 2018.

The Appellate Body Reports

Appellate Body Report	United States–Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/AB/R, October 12, 1998.
Appellate Body Report	Japan- Taxes on Alcoholic Beverages, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, November, 1 1996.
Appellate Body Report	European Communities- Measures Affecting Asbestos, WT/DS135/AB/R, March 12, 2001.
Appellate Body Report	United States- Measures Affecting the Production and Sale of Clove Cigarettes, WT/DS406/AB/R, April 4, 2012.
Appellate Body Report	Korea-Measures Affecting Imports of Fresh, Chilled and Frozen Beef, WT/DS161/AB/R, WT/DS169/AB/R, January 10, 2001.
Appellate Body Report	Brazil-Measures Affecting Imports of Retreated Tyres, WT/DS332/AB/R, December 17, 2007.
Appellate Body Report	Japan- Countervailing Duties on Dynamic Random Access Memories from Korea (DRAMs), WT/DS336/AB/R, November 28, 2007.

Appellate Body Report	United States – Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMS) from Korea, WT/DS296/AB/R, June 27, 2005.
Appellate Body Report	Korea– Measures Affecting Trade in Commercial Vessels, WT/DS273/P/R, March 7, 2005.
Appellate Body Report	United States–Measures Treating Exports Restraints as Subsidies, WT/DS194/R, June 29, 2001.
Appellate Body Report	Canada –Measures Affecting the Export of Civilian Aircraft, WT/DS70/AB/R, August 2, 1999.
Appellate Body Report	United States- Definitive Anti-Dumping and Countervailing Duties on Certain Products from China, WT/DS379/AB/R, March 11, 2011.
Appellate Body Report	Canada-Certain Measures Affecting the Automotive Industry, WT/DS139/AB/R ; WT/DS142/AB/R, May 31, 2000.
Appellate Body Report	United States-Measures Affecting Trade in Large Civil Aircraft (2nd complaint),WT/DS353/AB/R, March 23, 2012.
Appellate Body Report	European Communities – Regime for the Importation, Sale and Distribution of Bananas, WT/DS2, September 25, 1997.
Appellate Body Report	United States- Subsidies on Upland Cotton, WT/DS267/AB/R, March 3, 2005.
Appellate Body Report	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, May 6, 2013.
Appellate Body Report	European Communities and Certain Member States - Measures Affecting Trade in Large Civil Aircraft,WT/DS316/AB/R, May 18, 2011.

Appellate Body Report	India- Certain Measures relating to Solar Cells and Solar Modules, WT/DS456/AB/R, September, 16, 2016.
Appellate Body Report	Mexico – Tax Measures on Soft Drinks and Other Beverages, WT/DS308/AB/R, March 6, 2006.
Appellate Body Report	United States - Standards for Reformulated and Conventional Gasoline,WT/DS2/AB/R, April 29, 1996.
Appellate Body Report	United States - Final Dumping Determination on Softwood Lumber from Canada, WT/DS264/AB/R, August 11, 2004.