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국제학석사학위논문

**Legal Implications of
Canada-Renewable Energy Dispute
for the Feed-in Tariff Program in Korea**

캐나다 재생에너지 분쟁의
국내 발전차액지원제도에 대한 법적 함의 연구

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서울대학교 국제대학원

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차지은

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Canada-Renewable Energy Dispute
for the Feed-in Tariff Program in Korea**

by

Jieun Cha

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the degree of Master of International Studies (M.I.S.)

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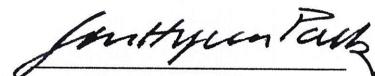
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ABSTRACT

With the Paris Agreement entering into force on 4 November 2016, all the contracting parties, from developed to developing countries, share common but differentiated responsibilities to respond to the urgent threat of climate change. The Paris Agreement may have limitations in that some obligations, such as those regarding the amount of greenhouse gas (GHG) emission reductions and financial support, are not legally binding and international laws are generally regarded as less coercive than domestic laws. Nevertheless, the member countries agreed to enhance the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and implement more specific and aggressive action plans including the submission of Nationally Determined Contributions (NDCs), periodic “global stocktaking,” and further details about the Paris Agreement will continue being discussed in the Conference of the Parties (COP), which will result in considerable changes to individual countries’ economic, energy, and industrial policies. In particular, the likely reduction of the use of fossil fuel energy, which is one of the main causes of GHG emissions, spurs each country to develop and apply renewable energy technologies for energy security, a response to climate change, and a new growth engine for sustainable development.

The renewable energy industry is one of the main industries that need

huge upfront costs to be established. Additionally, it is one of the means of resolving the negative externality caused by the use of fossil fuels and providing the positive externality of creating new technologies, which needs governmental support to develop technologies and promote extensive diffusion. In other words, subsidies from the government could be inevitable to nurture the industry. However, they can be filed to the World Trade Organization (WTO) when such support is provided to domestic companies that are competing with those of other trading partners. In addition, the current global economic recession can easily entice individual countries to use subsidies to protect their domestic industries, so each country pays close attention to their trading partners' subsidy policies.

Needless to say, WTO agreements including the Agreement on Subsidies and Countervailing Measures (SCM Agreement) were introduced to regulate the illegal subsidies disrupting international trade. Meanwhile, the agreements themselves and some Dispute Settlement Body (DSB) rulings have confirmed that the agreements are also grounded in the recognition that they might not be unreasonable obstacles for government assistance to help develop their own economy. This may mean that a legitimate subsidy policy in compliance with WTO agreements can be operated. This kind of approach leaves room to simultaneously achieve two significant objectives in international societies: coping with climate change and promoting free trade in

a fair-trade environment through the harmonization of the UNFCCC regime and the WTO regime.

The UNFCCC regime encourages each government to aggressively intervene in the market to fix the market failure in the climate change field. In contrast, the WTO regime has been against most government interventions to promote freer trade. This paper examines the historical background for determining potential conflicts of the two regimes and reviews the actual disputes. In particular, the Canada–Renewable Energy dispute is scrutinized to find a way for the Feed-in Tariff (FIT) Program in Korea, one of the major policies for renewable energy dissemination, to be consistent with WTO agreements, including the SCM Agreement, Agreement on Trade-Related Investment Measures (TRIMs Agreement), and General Agreement on Tariffs and Trade 1994 (GATT 1994).

Renewable energy dissemination policy is a new engine for the promotion of sustainable development as well as a means with which to cope with climate change; it will present a way to continue promoting stable economic development without creating international disputes, while faithfully fulfilling the obligations of GHG emission reductions if renewable energy dissemination policy is implemented in compliance with WTO agreements. Hopefully, the efforts in the paper will determine a way for the FIT program to be reasonably implemented in accordance with WTO agreements in the short

run and, at the same time, help to reconcile the New Climate regime with the WTO regime in the long run.

Key Words: United Nations Framework Convention on Climate Change (UNFCCC), Paris Agreement, General Agreement on Tariffs and Trade (GATT), Agreement on Subsidies and Countervailing Measures (SCM Agreement), Agreement on Trade-Related Investment Measures (TRIMs Agreement), Renewable Energy, Canada–Renewable Energy dispute (DS412, DS426), Feed-in Tariff (FIT)

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LIST OF FIGURES & TABLES

[Figure 1] Global New Investment in Renewable Power and Fuels, Developed and Developing Countries, 2004-2014	29
[Figure 2] Structure of Electricity Industry in Korea	101
[Table 1] Renewable Energy Indicator: The Top Five Countries Annual Investment/Net Capacity Additions/Production in 2014	30
[Table 2] Renewable Energy Indicator: The Top Five Countries Total Capacity or Generation as of end-2014	31
[Table 3] Renewable Energy Indicator: Policies	32
[Table 4] Energy Consumption: The Top Ten Countries (2013)	85
[Table 5] Energy Consumption per Capita in Korea	86
[Table 6] Energy Dependence of Korea	86
[Table 7] Supply of Renewables by Countries	90
[Table 8] Cumulative Number of Countries/States/Provinces Enacting Feed-In Policies, and 2014 Policy Revisions	92

ABBREVIATIONS

AB	Appellate Body
BRICS	Brazil, Russia, India, China and South Africa
COP	Conference of the Parties
DCR	Domestic Content Requirement
DSB	Dispute Settlement Body
DSU	Dispute Settlement Understanding
ECJ	European Court of Justice
EEG	Erneuerbare-Energien-Gesetz
FIT	Feed-in Tariff
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GHG	Greenhouse gas
INDC	Intended Nationally Determined Contribution
KEPCO	Korea Electric Power Corporation
KEWESPO	Korea East-West Power Co., Ltd.
KHNP	Korea Hydro and Nuclear Power Co., Ltd.
KOMIPO	Korea Midland Power Co., Ltd.
KOSEP(KOEN)	Korea South-East Power Co., Ltd.
KOSPO	Korea Southern Power Co., Ltd.

KOWEPO	Korea Western Power Co., Ltd.
KPX	Korea Power Exchange
LCR	Local Content Requirement
LDC	Local Distribution Company
NDC	Nationally Determined Contribution
RPS	Renewable Portfolio Standard
SCM Agreement	Agreement on Subsidies and Countervailing Measures
TRIMs Agreement	Agreement on Trade-Related Investment Measures
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

TABLE OF CONTENTS

ABSTRACT	i
LIST OF FIGURES & TABLES	v
ABBREVIATIONS	vi
I. Introduction	1
1. Background	1
2. Literature Review	7
II. Renewable Energy Issue in Trade Environments	9
1. What is Renewable Energy?	9
2. The Advent of Renewable Energy: Exhaustible Fossil-Fuel Energy	14
3. The Rebirth of Renewable Energy: Climate Change and Global Warming	18
4. Renewable Energy and Trade Conflicts	24
III. Renewable Energy Supply and WTO Disputes	29
1. The Current State of the Renewable Energy Industry	29
2. Renewable Energy Subsidies against the WTO	33
3. A Case Study of Canada–Renewable Energy Dispute	36
1) Background	37
2) Analysis of the Findings	40
(1) National Treatment	41
(2) Subsidy	50
3) Critical Review	56

(1) Should the Supply Side Have Priority over the Demand Side?	58	
(2) Is Conflict between the UNFCCC and WTO Regimes Inevitable?	60	
IV. The Feed-in Tariff (FIT) Program and WTO Agreements 62		
1. National Treatment of the GATT 1994 and TRIMs Agreement	62	
1) Article III GATT	63	
2) Article 2 TRIMs	67	
2. The SCM Agreement	69	
1) The Regulation on Non-Actionable Subsidies in the SCM Agreement	70	
(1) The Discussions about Non-Actionable Subsidies in the GATT/WTO	70	
(2) Environmental Subsidies in the SCM Agreement	72	
(3) The Current State of Non-Actionable Subsidies : Terminated, but Negotiating	74	
2) Overview of the SCM Agreement	75	
(1) The Prerequisites for a Subsidy	75	
(2) Classification of a Subsidy	81	
V. Analysis of the Consistency of the FIT Program in Korea with WTO Agreements		85
1. The FIT Program in Korea	85	
2. Analysis of the Consistency of the FIT Program in Korea with WTO Agreements	93	

1) Consistency of the FIT Program in Korea with the National Treatment of the GATT 1994 and TRIMs Agreement	94
2) Consistency of the FIT Program in Korea with the SCM Agreement	99
VI. Conclusion	120
BIBLIOGRAPHY	122
APPENDIX	144
국문초록	150

I. Introduction

1. Background

With the Paris Agreement entering into force on November 4, 2016, all the contracting parties, from developed to developing countries, share “common but differentiated responsibilities” to respond to the urgent threat of climate change.¹ The said Agreement aims to “strengthen the global response to the threat of climate change, holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.”² Each party shall submit Nationally Determined Contributions (NDCs) once every 5 years and there should be a progression over time.³ More specific and

¹ Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC), and Salaheddine Mezouar, President of the twenty-second session of the Conference of the Parties (COP22) and Minister of Foreign Affairs and Cooperation of the Kingdom of Morocco, commented that “the Agreement is undoubtedly a turning point in the history of common human endeavor to overcome the existential threat of unchecked climate change.”

Patricia Espinosa and Salaheddine Mezouar. Paris Enters into Force – Celebration and Reality Check. Accessed 14 November 2016.

<http://newsroom.unfccc.int/paris-agreement/paris-agreement-enters-into-force-celebration-and-reality-check/>

² Paris Agreement Art 2.1

³ UNFCCC NDC Registry states as follows:

According to Art 4 paragraph 2 of the Paris Agreement, each Party shall prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions. Furthermore in accordance

aggressive action plans will continue to be discussed at the Conference of the Parties (COP), which will result in considerable revisions in individual countries' economic, energy, and industrial policies.

On June 30, 2015, Korea submitted its Intended Nationally Determined Contribution (INDC)⁴ to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat according to which Korea "plans to reduce its greenhouse gas (GHG) emissions by 850.6 MtCO₂eq, 37% from the business-as-usual (BAU) level by 2030 across all economic sectors."⁵ While there may be some doubts about the ways to calculate the objectives and the possibility of achieving them, the basic policy is that the reduction will be made with 25.7% from home and 11.3% from abroad, which will inevitably promote the development and diffusion of renewable energy that discharges less GHG

with Art 4 paragraph 12 of the Agreement, NDCs communicated by Parties shall be recorded in a public registry maintained by the secretariat. (Accessed 14 November 2016. http://unfccc.int/focus/ndc_registry/items/9433.php)

Paris Agreement Article 4 provides that:

2. Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.
3. Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

⁴ World Resources Institute describes "INDC" and "NDC" as follows:

The word "intended" was used because countries were communicating proposed climate actions ahead of the Paris Agreement being finalized. However as countries formally join the Paris Agreement and look forward to implementation of these climate actions – the 'intended' is dropped and an INDC is converted into a Nationally Determined Contribution (NDC). (Accessed 14 November 2016. <http://www.wri.org/indc-definition>)

⁵ Submission by the Republic of Korea, Intended Nationally Determined Contribution; A press release by the Ministry concerned (2015)

emissions than fossil fuels, and can therefore be expected to replace it.⁶

The renewable energy industry is a basic industry⁷ that needs huge upfront costs to be established. Furthermore, it is one of the means of resolving negative externalities caused by the use of fossil fuels, while creating positive externalities such as the development of new technologies; consequently, the industry needs the government's support to develop the technologies and to promote extensive diffusion.⁸ Said differently, a subsidy from the government could be inevitable to nurture the industry.⁹ However, it can be filed to the World Trade Organization (WTO) when such support is provided for products or companies that are in competition with other trading partners.¹⁰ In particular, the current global economic recession can easily entice individual countries to

⁶ Park, S.K.(2015); Park. J.H.(2016)

⁷ Lee, H.Y. and Uhm, J.H.(2014) define “basic industry” as follows:

Basic industry generally means the one producing the commodities which form the foundation for national economic activities, which includes the metal, energy, machine, and transport industries. (Ibid., p.17)

⁸ N. Gregory Mankiw (2008) explains “externality” as follows:

An externality arises when a person engages in an activity that influences the well-being of a bystander but neither pays nor receives any compensation for that effect. If the impact on the bystander is adverse, it is called a *negative externality*. If it is beneficial, it is called a *positive externality*. (p.196). GHG emissions and environmental pollution caused by the use of fossil fuel energy are included in the negative externality, as well as market failure where market left on its own fails to allocate resources efficiently. (Ibid., p.12) Meanwhile, research into new technologies provides a positive externality because it creates knowledge that other people can use. Because inventors cannot capture the full benefits of their inventions, they tend to devote too few resources to research. (Ibid., p.196) In the presence of externalities, society's interest in a market outcome extends beyond the well-being of buyers and sellers who participate in the market to include the well-being of bystanders who are affected indirectly. Because buyers and sellers neglect the external effects of their actions when deciding how much to demand or supply, the market equilibrium is not efficient when there are externalities. (Ibid., p196)

⁹ Lee, H.Y. and Uhm, J.H.(2014), pp.16-17

¹⁰ Ibid., p.17

use subsidies to protect their domestic industries, which is precisely why each country pays great attention to their trading partner's subsidy policies.¹¹

There have been seven actual disputes regarding renewable energy subsidies in the WTO,¹² one of which being the Canada–Renewable Energy dispute whose measure at issue was the Feed-in Tariff (FIT) program, one of the main renewable energy dissemination programs.¹³ Korea had operated the FIT program for 10 years, from 2002 to 2012, and, due to cost-bearing, has now switched into the Renewable Portfolio Standard (RPS) program¹⁴. However, the FIT program is still ongoing in Korea; the discussion over the reintroduction of the FIT program is in the process by tabling a bill in the Congress¹⁵, the

¹¹ Ibid.

¹² Canada–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412) / Canada–Measures Relating to the Feed-in Tariff Program (WT/DS426); China–Measures concerning wind power equipment (WT/DS419); United States–Countervailing Duty Measures on Certain Products from China (WT/DS437); European Union and Certain Member States–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS452); India–Certain Measures Relating to Solar Cells and Solar Modules (WT/DS456); European Union–Certain Measures on the Importation and Marketing of Biodiesel and Measures Supporting the Biodiesel Industry (WT/DS459); United States–Certain Measures Relating to the Renewable Energy Sector (WT/DS510)

¹³ Canada–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412), Canada–Measures Relating to the Feed-in Tariff Program (WT/DS426); the case was filed by Japan and the EU, respectively, and later circulated in a combined document.

¹⁴ According to a press release by Ministry of Knowledge and Economy (2010), the RPS places an obligation on electricity supply companies over a certain scale to produce a specified portion of their electricity from renewable energy sources.

¹⁵ A press release by Representative Kim, J.N.(2015); A proposition on act on the promotion of the development, use and diffusion of new and renewable energy by Representative Son G.J. et al.(2016); Song Y.J.(2016), p.14

existing generators will be benefited till 2025, though the support for the new generators is terminated.¹⁶ Moreover, the FIT programs in the local governments, such as Seoul and Gyeonggi Province, have been operated.¹⁷ Therefore, Korea is not free from the consistency issue of the FIT program in the WTO, especially in view of the fact that the Canada–Renewable Energy dispute was defended by Canada on behalf of the Ontario government.¹⁸ The analysis of the Canada–Renewable Energy dispute will demonstrate the attitude of the WTO towards climate change measures, on which basis scrutiny on renewable policies in Korea, particularly the FIT program in terms of its accordance with WTO agreements, including the Agreement on Subsidies and Countervailing Measures (SCM Agreement), Agreement on Trade-Related Investment Measures (TRIMs Agreement), and General Agreement on Tariffs and Trade 1994 (GATT 1994), will help head off international collisions in advance.

¹⁶ Budget plan for the FIT Program in Korea (Year, 100 mil KRW)

Year	2012	2013	2014	2015	2016	2017	2018
Sum	3,950	3,950	3,950	3,950	3,950	3,916	3,894
Year	2019	2020	2021	2022	2023	2024	2025
Sum	3,885	3,860	3,835	3,669	2,740	1,308	617

Data Sources: Ministry of Knowledge (2011); Koo, M.G.(2013);
A press release by KPX(2012); Hong , S.P. & Jeong, D.W.(2012), pp.150-151

¹⁷ A press release by the Seoul government (2013); A press release by the Seoul government (2014); Notification No. 2014-41 of the Gyeonggi government (2014)

¹⁸ Principal agents of WTO agreements are basically states or international organizations. (Oh, S.Y. (2013), p.364)

Needless to say, WTO agreements were introduced to regulate illegal subsidies distorting international trade.¹⁹ Meanwhile, the agreements themselves and some Dispute Settlement Body (DBS) rulings have confirmed that the agreements are also grounded in the recognition that they might not be unreasonable obstacles for government assistances to help develop their own economy.²⁰ It may mean that a legitimate subsidy policy in compliance with the agreements can be operated. This type of approach leaves room to simultaneously achieve two significant objectives in international societies: Coping with climate change and the promotion of free trade in fair-trade environments through harmonizing the regimes of both the UNFCCC the WTO.

The present paper examines the historical background for determining the potential conflicts between the two regimes and reviews their actual disputes.²¹ The analysis on the Canada–Renewable Energy dispute particularly

¹⁹ Jeong, I.S. et al. (2008), p.413, p.190; Seong J.H.(2006), p.180; Choi, S.H.(2003), p.315; Chae H.B.(2001), p.200; John H. Jackson (1997), p.44; John H. Jackson (2008), p.848; Lee J.M.(2011), p.220

²⁰ See e.g. Panel Report, Canada–Measures Affecting the Export of Civilian Aircraft (WT/DS70/R), para. 9.119; Lee J.M.(2011), pp.220-221;

Art. III:8(b) of the GATT leaves room for subsidies to be exempted from the national treatment obligations imposed by the GATT, while subsidies are regulated by the SCM Agreement.

Furthermore, footnote 23 of Art 8.1 SCM, which is no longer in force though, admits various government interventions in the market, noting as follows:

It is recognized that government assistance for various purposes is widely provided by Members and that the mere fact that such assistance may not qualify for non-actionable treatment under the provisions of this Article does not in itself restrict the ability of Members to provide such assistance.

²¹ Potential conflicts are considered to exist between the two regimes regarding the different purposes of

helps guide the FIT program in Korea to remain in accordance with WTO agreements. It will help continue promoting stable economic development without international disputes, while faithfully fulfilling the obligations of GHG emission reductions if renewable energy dissemination policy is implemented in compliance with WTO agreements.

2. Literature Review

Since the UNFCCC took effect in 1994 and the Kyoto Protocol was adopted three years later, there have been continued concerns and efforts, both within the country and abroad, to reconcile the UNFCCC and the WTO regimes. In particular, the Canada–Renewable energy dispute provoked many discussions at home; the limitations were that some of them analyzed only the case, while others studied broad conflicts between the general renewable subsidy or environmental subsidy and WTO agreements, but did not go into much detail.²² Studies on the FIT program in Korea were conducted in various fields, predominantly, in technology and engineering domains, or in the form of

them; while the UNFCCC encourages active governmental interventions in the market to fix the market failure in the climate change field, the WTO excludes most governmental interventions as much as possible to pursue free trade.

²² See Kim, D.W.(2014); Kim S.B.(2009); Kim, H.K.(2009); Bae, S.Y.(2011); Oh, S.Y.(2013); Lee, C.K.(2014)

economic or political analyses²³; therefore, relevant studies conducting a legal analysis of the FIT program in Korea have been scarce, though one study performed a legal analysis of the FIT program in the EU and the SCM Agreement.²⁴

In this context, the present paper undertakes a legal analysis of potential violations of the FIT program in Korea with WTO agreements and seeks constructive ways to maintain consistency with the agreements. For this purpose, this paper tries to go a step further by reviewing the historical background of how renewable energy policies have got easily engaged with trade disputes and by outlining the ways for the FIT program in Korea to be harmonized with WTO agreements.

²³ See Koo, M.G.(2013); Choi, I.H.(2011); Hong, Y.S.(2010); Papers on technology and engineering domains are excluded.

²⁴ See Park, J.H.(2012)

II. Renewable Energy Issue in Trade Environments

1. What is Renewable Energy?

There is no internationally approved definition of renewable energy.²⁵

The International Energy Agency (IEA)²⁶ states that renewable energy is energy gained from natural sources, such as the energy from solar, wind, thermal heat, hydropower, bio and marine sources.²⁷ In general, energy sources that are classified as renewables in accordance with the IEA's statistical data include solar heat, solar light, wind power, hydropower, marine, thermal heat, solid bio, bio fuel, bio gas, urban waste (renewable), industrial waste, and urban waste (non-renewable), with additions or exceptions per the IEA member country in light of its resource endowments and environmental standards.²⁸

Korea has defined energy as: those that convert existing fossil fuels are new energy, and those that convert replenishables such as sunlight, water,

²⁵ MOTIE·KNREC (2015), p.95

²⁶ An autonomous institution installed under the OECD in September 1974 to implement the International Energy Program (IEP), which performs comprehensive programs among OECD countries on cooperation regarding energy issues. (MOTIE·KNREC (2015), p.117)

²⁷ International Energy Agency(IEA) defines “renewable energy” as follows:

Renewable energy is energy that is derived from natural processes (e.g. sunlight and wind) that are replenished at a higher rate than they are consumed. Solar, wind, geothermal, hydropower, bioenergy and ocean power are sources of renewable energy. The role of renewables continues to increase in the electricity, heating and cooling and transport sectors.(Accessed 14 November 2016. <http://www.iea.org/topics/renewables/>);

²⁸ MOTIE·KNREC (2015), p.95

geothermal, precipitation, and bio-organisms as renewable energy in accordance with Article 2 of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy since 2005 and has classified it into 12 categories.²⁹

The characteristics and significance of renewable energy can be summarized as follows (with reference to *New and Renewable Energy Law and Policy* by S.P. Hong and D.W. Jeong(2012)).³⁰ First, unlike the relatively high concerns for the depletion of fossil fuels such as coal, crude oil, and natural gas, concerns regarding renewables are extremely low,³¹ which is why renewable energy is expected to reinforce energy security by substituting for fossil fuels.³²

²⁹ Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy states the following:

Article 2 (Definitions) The definitions of terms used in this Act shall be as follows:

1. The term “new energy” means any of the following energy that is either converted from existing fossil fuels or uses electricity or heat generated through the chemical reaction of hydrogen, oxygen, etc.:
 - (a) Hydrogen energy;
 - (b) Fuel cells;
 - (c) Energy from liquefied or gasified coal, and energy from gasified heavy residual oil which fall within the criteria and scope prescribed by Presidential Decree;
 - (d) Other energy prescribed by Presidential Decree, other than petroleum, coal, nuclear power, or natural gas;
2. The term “renewable energy” means energy converted from renewable energy sources including sunlight, water, geothermal, precipitation, bio-organisms, etc., which falls under any of the following:
 - (a) Solar energy;
 - (b) Wind power;
 - (c) Water power;
 - (d) Marine energy;
 - (e) Geothermal energy;
 - (f) Bio energy converted from biological resources which falls within the criteria and scope prescribed by Presidential Decree;
 - (g) Energy from waste materials which falls within the criteria and scope prescribed by Presidential Decree;
 - (h) Other energy prescribed by Presidential Decree, other than petroleum, coal, nuclear power, or natural gas;

³⁰ Hong, S.P. & Jeong, D.W.(2012), pp.11-13

³¹ Ibid., p.11

³² Ibid.

Second, renewable fuels discharge much less GHG emissions, and can even be regarded as having zero GHG emission.³³ Hence, they are becoming important vehicles with which to accomplish GHG reduction goals and thus counter climate change.³⁴ Third, in terms of industrial aspects, the renewable energy industry is a new growth-driving industry that will create income and jobs.³⁵ The solar cell and module markets, and the wind-power generation market, are rapidly growing throughout the world in a manner comparable to that of the IT industry in the late 1990s and early 2000s; in fact, many experts expect this kind of accelerated growth to continue for a while.³⁶ Fourth, while fossil fuels have centralized supply systems, most alternative energy production methods have dispersed supply systems.³⁷ “Distributed and on-site generation with fully integrated network management” features in solar power, wind power, biomass generation, and fuel cells, which saves significant network costs compared to centralized systems and provides a more stable supply; therefore, it is regarded as a better supply means for energy security.³⁸ Fifth, while fossil fuels are largely concentrated in Central Asia, the Middle East, and Africa, renewable

³³ Ibid.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid., p.12

³⁷ Ibid.

³⁸ Ibid.

energy is relatively evenly distributed across the globe, which creates the potential for many countries to develop it.³⁹

However, renewable energy is not a perfect energy source, as it has the following limitations.⁴⁰ First, its relatively low economic value compared to fossil fuels can induce a high financial burden on citizens or the government.⁴¹ However, this can be resolved through continually refreshing the technology.⁴² Second, alternative energy sources require extremely high initial investment.⁴³ While the investment cost for an energy facility using conventional fuels is needed throughout its entire cycle, the cost for non-conventional fuels is highest at its early stages.⁴⁴ Resolving this issue will be an important part of developing the renewable energy industry.⁴⁵ Third, the amount of renewable energy available is greatly affected by aspects of the natural environment such as the time, season, and climate; hence, it is difficult to predict supply duration

³⁹ Ibid., p.13

⁴⁰ Ibid., p.14

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Hong and Jeong(2012) gives examples as follows:

Let us take as examples a wind power generator and a thermoelectric power plant using bituminous coal. While the wind-power generator requires a high investment cost during construction, it only needs a small maintenance cost during the operation, as it only demands wind. Hence, the investment cost at the early stage is extremely high. On the other hand, a thermoelectric power plant using bituminous coal requires a relatively lower investment cost, but during the operation, it will consistently consume fuels (bituminous coal); therefore, the investment cost is relatively evenly distributed throughout the whole cycle.(Ibid., p.14)

⁴⁵ Ibid., pp.14-15

and volume.⁴⁶ In addition, the difficulties in storing electricity make the electricity supply from renewables extremely unstable.⁴⁷ Therefore, the pre-establishment of systems such as a smart grid and smart meters is required.⁴⁸ Fourth, although renewable energy is believed to be highly effective at reducing pollution and GHG emissions, this may not be the case, depending on where energy facilities are located and how to supply energy resources.⁴⁹ For example, a solar-power generation system and a bio-fuel crop cultivation facility may damage a forest and thus their establishment may create more GHGs.⁵⁰

In *The Third Industrial Revolution*, futurist Jeremy Rifkin states that the tertiary industrial revolution is driven by a combination of Internet communication technology and renewable energy.⁵¹ He emphasizes the fact that the great economic revolutions of the past occurred when a new communication technology was combined with a new energy system.⁵² In the 19th century, the energy system based on steam engines and coal coincided with

⁴⁶ Ibid., p.15

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid., pp.14-15

⁵¹ Jeremy Rifkin (2011), pp.35-36, 70-71

⁵² Ibid.

massive advancements in printing and publishing communication technology; in the 20th century, crude oil resources and the electric communication technology, such as telephones and television, were brought together; presently, the combination of renewable energy and the Internet technology will fundamentally change all aspects of our lives and businesses.⁵³ Now, what renewable energy sources are available to countries must be a matter of choice with regard to development and dissemination, and whether to develop relevant technology is no longer a matter of choice.

2. The Advent of Renewable Energy: Exhaustible Fossil-Fuel Energy

There have been constant concerns over the depletion of fossil fuels. The exhaustion of coal reserves emerged as an issue in the 19th century⁵⁴, and

⁵³ Jeremy Rifkin proposes the following five core elements of the industrial revolution (Jeremy Rifkin (2011), pp.70-71):

- (1) Changing from a fossil-fuel energy system based on carbon to a new renewable energy system;
- (2) Transforming all buildings and houses into mini power plants to produce renewable energy on-site;
- (3) Distributing hydrogen or other storage technologies to all buildings and across the entire social infrastructure to store occasionally produced renewable energy and secure continuous and reliable supply system for green electricity;
- (4) Using Internet communication technology to change the electricity grid into an intelligent utility network through which green electricity produced from millions of houses and buildings is sent back to the grid, where it is shared in an open-source space with others, as information is produced and shared on the internet;
- (5) Shifting all vehicles, such as cars, buses, trucks, and trains, to “electric plug-in and fuel cell vehicles” depending on the generation from millions of buildings and installing charging stations throughout a country and continent where people buy and sell electricity through a dispersed electricity grid.

⁵⁴ In his speech at the British Association for the Advancement of Science in Edinburgh in 1881, William Thomson, one of the greatest scientists in the 19th century who is widely known as “Lord Kelvin,” warned that coal reserves had been depleted worldwide, the energy basis in Britain was very unstable, and disaster

the end of the “Fossil Fuel Age,” including crude oil, was predicted in the 20th century.⁵⁵ Two oil crises in the 1970s and fluctuating oil prices have increased the attention people pay to energy security; accordingly, many advanced countries have tried to depend less upon fossil fuels, especially imported crude oil, to secure their energy independence.⁵⁶ The instability of some oil-exporting countries, reoccurrence of resource nationalism, the cost of imported energy, and geographic tensions have also stimulated interest in new energy sources.⁵⁷ Meanwhile, assertions against “peak oil theory” have remained firm, with critics arguing that the estimated amount of worldwide oil deposits has continuously increased with the development of new fossil-fuel-mining technologies and the discovery of new oil fields.⁵⁸ Moreover, the commercialization of fracking technology⁵⁹ in 1998 made shale-gas production

was looming. (Daniel Yergin (2011), p.3)

⁵⁵ Three quarters of a century passed after the address of Lord Kelvin. Then, Admiral Hyman Rickover, praised as the “father of the nuclear navy” in the U.S., predicted the end of the “Fossil Fuel Age,” asserting that fossil fuels would be exhausted sometime after 2000 and be completely used up by 2050.(Ibid.) In the 21st century, people’s fear of oil exhaustion is based on the “peak oil theory” proposed in 1956 by M. King Hubbert, a U.S. geologist: Oil production has neared or already reached its peak and the yield will reduce then finally run out. (Ibid., p.227) Some researchers assert that the above theory was returned to the spotlight because no big oilfield has been found in the past decade, while oil production in the U.S. peaked in the 1970s, and the production from half of the top 20 oilfields in the world has declined.(Maeng, H.G.(2010), pp.211-212)

⁵⁶ Daniel Yergin (2011), p.227; Korean Resource Economics Association (2012), p.110

⁵⁷ Daniel Yergin (2011), p.227

⁵⁸ Ibid.

⁵⁹ LSF(light sand fracturing). Daniel Yergin(2011), pp.264-265

continue to increase, which resulted in the brighter business prospects of North American LNG. All of these add more doubt regarding said theory.⁶⁰

The rosy prospects of the fossil-fuel supply and the low economic value of alternative energy technology have lessened efforts to reduce dependence on conventional fuels for a while. However, it is obvious that fossil fuel use cannot continue increasing despite technological developments, since the world's resources are limited. Furthermore, the rapid growth of developing countries, such as Brazil, Russia, India, and China (BRICs), threatens an energy consumption crisis.⁶¹ Ten years ago, the power-generation capacity of China was one third of that in the U.S. However, now the capacity in China, called "the global factory," surpasses that of the U.S.⁶² In 2005–2010, the total power capacity of China doubled, and the consistent increase in coal demand made China less self-sufficient in terms of coal.⁶³ China, once a great coal-exporting country, has now become the second top importer of coal in the world.⁶⁴ Even worse, the electricity consumption in India is expected to increase by five times

Fracking—otherwise Known as hydraulic fracturing—is a technique that was first used at the end of the 1940s. It injects large amounts of water, under high pressure, combined with sand and small amounts of chemicals, into the shale formation. This fragments underground rock, creating pathways for otherwise trapped natural gas (and oil) to find a route and flow through to the well.

⁶⁰ Ibid., p.282, p.327

⁶¹ Maeng, H.G.(2010), pp.211-212

⁶² Daniel Yergin (2011), p.211

⁶³ Ibid.

⁶⁴ Ibid.

in 2010–2030.⁶⁵ As Thomas Friedman points out, it is really doubtful that the energy supply can become stable when the population globally, especially in China, India, and Brazil, is growing rapidly, and the middle classes in the world, who demand to consume as much energy as those in the U.S., are strikingly increasing in size.⁶⁶ Suppose that billions of individuals in the third world who have been excluded from the benefits of electricity demand to enjoy the same benefits as those that developed countries have exclusively enjoyed. Moreover, with the development of advanced electronic technology and people's higher dependence on high-tech devices, the electricity consumption in advanced countries has been increasing.⁶⁷ No country will definitely be able to survive this era of resource depletion.⁶⁸ That is why the efforts to discover alternate energy sources such as renewables to address fossil fuel depletion should no longer be ridiculed as wasted effort based on unnecessary and overblown concerns.

⁶⁵ Ibid., pp.396-397

⁶⁶ For further discussion, refer to Thomas L. Friedman (2008), pp.154-169; Hong, S.P. & Jeong, D.W.(2012), p.3

⁶⁷ Daniel Yergin (2011), pp.396-397

⁶⁸ Hong, S.P. & Jeong, D.W.(2012), p.3

3. The Rebirth of Renewable Energy: Climate Change and Global Warming

Simple curiosity regarding the Alps in the 1770s led to studies on climate change.^{69,70} Some scientists' research that was apparently performed more systematically in the 19th century was not based on global warming concerns⁷¹ either.⁷² Rather, they were anxious about the advent of the glacial age. It was not until the late 1950s and early 1960s that a few experts started to measure the increasing carbon in the atmosphere and try to determine what the temperature rises meant.⁷³ Against all the odds, the global warming risk was

⁶⁹ UNFCCC Article 1.2 defines climate change as follows:

"Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods;

Meanwhile, the Framework Act on Low Carbon, Green Growth defines climate change as follows:

Article 2 (Definitions)

12. The term "climate change" means a change in the climate system, which is incurred by changes in the concentration of greenhouse gases as a consequence of human activities, in addition to a natural climate change that has been observed during a considerable period.;

Kim, D.W.(2014) p.412

⁷⁰ Daniel Yergin (2011), p.7

⁷¹ Paik, J.H.(2003) has defined global warming as follows (Paik, J.H. (2003), p.3):

Global warming is a natural phenomenon caused from the characteristics of the global atmosphere that selectively reacts to different types of radiant heat. In other words, while the global atmosphere readily penetrates the short-wave radiant energy from the Sun, it absorbs and then emits the radiant heat discharged from the Earth to preserve the temperature of the Earth, which is often called the greenhouse effect. This phenomenon is caused from the selective penetration of specific gas elements in the atmosphere, which are called greenhouse gases, such as carbon dioxide, nitrous oxide, methane and ozone.

⁷² Daniel Yergin (2011) , p.7

⁷³ Ibid.

detected, rather than that of Earth cooling.^{74,75} A report called “The Limits to Growth”⁷⁶ was announced by the Club of Rome⁷⁷ in 1972 to raise questions about environmental issues, and global warming started being seriously discussed as a key factor of frequent natural disasters after the 1980s.⁷⁸

In the Toronto Conference in June 1988, scientists and political decision makers urged on action plans to protect the atmosphere, including the adoption of the International Framework Convention.⁷⁹ Afterward, the Intergovernmental Panel on Climate Change (IPCC)⁸⁰ was launched in Geneva

⁷⁴ Ibid.

⁷⁵ Paik, J.H.(2003) describes the reason of global warming phenomenon as follows:

The reason why the global warming phenomenon is regarded as one of the most critical challenges faced by human beings is because GHGs have been increasing and have accumulated in the atmosphere at an unprecedented rate. The GHG emissions discharged from human activities have actually increased the GHG concentration in the atmosphere, which has accelerated the greenhouse effect that occurs naturally and caused an additional increase in the surface temperature of the Earth. While there are still huge scientific uncertainties regarding global warming and its threats, it is mostly agreed on that the increase in GHG emissions by human activities reinforces the heat absorption capability of the global atmosphere, resulting in global warming; (Ibid., pp.3-4)

and it is believed that recent abnormal climate phenomena are caused by global warming.

⁷⁶ Jeong, S.W.(2005), p.272; Kim, S.B. (2009), p.75

⁷⁷ The Club of Rome was introduced as follows:

The Club of Rome was formed by an Italian businessman called Aurelio Peccei in 1968. It was named after a meeting in which European leaders, businessmen, scientists, and teachers, who were conscious of the limits of the earth, met to discuss issues in Rome. It aimed to search for solutions, warn, and advise over human crises, such as the depletion of natural resources and environmental pollution. <http://www.clubofrome.org>. (Kim, S.B.(2009), p.75)

⁷⁸ Daniel Yergin (2011), p.7

⁷⁹ Paik, J.H.(2003), pp.4-5

⁸⁰ Paik, J.H.(2003) introduces IPCC as follows:

The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental consultative group that was established by United Nations Environment Program (UNEP) and World Meteorological Organization (WMO) in 1988 where scientists participate in the analysis of the causes, effects, and responsive strategies regarding global

by a group of scientists in November 1988, and its preliminary report, which recognized the possibility that humans have caused global warming, was submitted in October 1990.^{81,82} The report drove as many as 157 countries to agree on the adoption of the UNFCCC,⁸³ which can be regarded as the basic law on climate change,⁸⁴ at the UN Conference on Environment and Development (UNCED)⁸⁵ held in Rio de Janeiro in 1992. The convention officially took effect in March 1994 and international GHG regulations started to be discussed.⁸⁶

The UNFCCC has set its ultimate goal as stabilizing GHG

warming and submit the outcome in a report. (Ibid.)

⁸¹ Ibid., pp.3-6

⁸² The second IPCC report announced in 1995 positively recognized the human influence on the climate and environment, declaring that from all the evidence, the human influence on the climate of the earth is “discernible.” According to the fourth evaluation report by the IPCC announced in February 2007, the possibility that human beings are responsible for climate change is “very high.” *The Stern Review on the Economics of Climate Change*, published a few months earlier, stated that climate change is the biggest “market failure” ever. This report caused agitated disputes among economists, and its influence on politicians and environmental activists was significant. (Bolin (2008), pp.87-89; Kerr (2001), p.566; UNEP&WMO (1996), pp.4-5)

⁸³ Currently, 195 countries are members of the convention. Korea was the 47th to join the conference in 1993.

⁸⁴ Lee, K.Y. & Cho, H.S.(2010)

⁸⁵ UNCED was held in Rio de Janeiro in June 1992 based on the determination of the UN General Assembly. It is also known as the Earth Summit or the Rio Summit after the host city. The conference was held to create a global action plan on environmental issues, which emerged as an important agenda after the collapse of the cold war system in the late 1980s. The scale of the conference was unprecedented, attended by 178 nations, with 118 heads of state or government. (Foreign Affairs and Trade Glossary; James Gustave Speth & Peter M. Hass (2006), p.69).

⁸⁶ Hong, S.P. & Jeong, D.W.(2012), p.6

concentrations in the atmosphere by hindering “dangerous anthropogenic interference with the climate system.”^{87,88} For this purpose, member countries were classified into Annex I, Annex II, and Non-Annex I countries according to their “common but differentiated responsibilities” and promised to reduce GHG emissions in keeping with their different capacities.⁸⁹ However, non-legally

⁸⁷ The ultimate goal of the UNFCCC is ambitious. UNFCCC Article 2 describes its objective as follows:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

The term “anthropogenic” means “human” in Latin. The consultation focused on GHG emissions from the outcome of human activity, such as burning coal, oil, and natural gas and demolishing forests. (Irving M. Mintzer and J. Amber Leonard, eds. (1994))

⁸⁸ Hong, S.P. & Jeong, D.W.(2012), p.6

⁸⁹ The UNFCCC introduces Annex groups as follows:

The Convention divided the countries into three main groups with differing commitments:

Annex I

Parties include the industrialized countries that were members of the OECD (Organisation for Economic Co-operation and Development) in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States.

Annex II

Parties consist of the OECD members of Annex I, but not the EIT Parties. They are required to provide financial resources to enable developing countries to undertake emissions reduction activities under the Convention and to help them adapt to adverse effects of climate change. In addition, they have to "take all practicable steps" to promote the development and transfer of environmentally friendly technologies to EIT Parties and developing countries. Funding provided by Annex II Parties is channelled mostly through the Convention's financial mechanism.

Non-Annex I

Parties are mostly developing countries. Certain groups of developing countries are recognized by the Convention as being especially vulnerable to the adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought. Others (such as countries that rely heavily on income from fossil fuel production and commerce) feel more vulnerable to the potential economic impacts of climate change response measures. The Convention emphasizes activities that promise to answer the special needs and concerns of these vulnerable countries, such as investment, insurance and technology transfer.

Accessed 23 November 2016. http://unfccc.int/parties_and_observers/items/2704.php

binding but declarative obligations for GHG reductions⁹⁰ were not regarded as enough to counter global warming, and more specific and aggressive action plans were discussed in Kyoto, where COP3 was held in 1997.⁹¹ As a result, the Kyoto Protocol compelled industrialized countries to reduce their collective GHG emissions by an average of 5.2% compared with the 1990s levels during the first pledge period (2008–2012) and introduced mechanisms based on the market principle.^{92,93}

The post-2012 consultations were not very smooth.⁹⁴ Consultations such as the Copenhagen Accord (2009), Cancun Agreement (2010), and Durban Outcome (2011) continued; however, there were almost no achievements. Extending the Kyoto Protocol for eight more years was barely agreed upon at COP 18 in Doha in 2012, with the very poor result that the “Big Four” (the US, China, Japan, and Russia), which had produced the most GHGs in the world,

⁹⁰ Sebastian Oberthür & Hermann E.Ott. (1999)

⁹¹ Hong, S.P. & Jeong, D.W.(2012), pp.6-7

⁹² The Kyoto Protocol introduced three market-based mechanisms: International Emissions Trading (IET), the Clean Development Mechanism (CDM), and Joint Implementation (JI)

⁹³ The Kyoto Protocol finally took effect in February 2005 with the support of the Putin government, constituting 17.4% of the total GHG emissions as of 1990, in spite of the U.S., one of the largest economies in the world, and Australia, a powerful coal-producing nation, refusing to ratify it. (Hong, S.P. & Jeong, D.W.(2012), pp. 6-7); However, the Bush administration’s lukewarm attitude towards the Protocol meant that international cooperation regarding climate change waned in many parts, and most advanced countries’ reduction obligations during the first (2008–2012) and second (2013–2020) pledge terms were not kept. (Lee,K.Y.& Cho, H.S.(2010))

⁹⁴ Hong, S.P. & Jeong, D.W.(2012), p.11

decided to opt out of the second round of the Kyoto Protocol.^{95,96} Nevertheless, the Paris Agreement was finally adopted at the COP21 in Paris on 12 December 2015; at the end of a long consultation of two weeks, a new climate change regime was about to be implemented.⁹⁷ The agreement was originally supposed to take effect from 2020 in place of the Kyoto Protocol, but entered into force much earlier than expected, on 4 November 2016, with the active participation of countries worldwide, there is a high expectation for the successful implementation of the Paris Agreement.⁹⁸ Unlike the Kyoto Protocol that

⁹⁵ Ibid.

⁹⁶ The conflict between developed and developing countries regarding the climate change agreement was somewhat predictable. Approximately 75% of the total accumulated carbon dioxide emitted in 1860–1990 was from industrial countries with only 20% of the total population. With the higher possibility of carbon restrictions, developing countries considered that measures to limit the use of hydrocarbons would interfere with their economic growth, which is why they strongly objected to these measures. (Daniel Yergin (2011) pp. 484–485) However, it was also unreasonable to exclude developing countries in seeking to resolve climate issues, which demand efforts throughout the world.

⁹⁷ As if reflecting the difficulty of the agreement, the final agreement was announced on 12 December, one day behind schedule, and the tone was also tempered from the legally binding “shall” to the persuasive “should” in stating the implementation responsibility of advanced countries. (Kim, S.H.(2015))

⁹⁸ While the broad frame of the Paris Agreement in place of the Kyoto Protocol is more legally binding, the provisions regarding setting objectives and financial support were voluntary and exempted from legal obligations given the burden and influence on domestic economy, which means that the Agreement has alleviated the burden of both developed and developing countries. Although member states are responsible for submitting NDCs that should be regularly reviewed, there is no direct disadvantage from violating the reduction target set by individual member states. This approach was the result of considering the bottom-up method, pledges, and review methods that respect the autonomy of each country based on the finding that the top-down method of the Kyoto Protocol largely contributed to some member countries’ refusals to ratify and their overdue adoption or implementation of the agreement. (Kyle Danish (2014); Yonhap (2015); BBC News (2015); Adoption of the Paris Agreement. (FCCC/CP/2015/L.9/Rev.1); Chosun (2015))

obliged only advanced countries to reduce their GHG emissions, the Paris Agreement has historical significance in that it is the first general climate agreement in which all 195 member states are responsible for GHG reductions.

The efforts to regulate climate change and carbon dioxide will change the energy policies and structures of energy markets and promote investments in technological research. All these circumstances spur every member country to raise its energy efficiency and reduce carbon emissions. The renewable energy industry, once regarded as a countermeasure to the depletion of fossil fuels, has slowly progressed due to the technological development and the supply expansion of conventional fuels, but has prevailed again as an important alternative to energy security measures,⁹⁹ climate change response, and for securing new growth momentum.¹⁰⁰

4. Renewable Energy and Trade Conflicts

Renewable resources were supposed to be countermeasures against the depletion of fossil fuels, and governments expected the renewable energy

⁹⁹ Park, J.S.(2015), p.1

¹⁰⁰ According to the determination that the use of fossil fuels has to be decreased to reduce GHG emissions, G20 member states pledged to phase out the fossil fuel subsidies at the Pittsburgh Summit in the U.S. in 2009. With continued discussions over its detailed implementation since then, the use of conventional fuels in the future is supposed to decrease. Therefore, countries are expected to accelerate the development and diffusion of renewable energy technology.

industry to become a new growth engine for sustainable growth and to stabilize economic development. That is, the policy to develop and supply renewable related industries and technologies was not implanted to protect the environment at first. Still, renewable energy policies are internally driven by each country to nurture its new industries to occupy the world energy market in advance while being implemented as a means to pursue the global common objective of GHG emission reduction. Therefore, renewable energy policies are usually regarded as an economic development strategy taking advantage of the energy and environmental crisis rather than an environmental strategy for reducing climate change.¹⁰¹

The global economic recession of 2008 and more developed countries paying close attention to fostering the green growth industry make it harder to deny all these perceptions.¹⁰² Take domestic policy for example, this understanding was confirmed by the fact that the Feed-in Tariff Program that promotes the development and diffusion of renewable energy has been governed by the Ministry of Knowledge Economy, rather than the Ministry of Environment. Moreover, the Ministry of Knowledge Economy itself recognized that “the low carbon green growth by former South Korean President Lee Myung-bak was an economic development strategy to become an advanced

¹⁰¹ Yoon, G.J.(2012), pp.35-37; Koo, M.G.(2013), p.14

¹⁰² Ibid.

country by taking the energy and environmental crisis as an opportunity rather than an environmental strategy applied to a low development country.”¹⁰³

Given this reality, there may be a higher chance of the supportive renewable energy policies being filed to the WTO, which pursues freer trade. There are four reasons for this higher possibility. First, renewable energy policy is generally regarded as a *de facto* infant industry, on which basis trading partners negatively affected by the policy are more likely to bring the case to the WTO, since they predict a higher possibility of winning. Second, an antinomic intention may lead to the litigation in the WTO to discontinue the benefits that foreign firms exclusively enjoy, which means that a government tries to exclude all the disadvantages that stem from the unfair trade environment and damage its domestic firms; on the other hand, it aggressively supports domestic industries which struggle to survive the fierce competition of the new industry. Third, renewable energy policies usually aid producers rather than consumers, which easily fulfills the requirement of “specificity” to be a subsidy regulated by the SCM Agreement.¹⁰⁴ Finally, one of the key characteristics regarding the renewable industry may result in more disputes in the WTO: unlike other infant industries, the renewable industry has both developed and developing countries in fierce competition.

¹⁰³ Koo, M.G.(2013), p.3

¹⁰⁴ Center for Energy & Environmental Law and Policy (2015), p.53

The new industrial development has been guided by the strategic investments of advanced countries, such as European countries and the U.S., and the competition has been fierce among these countries. However, the renewable energy industry has drawn much attention from both developing and developed countries, because the industry is relatively easily accessible for development due to lower regional inclination, which means that natural resources are everywhere, and emerging countries happen to have stronger development motives because of their rapidly increasing electricity consumption and critical environmental pollution issues. Hence, developing countries, such as India and China, have been actively diving into the competition; this results in high competition between developed and developing countries, which easily leads to WTO disputes. This can be confirmed by the comparison of the proportion of investment in the renewable energy industry between developed and developing countries¹⁰⁵ and the diversity of countries filed to the WTO.

For these reasons, there is a higher possibility of lawsuits regarding the violation of WTO agreements for the renewable energy policy compared with the supportive policy for fossil-fuel energy. In fact, only two out of eight cases filed to the WTO regarding energy subsidies since 2010¹⁰⁶ included challenges

¹⁰⁵ See [Figure 1] in p. 28

¹⁰⁶ Canada—Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412), Canada—

regarding fossil-fuel subsidies¹⁰⁷, while seven cases (the remaining six cases and the U.S.-Countervailing Measures dispute)¹⁰⁸ regarded the renewable energy subsidy.¹⁰⁹ With this in mind, countries need to review and analyze WTO agreements and disputes, and restructure their policies on renewable energy-related industries.

Measures Relating to the Feed-in Tariff Program (WT/DS426) ; China–Measures concerning wind power equipment (WT/DS419); United States–Countervailing Duty Measures on Certain Products from China (WT/DS437); European Union and Certain Member States–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS452); India–Certain Measures Relating to Solar Cells and Solar Modules (WT/DS456); European Union–Certain Measures on the Importation and Marketing of Biodiesel and Measures Supporting the Biodiesel Industry (WT/DS459); European Union and its Member States–Certain Measures Relating to the Energy Sector (WT/DS476); United States–Certain Measures Relating to the Renewable Energy Sector (WT/DS510)

¹⁰⁷ United States–Countervailing Duty Measures on Certain Products from China (WT/DS437), European Union and its Member States–Certain Measures Relating to the Energy Sector (WT/DS476);

To be precise, the U.S.–Countervailing Measures dispute involves both fossil fuel and renewable energy.

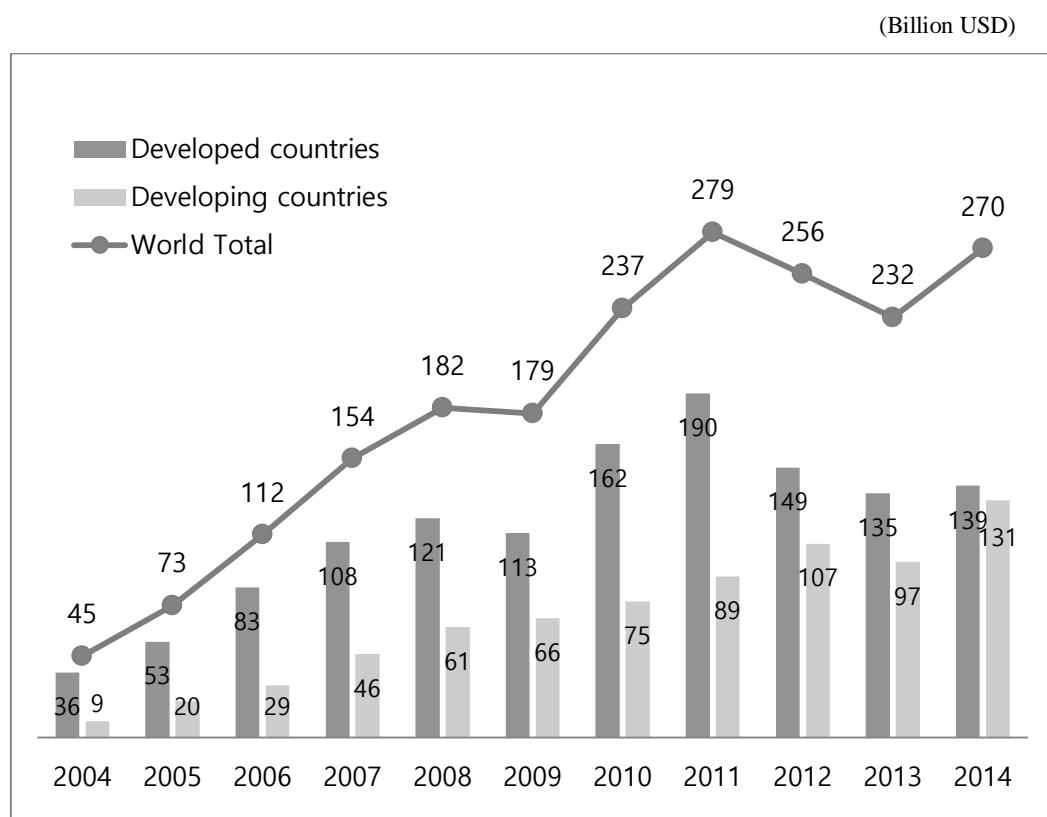
¹⁰⁸ See Supra note 12

¹⁰⁹ Henok Birhanu Asmelash (2015), pp.274-278; Ilaria Espa and Sonia E. Rolland (2015), p.10; Jonathan Hepburn (2013), p.5; WTO, List of disputes citing the SCM Agreement. Accessed 03 February 2017. https://www.wto.org/english/tratop_e/dispu_e/dispu_agreements_index_e.htm?id=A20; Center for Energy & Environmental Law and Policy (2015), pp.51-54

III. Renewable Energy Supply and WTO Disputes

1. The Current State of the Renewable Energy Industry

[Figure 1] Global New Investment in Renewable Power and Fuels,
Developed and Developing Countries, 2004-2014



Data Source: REN21 Renewables 2015 Global Status Report

The annual investment in the renewable energy industry has been on

the rise. This stems from the fact that major countries have heavily invested in the renewable energy, the new engine for their future development, with the purpose of developing new technologies and occupying the new energy market as well as fulfilling the duties the UNFCCC expects of them. The two tables below show that China is leading the renewable energy market ahead of major developed countries. Additionally, India, which is also a key developing country, is ranked at the top for the generation of various renewable resources, such as hydraulic, solar, and wind power. This shows that the renewable energy industry is a new growth industry regarding which developed and developing nations are fiercely competitive.

[Table 1] Renewable Energy Indicator: The Top Five Countries

Annual Investment / Net Capacity Additions / Production in 2014

	1	2	3	4	5
Investment in renewable power and fuels ¹¹⁰	China	United States	Japan	United Kingdom	Germany
Geothermal power capacity	Kenya	Turkey	Indonesia	Philippines	Italy
Hydropower capacity	China	Brazil	Canada	Turkey	India
Solar PV capacity	China	Japan	United States	United Kingdom	Germany
CSP capacity	United States	India	-	-	-
Wind power capacity	China	Germany	United States	Brazil	India

¹¹⁰ “Not including hydro>50MW” (REN21(2015), p.20)

Solar water heating capacity ¹¹¹	China	Turkey	Brazil	India	Germany
Biodiesel production	United States	Brazil	Germany	Indonesia	Argentina
Fuel ethanol production	United States	Brazil	China	Canada	Thailand

Data Source: REN21 Renewables 2015 Global Status Report

[Table 2] Renewable Energy Indicator: The Top Five Countries

Total Capacity or Generation as of end-2014

	1	2	3	4	5
Renewable power (incl.hydro)	China	United States	Brazil	Germany	Canada
Renewable power (not incl.hydro)	China	United States	Germany	Spain/Italy	Japan/India
Biopower generation	United States	Germany	China	Brazil	Japan
Geothermal power capacity	United States	Philippines	Indonesia	Mexico	New Zealand
Hydropower capacity ¹¹²	China	Brazil	United States	Canada	Russia
Hydropower generation	China	Brazil	Canada	United States	Russia
Concentrating solar thermal power (CSP)	Spain	United States	India	United Arab Emirates	Algeria
Solar PV capacity	Germany	China	Japan	Italy	United States
Wind power capacity	China	United States	Germany	Spain	India

Data Source: REN21 Renewables 2015 Global Status Report

¹¹¹ “Solar water collector (heating) rankings are for 2013 and are based on capacity of water (glazed and unglazed) collectors only; including air collectors would affect the order of capacity added, placing the United States slightly ahead of Germany rather than in sixth place, and would not affect the order of top countries for total capacity.” (REN21(2015), p.20)

¹¹² “Country rankings for hydropower capacity and generation differ because some countries rely on hydropower for baseload supply whereas others use it more to follow the electric load and to match peaks in demand.” (REN21(2015), p.20)

[Table 3] Renewable Energy Indicator: Policies

	2004	2013	2014
Countries with policy targets	48	144	164
States/ provinces/countries with feed-in policies	34	106	108
States/ provinces/countries with RPS/quota policies	11	99	98

Data Source: REN21 Renewables 2015 Global Status Report

As Table 3 shows, the number of the countries that operate renewable energy policies has also been on the rise. The renewable energy industry is a new growth engine as well as a means to solve market failure due to negative externality, such as GHG emissions and environmental pollution. There are usually two ways for a government to fix market failure by achieving the optimum level of output.^{113,114} The first is a price adjustment through which a government minimizes the negative externality using taxation, such as a Pigouvian tax, or maximizes the positive externality using a subsidy for an environmentally friendly act, which ultimately results in the optimum level.¹¹⁵ This is vulnerable in that it is hard to predict the extent of adjustment with the

¹¹³ The commodities accompanying negative externalities have a tendency of being supplied in excess because the decision-makers do not consider the loss or damage from the externalities. That is why government intervention is needed in this regard. (Choi, H.G.(2009), p.29)

¹¹⁴ Koo, M.G.(2013), pp.7-8

¹¹⁵ Ibid.

measure.¹¹⁶ The second is a quantity adjustment, which can be applicable to the pollution license system, in which only those with a permit can release pollutants.¹¹⁷ Such a direct regulation on quantity is more efficient if the optimum level is known.¹¹⁸ However, it also has a weakness in that a compulsory measure is needed.

The FIT and RPS programs, which are adopted by many countries in the renewable industry, are based on the previous two methods. In the former, a government guarantees the price difference between the market price and the high cost needed for generating renewable energy; in the latter, a fixed ratio of the production is generated from renewable resources.¹¹⁹ It is hard to decide which program is more effective; each country is choosing one of them or the hybrid system depending on their situation.¹²⁰

2. Renewable Energy Subsidies against the WTO

The green growth policy should be aggressively driven by the

¹¹⁶ Lee, J.S.(2010), p.69

¹¹⁷ Koo, M.G.(2013), pp.7-8

¹¹⁸ Lee, J.S.(2010), p.69

¹¹⁹ Lee, J.S.(2010), p.69; The FIT program focuses on promoting the investment in the new technologies, while the RPS program focuses on securing certain amount of the renewable energy. Park, J.H.(2012), pp.779-780

¹²⁰ Lee, J.S.(2010), p.80

government to build a new and solid foundation for its future development as well as to contribute to the global goal of the UNFCCC. However, there are a few considerations in advance, including the potential tension between the UNFCCC regime and the WTO regime. The UNFCCC regime was initiated by the awareness that climate change cannot be resolved only by the free market mechanism. Therefore, it encourages governments to intervene in the market through taxation, such as carbon tax, regulation action (e.g. mandates for renewable energy), or various subsidies (e.g. R&D subsidies).¹²¹ However, the problem is that some or many of such government interventions could be in violation of WTO agreements. For example, the SCM Agreement is against any subsidies that fulfill the requirements for a subsidy,¹²² irrespective of its objective.¹²³

There have already been seven cases brought to the WTO regarding

¹²¹ Kyoto Protocol to the United Nations Framework Convention on Climate Change states:

Article 2

- 1.Each Party included in Annex I, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development, shall:
 - (a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:
 - (iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;
 - (vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;

¹²² Generally, three elements are required for a regulated subsidy: financial contribution, benefit, and specificity. See IV.2 of the paper for more details.

¹²³ Part IV of the SCM Agreement (Non-actionable subsidies) was terminated on 31 December 1999. It has been stated in DDA that Non-actionable subsidies should be restored; however, little progress has been made in this regard.

renewable energy subsidies since 2010¹²⁴; four of them were settled or are pending, and only three cases, the Canada–Renewable Energy dispute¹²⁵, U.S.–Countervailing Measures dispute¹²⁶, and India–Solar Cells dispute¹²⁷, have adopted both the Panel and Appellate Body (AB) reports. A close look at the cases reveals that the challenged measures varied from those regarding specific renewable resources, such as solar cells and modules, wind power, and biodiesel, to policies including the FIT program, which supports various renewable resources. The defendants do not lean too much towards either developed countries (Canada, EU members and United States) or major developing countries (China and India), which shows the competitiveness and containment among the leading countries in the world regarding the renewable energy industry. Most of the cases were directly filed against the subsidies; however, there is one case against countervailing duties in which China has complained about the countervailing duties imposed by the United States.¹²⁸ One interesting fact is that every dispute involves Local Content Requirements (LCRs). This clearly exposes the fierce competitiveness among countries

¹²⁴ See supra note 12

¹²⁵ Canada–Certain Measures Affecting the Renewable Energy Generation Sector (DS412), Canada–Measures Relating to the Feed-In Tariff Program (WT/DS426). They will be analyzed in III.3 of the paper.

¹²⁶ United States–Countervailing Duty Measures on Certain Products from China (WT/DS437)

¹²⁷ India - Certain Measures Relating to Solar Cells and Solar Modules (WT/DS456)

¹²⁸ United States–Countervailing Duty Measures on Certain Products from China (WT/DS437)

regarding the new growth engine; the renewable energy industry is more likely to promote its own green technologies rather than mitigate global climate change.

3. A Case Study of Canada–Renewable Energy Dispute

It has not been long since the renewable energy policy started to be dealt with in the WTO; the first case was not brought to the WTO until 2010. In addition, only three cases have adopted the final reports.¹²⁹ The Canada–Renewable energy case was the first one sued in the WTO regarding the renewable energy subsidy, which was filed by Japan and the EU, respectively, and later circulated in a combined document. The measures at issue were the FIT program, the individual FIT contracts and micro FIT contracts by the Government of Ontario and its agencies in Canada.

The case attracted attention from many of the member countries, as was shown by the fact that as many as 13 countries, including the United States, China, India, and Korea, attended as third parties, since it was regarded that the concerns regarding the potential tension between pursuing green growth and

¹²⁹ The Canada–Renewable energy case (WT/DS412, WT/DS426) adopted the Appellate Body (AB) Reports in May 2013, the U.S.–Countervailing Measures case (WT/DS437) adopted in January 2015, and the India–Solar cells case (WT/DS456) adopted in October 2016, while the other four cases were settled during the consultation or are pending.

promoting free trade had been realized. Therefore, the finding of the WTO DSB was expected to be an important precedent that was to be dispositive in green policies.¹³⁰ The responsibility and the complexity of the issue might need more time for both the Panel and the Appellate Body reports to be circulated.

This chapter analyzes the legal issues of the case, especially concerning the inconsistency with WTO agreements, which will guide the FIT programs operated by individual countries, including Korea, towards the harmony with the WTO regime.

1) Background

The Canadian Province of Ontario established the FIT program under the Green Energy and Green Economy Act of 2009 in 2009.¹³¹ The generators of electricity, which yielded certain forms of renewable energy, in the province were eligible to be rewarded a guaranteed higher price per kWh of electricity delivered into the Ontario electricity system under long-term contracts, such as

¹³⁰ Park, J.H.(2012), pp.773-774

¹³¹ Panel Reports, Canada—Certain Measures Affecting the Renewable Energy Generation Sector (DS412) / Canada—Measures Relating to the Feed-In Tariff Program (WT/DS426), paras. 2.1, 7.64, 7.66;

Appellate Body Reports , Canada—Certain Measures Affecting the Renewable Energy Generation Sector (DS412) / Canada—Measures Relating to the Feed-In Tariff Program (WT/DS426), paras.1.2-1.3; hereafter collectively referred to as “Panel Reports” or “Appellate body (AB) Reports.”

20-year or 40-year contracts, with the Ontario Power Authority (OPA)¹³² only if they satisfied certain conditions.¹³³

The “minimum required domestic content level” must be satisfied for the generators to qualify for the program, which means the producers had to use at least a specified percentage of domestic content in the development and construction of the qualifying electricity generation facilities for the contract.¹³⁴ The percentages were applied differently to each renewable resource; the minimum percentage of the domestic content level set out in the FIT contract for facilities utilizing wind power with a contract capacity greater than 10kW was 25% (50% from 2012), and that one for facilities utilizing solar photovoltaics (PVs) was up to 50% (60% from 2011).^{135,136}

The government introduced the FIT program to stabilize the electric

¹³² “The OPA is an “agency” of the Government of Ontario responsible for managing Ontario’s electricity supply and resources in order to meet its medium and long-term needs.” Panel Reports, para. 7.37

¹³³ Panel Reports, paras. 2.1, 7.64, 7.66; AB Reports, paras..1.2-1.3

¹³⁴ Panel Reports, paras. 7.9, 7.64, 7.158-7.159; AB Reports, paras.1.3-1.4

¹³⁵ Ibid.

¹³⁶ Minimum Required Domestic Content Levels prescribed under the FIT program in Ontario

	Wind (FIT)		Solar PV (FIT)		Solar PV (micro FIT)	
Milestone Date for Commercial Operation	2009-2011	2012-	2009-2010	2011-	2009-2010*	2011-
Minimum Required Domestic Content Level	25%	50%	50%	60%	40%	60%

*Solar PV microFIT applications received by the OPA on or before 8 October 2010 may satisfy the 40% domestic content requirement.

Data Sources: Panel Reports, para. 7.158, Table 1, and fn 310 thereto;
AB Reports, para.1.4, Table 1

power supply and promote the use of clean energy resources in Ontario.¹³⁷ The coal power plants in the province were supposed to be closed in 2014, and the authority needed to diversify its supply mix to replace them.¹³⁸ In addition, there were more objectives, such as stimulating investment in renewable energy technologies and creating more jobs.¹³⁹

Not long after the launch of the FIT program in Ontario, a consultation with Canada was requested by Japan and the EU, in order. Table 6 shows that both Japan and the EU had also operated their own FIT programs before the requests, which shows that the issue that they brought into question might not have been the FIT program itself, but the way the government of Ontario had operated it. That is revealed by the judgment of the European Court of Justice (ECJ), which ruled that the FIT program in Germany was a project determined by the state, but funded by privately, and the report by the KEPCO Economy & Management Research Institute (KEMRI), which mentioned that the new FIT program in Japan was funded by electricity bills with additional charges on renewable energy.¹⁴⁰ In other words, it seemed that the operating practices, such as the “minimum required domestic content level” as a precondition for

¹³⁷ Panel Reports, para. 7.65

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ Judgment of the court. (Case C-379/98). 13 March 2001; The weekly report from KEMRI (November 2012)

the advantages and the direct financial support from the government were being complained about.

As a general rule, the Panel report should be completed within 6 months after the composition of the panel and the Appellate Body report should be circulated within 60 days after the appeal, which is only the directory provision; a case with more complexities may take longer to be examined.¹⁴¹ The Canada–Renewable energy case also took longer to adopt both the Panel reports and the AB reports, which clearly demonstrates the conscious effort from the Panel and the Appellate Body in the findings.

2) Analysis of the Findings

The dispute was mainly related to National Treatment (Art 2.1 TRIMs, Art III:4 and III:8 GATT) and Subsidy (Art 1.1 SCM). The WTO DSB recommended that Canada's FIT program be brought into conformity with its

¹⁴¹ Understanding on Rules and Procedures Governing the Settlement of Disputes states:

Article 12.8

In order to make the procedures more efficient, the period in which the panel shall conduct its examination, from the date that the composition and terms of reference of the panel have been agreed upon until the date the final report is issued to the parties to the dispute, shall, as a general rule, not exceed six months. In cases of urgency, including those relating to perishable goods, the panel shall aim to issue its report to the parties to the dispute within three months.

Article 17.5

As a general rule, the proceedings shall not exceed 60 days from the date a party to the dispute formally notifies its decision to appeal to the date the Appellate Body circulates its report. In fixing its timetable the Appellate Body shall take into account the provisions of paragraph 9 of Article 4, if relevant. When the Appellate Body considers that it cannot provide its report within 60 days, it shall inform the DSB in writing of the reasons for the delay together with an estimate of the period within which it will submit its report. In no case shall the proceedings exceed 90 days.

obligations under the TRIMs Agreement and the GATT, since this was not consistent with its obligations under those agreements, based on the Panel's findings that the program did not fulfill the requirements for the National Treatment exception, even though it was a government procurement, and those of the AB that the measure could not be categorized within the scope of government procurement.¹⁴² Meanwhile, the WTO DSB concluded that it was unable to complete its analysis of the inconsistency with the SCM Agreement.¹⁴³ This part reviews the grounds, including the different legal basis of the Panel and the Appellate Body notwithstanding the same conclusion, since this paper aims to examine the potential tension that the FIT program of Korea under the New Climate Regime may have with WTO agreements. The findings of the Panel and AB can be reviewed largely in two parts: National Treatment and Subsidy.

(1) National Treatment

Japan and the EU complained that Canada's FIT Program was

¹⁴² The panel admitted that the purchase of the electricity by the government and its agencies was a government procurement; however, the measure could not meet the requirements of being the exception of the National Treatment, since it was for the resale of the product under Art III:8 GATT. (Panel Reports. paras. 7.1, 8.5, and 8.6) The Appellate Body reversed it, since it considered that the electricity procured by the government and the foreign generation equipment reportedly being discriminated against were not in a competitive relationship. (AB Reports, paras. 5.78- 5.79, 6.1- 6.2)

¹⁴³ AB Reports, para.5.246

inconsistent with the national treatment of Art 2.1 TRIMs¹⁴⁴ and Art III:4 GATT¹⁴⁵ on the grounds of its domestic content requirements (DCRs), which require the renewable energy generators in Ontario to purchase and use domestic equipment and components in their generation facilities.¹⁴⁶ They asserted that the DCR “affect(ed) the internal sale, purchase or use of renewable energy generation equipment and components,” and thus treated foreign products less favorably. Canada responded that the FIT Program should be exempted from Art III GATT as it was covered by Art III:8(a)¹⁴⁷ in that the measures implementing the FIT program were “laws and requirements” governing renewable electricity procurement for the governmental purpose of securing Ontario’s electricity supply from clean sources, and “not with a view to commercial resale or with a view to use in the production of goods for

¹⁴⁴ Art 2.1 TRIMs states:

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

¹⁴⁵ Art III:4 GATT states:

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. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product.

¹⁴⁶ Panel Reports, paras. 3.1, 3.4

¹⁴⁷ Art III:8(a) GATT states:

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

commercial sale.”¹⁴⁸

The Panel proceeded with the trial focusing on 1) whether the DCRs fall under the scope of government procurement in Art III:8(a) GATT, which would result in the exemption of the national treatment of Art 2.1 TRIMs and Art III:4 GATT, and 2) otherwise, whether the measures at issue amount to paragraph 1(a) of the TRIMs Agreement Illustrative List.¹⁴⁹ As a result, the Panel accepted the complainants’ arguments regarding the national treatment under the TRIMs Agreement and GATT 1994 and recommended that Canada’s FIT program be adjusted to comply with its obligations under the TRIMs Agreement and GATT 1994.¹⁵⁰

All three participants lodged appeals, complaining respectively about the Panel’s interpretation and application. Canada did not agree that the challenged measures were not government procurement according to Art III:8(a) GATT, while Japan and the EU called upon some modification with the same conclusion.¹⁵¹ The Appellate Body upheld the Panel’s conclusion with a different legal basis.¹⁵²

¹⁴⁸ Panel Reports, para 7.86

¹⁴⁹ Oh, S.Y.(2013), p.366

¹⁵⁰ Panel Reports, paras. 8.4-8.5, 8.8-8.9

¹⁵¹ AB Reports, paras. 5.34-5.37

¹⁵² The WTO DSB maintained its findings on India’s DCR imposed under “the Jawaharlal Nehru National Solar Mission” in India–Certain Measures relating to Solar Cells and Solar Modules. (WT/DS456) The panel “found that trade-related investment measures (TRIMs) falling under paragraph 1(a) of the TRIMs

Trade-related investment measures under Article 1 TRIMs

Art 1 TRIMs establishes that it is applicable to “investment measures related to trade in goods only.”¹⁵³ The plaintiffs argued that the DCR measures amount to TRIMs on the grounds that “they (i) encourage investment in the local production of renewable energy generation equipment and components in Ontario and (ii) affect trade in wind and solar energy generation equipment by favoring Ontario products over imported products.” Canada did not advocate any claims on the matter.¹⁵⁴ Regarding whether the measures amount to “investments,” the panel agreed with the arguments of Japan and the EU, referring to the fact that the aims of the program involve “enabling ‘new green industries through new investment and job creation’ and the provision of ‘incentives for investment in renewable energy technologies.’”¹⁵⁵ As to whether the measures are “trade-related,” the panel refers to the following

Agreement Illustrative List are necessarily inconsistent with Art III:4 GATT”. (Panel Report, para. 7.54) The Panel again concluded that the challenged DCR Measures “are inconsistent with Art 2.1 TRIMs and Art III:4 GATT, and are not covered by the derogation in Art III:8(a) GATT.” (Panel Reports, paras. 7.73, 7.99, 7.135, 7.187) Moreover, the DCR measure was not justified under the general exception in Art XX(j) and XX(d) GATT. Additionally, these findings were upheld by the Appellate Body.

¹⁵³ Art 1 TRIMs states:

This Agreement applies to investment measures related to trade in goods only (referred to in this Agreement as “TRIMs”).

¹⁵⁴ Panel Reports, para. 7.108

¹⁵⁵ Ibid., paras. 7.109-110

findings of Indonesia–Autos¹⁵⁶: “by definition, [domestic content requirements] always favor the use of domestic products over imported products, and therefore affect trade.”¹⁵⁷ Therefore, the panel decided that the measures at issue consisted of TRIMs under Art 1 TRIMs.¹⁵⁸

TRIMs inconsistent with Article III:4 GATT and Article 2 TRIMs

The EU asserted that the TRIMs under Article 2.2 and the Illustrative List of TRIMs are inconsistent with the national treatment of the Art III GATT irrespective of the derogation of Art III:8(a) GATT, which precludes the measures of government procurement from national treatment obligations, because it does not apply to those under Article 2.2 and the Illustrative List in the Annex of the TRIMs Agreement. The Panel rejected the argument, which was upheld by the Appellate Body.¹⁵⁹

Accordingly, the Panel examined whether the Ontario government’s purchases of electricity under the program were of the type provided for in Art III:8(a) GATT, and concluded that they did not fulfill the requirements of Art III:8(a) GATT, since the purchases were conducted “with a view to commercial

¹⁵⁶ Indonesia–Certain Measures Affecting the Automobile Industry (WT/DS54, WT/DS55, WT/DS59, WT/DS64)

¹⁵⁷ Ibid., para. 7.111; Panel Report, Indonesia–Autos, para.14.82

¹⁵⁸ Ibid., para. 7.112

¹⁵⁹ AB Reports, para. 5.33

resale,” even though they consisted of “procurement” under the term in Art III:8(a) GATT.¹⁶⁰ The procurement was determined to be resold by the Ontario Government because the electricity delivered from the generators to the grid in the Province was sold to consumers through “the same channel as electricity supplied” by Hydro One Inc. and the Local Distribution Companies (LDCs), which are public bodies competing with private-sector electricity retailers.¹⁶¹ Consequently, it followed that Canada’s measures could not escape national treatment obligations.

Canada appealed against the Panel’s findings, and one of its allegations was that the measures were to secure an adequate and stable supply of electricity for Ontarians and to conserve the environment and were not “resale with the underlying intent to profit.”¹⁶² The Appellate Body upheld the Panel’s conclusion that Art III:8(a) GATT does not preclude Canada from national treatment obligations, but with a different legal analysis from that of the Panel. Unlike the Panel, AB found that “the Minimum Required Domestic Content Levels,” also called LCRs, were not eligible for characterization as “laws, regulations or requirements” that govern the procurement of electricity by

¹⁶⁰ Panel Reports, para. 7.152

¹⁶¹ Ibid., para. 7.147

¹⁶² AB Reports, paras. 2.3-2.9, 5.46

governmental agencies under Art III:8(a) GATT.¹⁶³ It was supported by the findings that “the product being procured is electricity, whereas the product being discriminated against for the reason of its origin is generation equipment,” which means electricity “is not the same as the product that is treated less favorably as a result of the LCRs of the FIT Program and contracts.”^{164,165} Accordingly, the measures were concluded as being in violation of Art III:4 GATT and therefore Art 2.1 TRIMs. For these reasons, Canada’s arguments regarding “commercial resale” were not considered.¹⁶⁶

Japan and the EU claimed that the measures being challenged were covered by Paragraph 1(a) of the Illustrative List, while Canada did not suggest any arguments on the issue.¹⁶⁷ Additionally, the complainants also regarded the DCR measures as not compliant with the TRIMs Agreement based on the Art 2.1 TRIMs, stating that any TRIM that is not consistent with Art III GATT should not be applied.¹⁶⁸ Japan’s description and the EU’s adoption showed that “the Minimum Required Domestic Content Levels” could not be reached

¹⁶³ Ibid., para. 5.79

¹⁶⁴ Ibid., paras. 5.76-76, 5.79

¹⁶⁵ The panel also recognized the difference between the two products; however, it focused more on the “close relationship” between the procured product (electricity) and the discriminated products (generation equipment). (AB Reports, paras. 5.75–5.76)

¹⁶⁶ Ibid., paras. 5.78-5.79, 6.1

¹⁶⁷ AB Reports, para. 7.156

¹⁶⁸ Panel Reports, paras.3.1(c), 3.4(b)

unless domestic goods were not prioritized over imported goods,¹⁶⁹ the Panel found that the challenged measures demanded that electricity generators using solar PV technology and wind-power technologies acquire or use domestic generating equipment and components more than some specific portions, which are relevant to “a domestic source within the meaning of Paragraph 1(a) of the Illustrative List,” and such a condition was required for the generators to join the FIT program.¹⁷⁰ Furthermore, the Panel agreed with the complainants’ allegations that merely participating in the FIT Program may be regarded as “obtaining an “advantage”” within the meaning of the chapeau of Paragraph 1(a) of the Illustrative List.¹⁷¹ Hence, the Panel concluded that the measures at issue were TRIMs under the scope of Paragraph 1(a) of the Illustrative List, and that according to Article 2.2 and the chapeau to Paragraph 1(a) of the Illustrative List, they were in violation of Art III:4 GATT, and thereby also in violation of Art 2.1 TRIMs.¹⁷²

The complainants challenged the Panel’s analysis that the government procurement being “not with a view to commercial resale or with a view to use in the production of goods for commercial sale” can preclude the exemption of

¹⁶⁹ Ibid., paras.7.161-162

¹⁷⁰ Ibid., paras. 7.158-163

¹⁷¹ Ibid., paras. 7.164-165

¹⁷² Ibid., para. 7.166

the Art 2.1 TRIMs as well as Art III:4 GATT.¹⁷³ However, the AB supported the Panel's finding that these measures were not consistent with Art III:4 GATT and Art 2.1 TRIMs; therefore, the Panel's conclusion that the measures at issue did not conform with Art III:4 GATT and 2.2 TRIMs was upheld based on the AB's finding under Art III:8(a) GATT and considering that Canada did not challenge the panel's finding.¹⁷⁴

Implementation of the DSB's rulings and recommendations

After the adoption of the AB reports on 24 May 2013, according to the DSU Article 21.3, Canada described (its) intention to respect and implement the DSU rulings and recommendations, which would “require a reasonable period of time to implement (RPT).”¹⁷⁵ Canada mutually agreed with Japan and the EU on the RPT required for Canada to conform to the DSB's recommendations and rulings. Eventually, on 5 June 2014, Canada stated that the Government of Ontario had conformed to the recommendations and rulings of the DSB in these disputes through 1) “No longer subjecting large renewable electricity procurements to domestic content requirements” and 2) “Significantly lowering

¹⁷³ AB Reports, para. 5.15

¹⁷⁴ Ibid., paras. 5.80-85

¹⁷⁵ Action by the dispute settlement body (WT/DS412/14); Communication from Canada and the European Union Concerning Article 21.3(C) of the DSU (WT/DS426/15)

the domestic content requirements for small and microFIT procurement of wind and solar electricity under the FIT Program.”¹⁷⁶

(2) Subsidy

As previously mentioned, both the Panel and Appellate body were not able to complete their analyses based on different legal grounds regarding whether the challenged measures constitute subsidies, which raised considerable discussions. This part will review their findings based on the respective prerequisites of a subsidy regulated in the WTO.

Financial Contribution¹⁷⁷

There was no dispute between the parties over the issue of whether the challenged measures fell within the scope of “financial contribution” by a government or a public body, the first requirement of a subsidy.¹⁷⁸ However, the parties were divided over the issue of which specific type of “financial contribution” the measure would amount to—whether they were direct or

¹⁷⁶ Communication from Canada (WT/DS412/19, WT/DS426/19)

¹⁷⁷ Art 1 SCM groups financial contributions into 4 categories: 1) a direct/potential direct transfer of funds, 2) the foregoing or non-collection of government revenue, 3) the provision of goods or services other than for general infrastructure, or the purchase of goods, and 4) an indirect support by the private sector entrusted or directed by government.

¹⁷⁸ Panel Reports, para. 7.220

potentially direct funding transfers or goods purchases. The complainants argued that the “financial contribution” existed as a practice of the direct or potential direct transfer of funds or any form of income or price support, while the accused insisted that it could be characterized as government procurement.¹⁷⁹

The panel concluded that the measures at issue fell within “government purchases of goods” under Art 1.1(a)(1)(iii) SCM, rejecting all the claims by the complainants under Art 1.1(a)(1)(i) SCM on the grounds that the term “(government) purchases (of) goods” could have been easily added to Art 1.1(a)(1)(i) SCM without the extra clause, Art 1.1(a)(1)(iii) SCM, if the drafters intended it to be involved in the direct or potential direct transfer of funds, adding that the finding was in accord with the principle of effective treaty interpretation.¹⁸⁰ The panel pointed out that the FIT program clearly stated that the OPA paid for the electricity delivered to Ontario’s electricity grid, which denied the grant element even though the price was set to reward a reasonable return on investing in the overall project.¹⁸¹

The panel also stated that the purchase of the electricity meant the transfer of an entitlement to the electricity to the grid rather than physical

¹⁷⁹ Ibid., paras. 7.169, 7.179-7.181

¹⁸⁰ Ibid., para. 6.83

¹⁸¹ Ibid., paras. 7.223-7.224

possession of it, given the nature of the electricity, which is an intangible good that cannot be reserved and must be spent almost simultaneously when it is produced. The Panel affirmed that such an entitlement transfer was also involved in the “purchase” within the meaning of Art 1.1(a)(1)(iii) SCM.¹⁸² Consequently, the Panel concluded that the FIT program in Ontario met the prerequisite for the financial contribution by the government and its agencies in the province as a form of the government’s purchases of goods, accepting the claim by Canada, which included the confirmation that the challenged measures were recognized as government procurement.¹⁸³ The Appellate Body upheld the Panel’s finding that the FIT program and the FIT-related contracts of the OPA were relevant to “government purchases (of) goods” under Art 1.1(a)(1)(iii) SCM, even though it did not agree with the Panel’s analysis that Art 1.1(a)(1)(i) and Art 1.1(a)(1)(iii) SCM were mutually exclusive.¹⁸⁴

Benefit

The complainants, Japan and the EU, asserted that a benefit was granted within the meaning of Art 1.1(a) SCM for two main reasons; the measures at issue guaranteed allegedly above-market prices in return for the

¹⁸² Ibid., paras. 7.228-7.229

¹⁸³ Ibid., paras. 6.83, 7.222, 7.243, 7.245-7.246, 7.248

¹⁸⁴ AB Reports, para. 5.128

generation of renewable energy in Ontario, thereby trying to attract an adequate electricity supply, particularly from renewable resources, to secure the needs of the Province.¹⁸⁵ Canada refuted the arguments on the grounds that their claims were based on an inappropriate electricity price benchmark that showed a single price for all electricity, irrespective of different generation technologies. Canada emphasized that the appropriate electricity price benchmark should be found in the market prices for the electricity produced using wind power and solar PV technology.¹⁸⁶

Both the Panel and Appellate Body concluded that they could not complete the benefit analysis, but on different legal grounds. They agreed that Art 14(d) SCM¹⁸⁷ is worthy of referring to for calculating the amount of a subsidy in terms of the benefit.¹⁸⁸ However, they disagreed over the analysis of

¹⁸⁵ Panel Reports, paras. 7.250-252, 7.255

¹⁸⁶ Ibid., para. 7.259

¹⁸⁷ Art 14(d) SCM states:

the provision of goods or services or purchase of goods by a government shall not be considered as conferring a benefit unless the provision is made for less than adequate remuneration, or the purchase is made for more than adequate remuneration. The adequacy of remuneration shall be determined in relation to prevailing market conditions for the good or service in question in the country of provision or purchase (including price, quality, availability, marketability, transportation and other conditions of purchase or sale).

¹⁸⁸ Panel Reports, para. 7.271; AB Reports, para. 5.163;

Appellate body reminds that “whether a benefit has been conferred should be determined by assessing whether the recipient has received a “financial contribution” on terms more favorable than those available to the recipient in the market.” and adds that “that a financial contribution confers an advantage on its recipient cannot be determined in absolute terms, but requires a comparison with a benchmark, which, in the case of subsidies, derives from the market.” (AB Reports, paras. 5.163-5.164)

“the relevant market.” The Panel set a single market generated by all the resources as a benchmark for the benefit comparison, while the AB believed that “benefit benchmarks for wind- and solar PV-generated electricity should be found in the markets for wind- and solar PV-generated electricity that result from the supply-mix definition.”¹⁸⁹ In short, the Appellate Body asserted that the benefit comparison should be conducted “within competitive markets for wind- and solar PV-generated electricity, which are created by the government definition of the energy supply mix,” reversing the panel’s finding on the benchmark of the “competitive wholesale electricity market as a whole.”¹⁹⁰

The Appellate Body considered both the demand-side and supply-side factors to decide “the relevant market,” referring to the AB’s findings on EC and certain member states’ Large Civil Aircraft as follows:

Demand-side substitutability – that is, when two products are considered substitutable by consumers – is an indispensable, but not the only relevant, criterion to consider when assessing whether two products are in a single market. Rather, a consideration of substitutability on the supply-side may also be required. For example, evidence on whether a supplier can switch its production at limited or prohibitive cost from one

¹⁸⁹ Ibid., paras. 5.169-5.170, 5.190.

¹⁹⁰ Ibid., para.5.178

product to another in a short period of time may also inform the question of whether two products are in a single market.¹⁹¹

Renewable generating facilities have higher capital costs, lower operating costs, and fewer economies of scale, and these characteristics for supply-side factors do not allow the renewable energy producers to compete with other electricity producers,¹⁹² which means they cannot be in a single market. That is the reason why the energy supply mix from the government is needed; otherwise, there could not be an electricity market generated from renewable resources.

The Appellate Body separated such government intervention into two types: one to “create markets that would otherwise not exist” and another “in support of certain players in markets that already exist, or to correct market distortions therein.”¹⁹³ The former in and of itself is not considered a subsidy within the SCM Agreement, while the latter may amount to a subsidy when it provides a financial contribution, income, or price support to specific

¹⁹¹ Appellate Body Report, European Communities and Certain Member States—Measures Affecting Trade in Large Civil Aircraft (WT/DS316), para. 1121.

¹⁹² Appellate Body Reports, Canada-Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412), Canada-Measures Relating to the Feed-in Tariff Program (WT/DS426), paras. 5.171-5.174

¹⁹³ Ibid., para. 5.188

industries.¹⁹⁴ The AB viewed the government intervention of Ontario as the type involving creating markets and tried to complete the benefit analysis; however, it could not continue due to inadequate factual findings by the Panel, who could not complete their benefit analysis, either, since the complainants had failed to establish that the measures at issue granted a benefit within the meaning of Art 1.1(b) SCM and there were no sufficient factual issues.¹⁹⁵

Specificity

The panel did not examine specificity, since it could not complete its benefit analysis; neither did the Appellate Body.

3) Critical Review

The findings of the Panel and Appellate Body raised various discussions. For example, there is an argument that the benefit analysis within the meaning of Art 1.1(b) SCM¹⁹⁶ provides no legal basis for separating the government intervention into the two types (one for creating a market and the other for intervening in the existing market). In addition, there is a criticism that

¹⁹⁴ Ibid., paras. 5.175, 5.188, 5.190, 5.277

¹⁹⁵ AB Reports, paras. 5.175, 5.245; Panel Reports, paras. 7.293-7.302, 7.317, 7.320, 7.327.

¹⁹⁶ Art 1.1(b) SCM states:

a benefit is thereby conferred.

the approach by the AB has opened the door for the member countries to escape from the SCM Agreement even after they provide trade-distorting support for their new technologies.¹⁹⁷ There is a concern that the existing exception for fledgling businesses has been granted only to developing countries under Section C of Art XVIII GATT; however, the finding may allow almost all the member countries to enjoy similar privileges.¹⁹⁸

If the FIT program in Ontario were found to be a subsidy under the SCM Agreement, the LCR in the program would make it categorized as a “prohibited subsidy.” Then, it follows that Canada should withdraw the measures at issue under Art 4.7 SCM.¹⁹⁹ Regarding this, another issue raised was whether the measure that should be withdrawn is the LCR or the whole FIT program.²⁰⁰ It would definitely be a fatal blow to the FIT programs operated in many countries if the latter should be abolished.²⁰¹ There are various other discussions on the issue; however, the paper additionally considers the following two issues.

¹⁹⁷ Lee, C. K.(2014), pp.156-157

¹⁹⁸ Ibid.

¹⁹⁹ Art 4.7 SCM provides that:

If the measure in question is found to be a prohibited subsidy, the panel shall recommend that the subsidizing Member withdraw the subsidy without delay. In this regard, the panel shall specify in its recommendation the time-period within which the measure must be withdrawn.

²⁰⁰ Lee, C. K.(2014), p.160

²⁰¹ Ibid.; Luca Rubini (2014), p.23

(1) Should the Supply Side Have Priority over the Demand Side?

Exchange in the market occurs through the equilibrium of demand and supply. Therefore, it is appropriate that both supply-side substitutability and demand-side substitutability are considered to decide whether two products are in a single market. The problem is whether the supply side has priority over the demand side, which the Appellate Body examined. The AB's finding seems slightly odd in that there is no legal basis for it under the SCM Agreement.

There may be a higher probability of consumers distinguishing between renewable and non-renewable electricity if the Smart Grid system²⁰² is institutionalized in our daily lives, which may result in a single market only for renewable energy. However, as of now, consumers identify all electricity as the same regardless of the generating technologies, which means that the demand-

²⁰² Sec. 1301 of Energy Independence and Security Act of 2007 (EISA-2007) provides that:

Sec. 1301. Statement of Policy on Modernization of Electricity Grid

It is the policy of the United States to support the modernization of the Nation's electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth and to achieve each of the following, which together characterize a Smart Grid:

- (1) Increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid.
- (2) Dynamic optimization of grid operations and resources, with full cyber-security.
- (3) Deployment and integration of distributed resources and generation, including renewable resources.
- (4) Development and incorporation of demand response, demand-side resources, and energy-efficiency resources.
- (5) Deployment of 'smart' technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation.
- (6) Integration of 'smart' appliances and consumer devices.
- (7) Deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal storage air conditioning.
- (8) Provision to consumers of timely information and control options.
- (9) Development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid.
- (10) Identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services.

side substitutability of electricity from different resources may be quite high. Meanwhile, the supply-side substitutability may be significantly low, because renewable energy generally requires relatively high upfront costs, which usually does not allow the generators to switch from one resource to another in a short period.

In short, the Appellate Body's finding will be more convincing when the Smart Grid is generalized in the future, because people will be able to distinguish between renewables and non-renewables, which will make the demand-side substitutability lower. Consequently, both the supply-side and demand-side substitutability will be lower and the market should be separated into renewables and non-renewables. Thus, it seems reasonable that energy generated from renewables and energy generated from conventional resources will not be in a single market, which will lead to different "relevant markets." However, it is too premature to adopt the approach considering the current electricity system.

Based on this, the Appellate Body should have established the wholesale market as the benchmark, which would be likely to result in the finding that the benefit is conferred by the FIT program in Ontario. The renewable energy generators were paid an allegedly above-market price, which seems to show that advantages were given to them compared with non-renewable generators in the same market. In addition, the program had LCRs,

so it would be easily categorized into a prohibited subsidy. Such a finding could be said to demonstrate the direct conflict between the WTO and UNFCCC regimes, which would burden the AB. All these concerns may have led to this kind of controversial ruling to avoid such a conflict.

WTO member countries have been worried about the possibility that the findings may conflict with their own renewable energy policies. The reports on the Canada–Renewable energy dispute reveal the efforts of the Panel and Appellate Body, who seem to be aware of such concerns. However, the disputable ruling, which is less persuasive and too premature, cannot be said to clearly resolve the potential tension between the two systems as many member countries have expected.

(2) Is Conflict between the UNFCCC and WTO Regimes Inevitable?

Care should be taken in generalizing, but the case does not seem to be an unavoidable conflict between the two regimes. It is true that the UNFCCC urges all parties to adopt environmentally friendly policies, but this does not mean for assisting their domestic companies only, excluding foreign ones from benefits. Rather, the agreements under the convention seem to encourage global cooperation to develop and transfer technologies worldwide.²⁰³ Therefore, the

²⁰³ See, e.g. Kyoto Protocol to the United Nations Framework Convention on Climate Change

Article 10(c)

dispute seems like a kind of camouflaged tension that was caused by the economic strategy of only trying to support a country's own infant industry.

However, it is hard to deny the potential conflicts between the two regimes based on the purposes of the legislations, considering the reality that many countries have made use of the environmental crisis to progress to developed nations.²⁰⁴ In this sense, the case has its own significance in that it has confirmed the intention of the WTO regime to hinder the fragmentation of international law and promoted discussion regarding future friction between climate change counterstrategies and WTO agreements, particularly the SCM Agreement.

Cooperate in the promotion of effective modalities for the development, application and diffusion of, and take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change, in particular to developing countries, including the formulation of policies and programs for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain and the creation of an enabling environment for the private sector, to promote and enhance the transfer of, and access to, environmentally sound technologies.

²⁰⁴ Yoon, G.J.(2012), pp.35-37; Koo, M.G.(2013), p.14

IV. The Feed-in Tariff Program and WTO Agreements

1. National Treatment of the GATT 1994 and TRIMs Agreement

Non-discrimination is one of the key principles of free trade.²⁰⁵ WTO agreements have two important non-discrimination obligations: the most-favored-nation (MFN) treatment obligation and the national treatment obligation. The MFN treatment obligation regards “whether a country favors some countries over others,” while the national treatment obligation regards “whether a country favors itself over other countries.”²⁰⁶ The application of both obligations to a market ensures that every product will be subject to fair competition in the market, irrespective of its origin.²⁰⁷ Therefore, the WTO member countries have significantly reduced world trade tariffs through eight rounds in the GATT/WTO, and WTO members have thus started to monitor internal measures such as taxes more closely than border measures such as tariffs to pursue fair market competition; however, pursuing broader national treatment obligations in the interest of freer trade sometimes gives rise to regulatory autonomy issues.²⁰⁸

²⁰⁵ International Economic Law Association of Korea (2014), pp.85-86

²⁰⁶ Peter Van den Bossche & Werner Zdouc (2016), p.316.

²⁰⁷ International Economic Law Association of Korea (2014), pp.85-86

²⁰⁸ Ibid., pp.85-86

As previously reviewed in the Canada–Renewable energy dispute,²⁰⁹ national treatment obligation is of serious concern to the WTO. Hence, broadening and deepening the understanding of national treatment obligations will help both improve understanding of the Canada–Renewable energy dispute and analyze the consistency of the FIT program in Korea with the WTO agreements in Chapter V.

1) Article III GATT

The national treatment obligation in the trade of goods is established in Art III GATT, while the national treatment obligations in trade of services or intellectual property rights are outlined in Art XVII GATS or Art III TRIPS respectively. This paper only examines Art III GATT in trade of goods, which consists of ten paragraphs (provisions).

(i) Paragraph 1 (GATT Article III:1)²¹⁰: This paragraph explains the basic principle of the national treatment obligation, stating that member countries “recognize” that internal measures “should not be applied” to protect their domestic products. The provision may not be regarded as legally binding

²⁰⁹ See III.3 of the paper.

²¹⁰ Art III:1 GATT provides that:

The contracting parties recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations requiring the mixture, processing or use of products in specified amounts or proportions, should not be applied to imported or domestic products so as to afford protection to domestic production.

given the use of terms such as “should” and “recognize” in it.²¹¹ In addition, the description of the contents of paragraph 1 simply as “the principles” in Art III:2 seems to weaken the legal validity of the paragraph.²¹²

(ii) Paragraph 4 (GATT Article III:4): This paragraph details the national treatment obligation as follows:

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. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product.

According to Art III:4 GATT, products from member countries imported into other member countries should not be treated less favorably than comparable domestic products;²¹³ this refers to “all laws, regulations and

²¹¹ International Economic Law Association of Korea (2014), p.126

²¹² Ibid.

²¹³ It is noteworthy that rather than the same treatment, the article dictates that treatment should be no less favorable, which means reverse discrimination- providing more favorable treatment to imports- is allowed.

requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use.”²¹⁴ These provisions demonstrate the huge scope of the article’s applicability.²¹⁵

(iii) Paragraph 2 (GATT Article III:2)²¹⁶: It should be noted that fiscal measures, including taxes, are beyond the scope of the national treatment obligation under Art III:4 GATT, since these issues are exclusively regulated by Paragraph 2 of Art III GATT.²¹⁷ Art III:2 GATT is distinguishable from other provisions in Art III GATT in several ways: first, under paragraph 2 of Ad Art III GATT²¹⁸, the national treatment obligation is applicable to “directly competitive or substitutable products” as well as to “like products,” which means that fiscal measures should be implemented more cautiously than other internal measures; second, Art III:1 GATT becomes legally binding when the

And it is also significant that the national treatment obligation only bans a discrimination, not a difference. (International Economic Law Association of Korea (2014), p.126)

²¹⁴ International Economic Law Association of Korea (2014), p.126

²¹⁵ Ibid., pp.126-127

²¹⁶ Art III:2 GATT provides that:

The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products. Moreover, no contracting party shall otherwise apply internal taxes or other internal charges to imported or domestic products in a manner contrary to the principles set forth in paragraph 1.

²¹⁷ International Economic Law Association of Korea (2014), p.127

²¹⁸ Paragraph 2 of Ad Art III GATT provides that:

A tax conforming to the requirements of the first sentence of paragraph 2 would be considered to be inconsistent with the provisions of the second sentence only in cases where competition was involved between, on the one hand, the taxed product and, on the other hand, a directly competitive or substitutable product which was not similarly taxed.

second sentence of Art III:2 GATT is applied. As stated earlier, on its own Art III:1 GATT is not usually regarded as legally binding; however, it can create legal consequences with the help of provisions, like the second sentence of Art III:2 GATT, that grant legal validity.²¹⁹

Meanwhile, there are some exemptions to the broad application of the national treatment obligation. First, Art III:3 GATT can dispense with the national treatment obligation regarding “existing internal tax” that does not comply with “the provisions of paragraph 2, but which is specifically authorized under a trade agreement, in force since April 10, 1947.”²²⁰ Second, Art III:8 GATT allows two significant exemptions from the obligation: one for government procurement²²¹ and the other for the payment of subsidies, which appears to be an effort to respect regulatory autonomy to some extent.²²² Other exemptions include quantitative restrictions on Cinematograph Films under Art III:10 GATT, the measures acquiring the “waiver” under Art XXV:5 GATT,

²¹⁹ International Economic Law Association of Korea (2014), pp.127-133

²²⁰ Ibid., p.133

²²¹ Government procurement usually involves the public body’s activity to purchase products or services in order to carry out their responsibilities and functions—public services such as building infrastructure, for example, or granting healthcare services. (Kim,D.S.(2009), pp. 30-31; International Economic Law Association of Korea (2014), p.599; Oh,S.Y.(2013), pp.370-372) Governmental agencies governing procurement can treat imported “like” goods less favorably than domestic goods. Government procurement is not always limited to official efforts to provide public services, but goods should not be procured “with a view to commercial resale or within a view to use in the production of goods for commercial sale.” (Oh,S.Y.(2013), pp.370-372; Simon Lester et al.(2008), p.665)

²²² International Economic Law Association of Korea (2014), pp.133-134

security exceptions under Art XXI GATT, and finally the general exceptions under Art XX GATT.

2) Article 2 TRIMs

A dramatic increase in foreign investment during the middle and late 1980s led many governments to issue various restrictions to protect their industries and prevent the outflow of foreign exchange; many of these restrictions were considered inconsistent with GATT Article III (National Treatment Obligation) and Article XI (General Elimination of Quantitative Restrictions).²²³ Consequently, the GATT began to address the issue of international investment.²²⁴ However, the effectiveness of these efforts was limited by the fact that they only dealt with investment measures distorting free trade that related to Non-Tariff Barriers, not the international investment issue as a whole.²²⁵ It was only later that the TRIMs Agreement, through which investment measures distorting the trade of goods started to be regulated, was concluded.²²⁶

Although the agreement is not clearly defined in relation to trade-

²²³ Ibid., pp.407

²²⁴ Ibid.

²²⁵ Ibid.

²²⁶ Ibid.

related investment measures, an illustrative list of TRIMs attached to the Annex of the Agreement demonstrates the measures in violation of the national treatment obligation in Art III:4 GATT and the obligation of general elimination of quantitative restrictions in Art IX:1 GATT: The TRIMs inconsistent with Art III:4 GATT include Local Content Requirements and Trade Balancing Measures, and the TRIMs inconsistent with Art IX:1 GATT include Foreign Exchange Restrictions, Export Restrictions and Trade Balancing Measures.²²⁷

The TRIMs Agreement is the first multilateral agreement to regulate measures that explicitly distort free trade, but it is limited by the fact that it only deals with trade in goods, not trade in services which has increased. In addition, as a result of the sharp conflict of opinion between developed and developing

²²⁷ Ibid., p.408;

Annex: Illustrative List provides that:

1. TRIMs that are inconsistent with the obligation of national treatment provided for in paragraph 4 of Article III of GATT 1994 include those which are mandatory or enforceable under domestic law or under administrative rulings, or compliance with which 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, whether specified in terms of particular products, in terms of 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.
2. TRIMs that are inconsistent with the obligation of general elimination of quantitative restrictions provided for in paragraph 1 of Article XI of GATT 1994 include those which are mandatory or enforceable under domestic law or under administrative rulings, or compliance with which is necessary to obtain an advantage, and which restrict:
 - (a) the importation by an enterprise of products used in or related to its local production, generally or to an amount related to the volume or value of local production that it exports;
 - (b) the importation by an enterprise of products used in or related to its local production by restricting its access to foreign exchange to an amount related to the foreign exchange inflows attributable to the enterprise; or
 - (c) the exportation or sale for export by an enterprise of products, whether specified in terms of particular products, in terms of volume or value of products, or in terms of a proportion of volume or value of its local production.

countries, applicability of the agreement is limited to measures that directly distort free trade.²²⁸

2. The SCM Agreement

A subsidy is one of the policy measures through which a government can achieve various national goals, and it is regulated under the control of the SCM Agreement. Subsidy Regulations have evolved from Art 6 and Art 16 of the GATT 1947, through the Tokyo Round Subsidies Code, which was a plurilateral agreement mostly adopted by OECD countries, finally to the Uruguay Round Subsidies Agreement (SCM Agreement). The SCM Agreement “places tighter constraints on the use of subsidies than the GATT and, unlike the Tokyo Round Code, binds all Member States.”²²⁹

As in the national treatment obligation, the subsidy issue was also significantly examined during the Canada–Renewable energy dispute²³⁰; however, unlike the national treatment obligation, it was not completely concluded. Therefore, previewing the SCM Agreement will help analyze the consistency of the FIT program in Korea with WTO agreements and scrutinize

²²⁸ Lee, S.K.(2001) pp.308-309; International Economic Law Association of Korea (2014), p.409

²²⁹ Michael Trebilcock et al.(2013) p.367; G. Horlick & P. Clarke (2010), pp.866-867; Kim, D.W.(2014), pp.410-411; John Croome (1999), pp.90-91

²³⁰ See III.3 of the paper.

the remaining issues in Chapter V. In this regard, provisions regarding Non-Actionable Subsidies (Part IV of the SCM Agreement) will also be reviewed, since the discussion of them is ongoing, despite its termination as of 1 January 2000.

1) The Regulation on Non-Actionable Subsidies in the SCM Agreement

(1) The Discussions about Non-Actionable Subsidies in the GATT/WTO

The GATT provisions on subsidies only regulate export subsidies, and do not address other types of subsidy.²³¹ Meanwhile, the SCM Agreement categorizes subsidies into three types, called the “Traffic Light System” (Prohibited or red-light subsidies, actionable or yellow-light subsidies, and non-actionable or green-light subsidies).²³² Each subsidy has different obligations and dispute settlement procedures, and prohibited subsidies expand their scope by including import substitution subsidies along with existing export subsidies.²³³

Art 11 of the Tokyo Round Subsidies Code²³⁴ admits the social,

²³¹ Ahn, D.G.(2007), pp.359-360

²³² Ibid.

²³³ Ibid., p.18

²³⁴ Art. 11:1 of the Tokyo Round Subsidies Code states:

Signatories recognize that subsidies other than export subsidies are widely used as important instruments for the

economic and political importance of a subsidy: certain subsidies such as regional subsidies, restructuring subsidies, R&D subsidies, economic development subsidies in the developing countries, and environmental subsidies were allowed with regard to their utility, and the scope of the exception was widely regulated.²³⁵ Meanwhile, Art 2 of the Code appreciates the possibility of injuries to other contracting parties of these non-actionable subsidies and encourages parties to find ways to eliminate their adverse effects.²³⁶ Such comprehensive allowances seem to have helped avoid many direct subsidy disputes.²³⁷

Discussions over non-actionable subsidies was one of the controversial agendas during the Uruguay Round negotiation.²³⁸ Some contracting parties

promotion of social and economic policy objectives and do not intend to restrict the right of signatories to use such subsidies to achieve these and other important policy objectives which they consider desirable. Signatories note that among such objectives are:

- (a) the elimination of industrial, economic and social disadvantages of specific regions,
- (b) to facilitate the restructuring, under socially acceptable conditions, of certain sectors, especially where this has become necessary by reason of changes in trade and economic policies, including international agreements resulting in lower barriers to trade,
- (c) generally to sustain employment and to encourage re-training and change in employment,
- (d) to encourage research and development programs, especially in the field of high-technology industries,
- (e) the implementation of economic programs and policies to promote the economic and social development of developing countries,
- (f) redeployment of industry in order to avoid congestion and environmental problems

²³⁵ Ahn, D.G.(2007), pp.360-361

²³⁶ Ibid.

²³⁷ Fourteen cases have been brought to the GATT, eight of which were regarding countervailing measures, only three of which were involved with direct disputes on subsidies. Three of the 14 were settled or withdrawn. (Ibid., p.361)

²³⁸ Ibid., pp.360-361; Patrick J. McDonough (1993), p.803, 902

were skeptical about the argument that certain subsidies did not damage trade. Consequently, non-actionable subsidies were supposed to be revisited in 1999, after five years of permission.²³⁹ Environmental subsidies were included in the Subsidies code, but were excluded from the Dunkel Draft. Again, this could be embraced into Part IV of the SCM Agreement (Non-Actionable Subsidies) with Mexico's argument and the U.S.'s support.²⁴⁰

(2) Environmental Subsidies in the SCM Agreement

As regulated by Art 8 of the SCM Agreement, non-actionable subsidies designated as regional subsidies, R&D subsidies, or environmental subsidies are immune from WTO disputes or countervailing measures from trading partners, even though they have specificity or cause adverse effects.²⁴¹

Art. 8.2(c) SCM defines an environmental subsidy as follows:

Article 8.2 SCM

(c) Assistance to promote adaptation of existing facilities²⁴² to

²³⁹ John Croome (1999), p.97

²⁴⁰ Terence Stewart (1999), p.224; Ahn,D.G.(2007), p.362

²⁴¹ However, some countermeasures have been provided to respond to the serious adverse effect of non-actionable subsidies. For example, the importing country can request consultation or ask for recommendations from the WTO committee. (Ahn, D.G.(2007), p.362; Ahn, D.G.(2003), p.34)

²⁴² According to the footnote 33 of the Article, "the term "existing facilities" means facilities which have been in operation for at least two years at the time when new environmental requirements are imposed."

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% 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 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

The requirements stated above reveal that not all the environmental subsidies are permitted. Moreover, subsidies should be notified to the committee in advance of their implementation according to Art 8.3 SCM²⁴³. However, non-actionable subsidy regulation had been sought as refuge for various unfair assistances by member countries despite all these detailed and strict requirements. In addition, few subsidies were officially notified in advance in spite of this prior notification duty.²⁴⁴ It may originate from the

²⁴³ Art. 8.3 SCM states:

A subsidy program for which the provisions of paragraph 2 are invoked shall be notified in advance of its implementation to the committee in accordance with the provisions of part VII.

²⁴⁴ That there were few subsidies notified in advance would not imply that member countries did not

rigorous procedures and the possibility that subsidies can be confirmed as non-actionable during subsequent dispute settlements according to Footnote 35 of Art 10 SCM²⁴⁵ These imply that it is less likely for each country to submit official notification of their subsidies in advance of their implementation, even if invalid non-actionable subsidy regulations are reintroduced.

(3) The Current State of Non-Actionable Subsidies

: Terminated, but Negotiating

Regulations on non-actionable subsidies were terminated as of 1 January 2000. However, there were subsequent discussions during the DDA negotiation, which have been almost deadlocked in the absence of a leading group since 2003.²⁴⁶ Given the sharp conflicts among developing and developed countries,²⁴⁷ “Green light” is expected to be dealt within the definition of existing “prohibited subsidies” and “actionable subsidies.”²⁴⁸

Considering less effective controls on non-actionable subsidies during 1995–2000, there may be some doubt that regulations should be reintroduced as

provide non-actionable subsidies, but that they did not issue notification due to difficulties in notification. (Ahn, D.G. (2007), p.365)

²⁴⁵ Ibid., p.362

²⁴⁶ Ibid., pp.365-366

²⁴⁷ Ibid.

²⁴⁸ Ibid.

they are. Rather, some modifications would be recommended to resolve potential conflicts between the SCM Agreement and evolving environmental subsidies such as climate change countermeasures. That is, tempered regulations would be greatly welcomed, through which the subsidy would be more effective at allocating resources in the market, while in accordance with the SCM Agreement.

2) Overview of the SCM Agreement

(1) The Prerequisites for a Subsidy

According to Art 1.1 SCM, a subsidy shall be deemed to exist if 1) there is a financial contribution by a government or a public body, or any form of income or price support, and 2) this confers a benefit. A subsidy under the control of the SCM Agreement needs one more factor, “specificity,” in addition to the foregone requirements.²⁴⁹ That is, the SCM Agreement only applies to subsidies with specificity, not to all subsidies.²⁵⁰ The overview of the SCM Agreement scrutinizes the factors for regulating subsidies under the agreement, so this paper categorizes the requisites for subsidies into three preceding elements.

²⁴⁹ Art 1 & 2 SCM

²⁵⁰ Lee, H.Y and Uhm, J.H.(2014), pp.27-28

A financial contribution by a government or a public body, or any form of income or price support

The first element for a subsidy, financial contributions by governments or any public body including local governments, regards whether resources with monetary value are provided to private entities.²⁵¹ Art 1 SCM groups financial contributions into four categories:

- (i) a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds, or liabilities (e.g. loan guarantees);
- (ii) government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits);
- (iii) a government provides goods or services other than general infrastructure or purchases goods;
- (iv) a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, which differs from practices normally followed by governments

²⁵¹ International Trade Law (2014), p.303

Regarding whether the four types of financial contribution in Art 1.1(a)(1) of the agreement should be considered exhaustive or illustrative; the list seems to have been consistently considered exhaustive by panels and the Appellate Body.²⁵² The term “i.e.” in Art 1.1(a)(1) SCM, which means “that is,” may add cogency to the approach, since “including” would be appropriate for the illustrative list.²⁵³ The fact that many participants in the Uruguay Round consistently maintained that only government actions regarded as financial

²⁵² Wolfrum, Rüdiger et al.(2008), p.428; See, e.g. Panel Report, United States–Measures Treating Exports Restraints as Subsidies (WT/DS194), para.8.69; Appellate Body Reports, United States–Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (drams) from Korea (WT/DS296), para. 108;

The Appellate Body on Japan-Alcoholic Beverages states that “[t]here can be no doubt that Article 32 of the Vienna Convention, dealing with the role of supplementary means of interpretation, has also attained the same status [as Article 31, of a rule of customary or general international law].” The approach allows the Panel on United States – Measures Treating Exports Restraints as Subsidies to be pursuant to Article 32 of the Vienna Convention, which leads to its invoking the negotiating history of Article 1. And the Panel concludes that “the negotiating history confirms that the introduction of the two-part definition of subsidy, consisting of ‘financial contribution’ and ‘benefit,’ was intended specifically to prevent the countervailing of benefits from any sort of (formal, enforceable) government measures, by restricting to a finite list the kinds of government measures that would, if they conferred benefits, constitute subsidies. The negotiating history confirms that items (i)-(iii) of that list limit these kinds of measures to the transfer of economic resources from a government to a private entity.” (Panel Report, United States–Measures Treating Exports Restraints as Subsidies (WT/DS194), paras. 8.64, 8.73)

ARTICLE 32 of the Vienna Convention provides that:

Supplementary means of interpretation

Recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31:

- (a) Leaves the meaning ambiguous or obscure; or
- (b) Leads to a result which is manifestly absurd or unreasonable.

²⁵³ Lee, H.Y and Uhm, J.H.(2014), p.29; i.e.: 1. that is. Accessed 14 April 2016. <http://www.merriam-webster.com/dictionary>

contributions should be under the control of the multilateral rules on subsidies and countervailing measures shows that they were against the overextension on the concept of subsidies.²⁵⁴ Meanwhile, the four types are often seen as too abstract, which consequently leads to the inclusion of almost all governmental measures.²⁵⁵

Other than “financial contribution,” “income or price support” is also the first element for a subsidy. The two factors are dealt with separately, which means that as long as one of them is met, this satisfies the first requirement for a subsidy. There is no detailed explanation regarding “income or price support,” which comes from the circumstances that it is usually Agreement on Agriculture that treats the matter of income or price support, rather than SCM agreement.²⁵⁶

Benefit

The second element for a subsidy is the benefit of the first element, “financial contribution.” “Benefit” is relatively significant, since it is directly involved with calculating the amount of a subsidy and determining the

²⁵⁴ Panel Report, United States–Measures Treating Exports Restraints as Subsidies (WT/DS194), para. 8.65

²⁵⁵ International Trade Law (2014), p.303

²⁵⁶ Lee, H.Y and Uhm, J.H.(2014), p.29

existence of “benefit.”²⁵⁷ That is, it requires another independent examination about whether a financial benefit was actually provided to private companies, even though the first element “financial contribution” was satisfied.²⁵⁸ The examination should only be conducted in terms of the recipients, so the amount that a government or a public body provides is not considered.²⁵⁹

The assessment of the benefit is closely linked with whether recipients enjoy substantial advantages as a result of the implementation of the governmental measure or policy. It should be conducted via relative comparison with the typical standard, which is called the “market benchmark.”²⁶⁰ It means that a phased examination is carried out: first, the proper “relevant market” is demarcated, and then the proper standard is found in the relevant market with which to assess the benefit.²⁶¹ Art 14 SCM regulates regarding “market benchmark.”

Both Panel and Appellate Body confirm that the benefit analysis is conducted based on “market benchmark.”²⁶² However, the market should not be a “perfectly competitive market.” As Panel mentioned in the Canada–

²⁵⁷ Petros C. Mavroidis. et al.(2008), p.348; Yoo, G.H.(2012), p.43

²⁵⁸ International Trade Law (2014), p.303

²⁵⁹ Wolfrum, Rüdiger et al.(2008), p.448; Lee, J.M. & Yoo, G.H.(2011), p.150; Yoo, G.H.(2012), p.44

²⁶⁰ Lee, J.M. & Yoo, G.H.(2011), p.129; Yoo, G.H.(2012), p.44

²⁶¹ Lee, J.M. & Yoo, G.H.(2011), pp.139-142; Yoo, G.H.(2012), p.44

²⁶² Petros C. Mavroidis et al.(2013), p.572; Yoo, G.H.(2014), p.49

Renewable energy dispute, “the relevant marketplace” does not have to be one that is “undistorted by government intervention” or that rules out “situations in which there is government involvement.”²⁶³ Panel even adds that “the relevant ‘market’ need not be a ‘pure’ marketplace that is devoid of any degree of government intervention.”²⁶⁴ Therefore, the “relevant market” as a standard should be understood as the “practical existing real market,” rather than a “perfectly competitive market” with optimal resource allocation.²⁶⁵

Specificity

The third element for a subsidy is “specificity.” A subsidy is regulated only in the case that it is specific, which means that it targets specific companies or industries.²⁶⁶ However, it should be noted that a “prohibited subsidy” such as an export subsidy or import substituting subsidy is regarded as having specificity in and of itself.²⁶⁷ Provided that a subsidy is one of these two subsidies, it is immediately considered specific, no matter how broad the scope

²⁶³ Panel Reports, Canada—Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412), Canada-measure relating to the Feed-in Tariff program (WT/DS426), para. 7.274

²⁶⁴ Ibid.

²⁶⁵ Yoo, G.H.(2012), p.49

²⁶⁶ Art 1.2 SCM; International Trade Law (2014), p.306

²⁶⁷ International Trade Law (2014), p.307

of the recipients.²⁶⁸

“Specificity” can be divided into two types: *de jure* specificity and *de facto* specificity. When laws or regulations explicitly provide that certain industries or companies are recipients, they are regarded as having *de jure* specificity.²⁶⁹ When a regulation provides some objective standards or conditions for a subsidy and automatically applies it, it can avoid the element of *de jure* specificity.²⁷⁰ Meanwhile, *de facto* specificity is regarded as existing even though the regulation itself is not specific, but can be found to be specific after the subsidization; for example, the predominate use of a subsidy by certain companies or unfair exercising of discretionary powers can be applied to *de facto* specificity.²⁷¹

(2) Classification of a Subsidy

The SCM Agreement categorizes subsidies into three types; Prohibited Subsidies (Part II), Actionable Subsidies (Part III), and Non-actionable Subsidies (Part IV). Non-actionable Subsidies lost their effect as of 31 December 1999, and were already examined in this paper; this part only covers

²⁶⁸ Ibid.

²⁶⁹ See Art 2.1(c) SCM; International Trade Law (2014), p.307

²⁷⁰ See Art 2.1(b) SCM.

²⁷¹ See Art 2.1(c) SCM.

Prohibited Subsidies and Actionable Subsidies.

Prohibited Subsidies

Art 3.1 SCM defines “Prohibited Subsidies” as:

- (a) subsidies contingent, in law or in fact, whether solely or as one of several other conditions, upon export performance, including those illustrated in Annex I;²⁷²
- (b) subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods.

“Prohibited Subsidies” should also satisfy the previous three elements; 1) financial contribution by a government or a public body, or income or price support, 2) benefit thereby conferred, and 3) specificity. Moreover, they should be applied to export subsidies or import substituting subsidies. However, if a subsidy is an export subsidy or an import substituting subsidy, then it is deemed to have specificity, which means that the rules for “prohibited subsidies” are more rigorous than the following “actionable subsidies.”

²⁷² Annex I of SCM Agreement illustrates 12 Export Subsidies such as:

- (a) The provision by governments of direct subsidies to a firm or an industry contingent upon export performance;
- (b) Currency retention schemes or any similar practices which involve a bonus on exports;
- (c) Internal transport and freight charges on export shipments, provided or mandated by governments, on terms more favorable than for domestic shipments;

Actionable Subsidies

Subsidies targeted by SCM Agreement are categorized as Actionable Subsidies when they “cause adverse effects to the interests of other members.”²⁷³ This subsidy’s scope is the broadest because it is common.²⁷⁴ Unlike Prohibited Subsidies, there is no definition for Actionable Subsidies. In other words, when a subsidy with the three previous requirements for a subsidy causes adverse effects, it can be regarded as an actionable subsidy.²⁷⁵

According to Art 5 SCM, “Adverse effect” is defined as follows:

- (a) injury to the domestic industry of another Member;
- (b) nullification or impairment of benefits accruing directly or indirectly to other Members under GATT 1994 in particular the benefits of concessions bound under Article II of GATT 1994;
- (c) serious prejudice to the interests of another Member

According to Footnotes 11, 12, and 13 of the Agreement, the term “injury to the domestic industry” here is in the same sense as it is used in Part

²⁷³ See Art 5 SCM

²⁷⁴ International Trade Law (2014), p.311

²⁷⁵ Matsushita, et al.(2006), p.364

V²⁷⁶, the term “nullification or impairment” here is in the same sense as it is used in the relevant provisions of GATT 1994²⁷⁷, and the term “serious prejudice to the interests of another Member” is used in the same sense as in paragraph 1 of Art XVI GATT, and includes the threat of serious prejudice.²⁷⁸ “Actionable subsidies” also should satisfy four elements; the three basic elements 1) financial contributions by a government or a public body, or income or price support, 2) benefit thereby conferred, 3) specificity, 4) and adverse effect. The difference with prohibited subsidies is that they do not automatically have specificity, even if they cause adverse effects.

²⁷⁶ The footnote 11 of the SCM Agreement

²⁷⁷ The footnote 12 of the SCM Agreement

²⁷⁸ The footnote 13 of the SCM Agreement

V. Analysis of the Consistency of the FIT Program in Korea with WTO Agreements

1. The FIT Program in Korea

Korea's energy consumption is ranked 8th with 264 Mtoe in 2013: it is ranked 9th for oil consumption and 8th for electricity consumption. This is relatively high, given that Korea is ranked 15th for GDP.²⁷⁹ Energy consumption per capita has also been on the rise. It is even worse that most of the energy consumed is imported; Korea was only 4% self-sufficient with regard to energy consumption in 2013. Thus, intermittent fluctuations in the international oil price have increased uncertainty in Korea's economy.²⁸⁰

[Table 4] Energy Consumption: The Top Ten Countries (2013)

	1	2	3	4	5	6	7	8	9	10
Energy (mil. toe)	China 3,023	U.S. 2,188	India 775	Russia 731	Japan 455	Germany 318	Brazil 297	Korea 264	France 253	Canada 253
Crude oil (mil. ton)	U.S. 832	China 504	Japan 208	India 175	Russia 147	Brazil 135	Saudi 132	Germany 113	Korea 108	Canada 104
Power (TWh)	China 5,165	U.S. 4,110	Japan 998	India 979	Russia 938	Germany 576	Canada 546	Korea 524	Brazil 517	France 486

Data Sources: Energy Balances of OECD/Non-OECD Countries 2015(IEA); Statistical Review of World Energy 2015(BP); KESIS

²⁷⁹ International Monetary Fund

²⁸⁰ Cho, H.S.(2013), p.331

[Table 5] Energy Consumption per Capita in Korea

	2010	2011	2012	2013
Crude Oil(kl)	16.08	16.10	16.55	16.43
Electricity(kWh)	8,787	9,142	9,331	9,455
Final Energy Consumption (toe)	3.96	4.14	4.16	4.19

Data Source: Energy Economic Institute

[Table 6] Energy Dependence of Korea

	2010	2011	2012	2013
Import of Energy (Mil.,\$)	121,654	172,490	184,800	178,698
Total Energy (thousand,toe)	263,805	276,636	278,698	280,290
Imported Energy (thousand, toe)	254,644	266,842	267,582	268,145
Dependence on Imports(%)	96.5	96.5	96.0	95.7

Data Source: Korea Energy Agency

In particular, the 1970s oil crisis made the Korean government interested in non-petroleum energy, pursuing stronger energy security for sustainable development through a comprehensive energy policy in the 1980s. Moreover, the UNFCCC and the emergence of environmental issues in the 1990s urged improvements in both energy efficiency and energy conservation, and the development of renewable energy.²⁸¹ Eventually, renewable energy

²⁸¹ MOTIE·KREA (2013)

started to draw more attention domestically as a strategic commodity for various objectives such as economic development, the protection of the environment, and public welfare.

Korea enacted “Act on the promotion of the development of alternative energy” in December, 1987, which defined alternative energy and set its first institutional basis for comprehensive technology development. It was revised to “Act on the promotion of the development, use and diffusion of alternative energy” in December 1997. It was also amended several times and was finally reformed into “Act on Promotion of the Development, Use and Diffusion of New and Renewable Energy” in December 2004, which redefined new and renewable energy. Renewable policies in Korea operate under the control of the act, though it has been revised several times.

The FIT program in Korea was first introduced in 2002; it was based on Art 11.6 of the “Act on the promotion of the development, use and diffusion of alternative energy”²⁸² and currently operates according to Art 17 of “Act on Promotion of the Development, Use and Diffusion of New and Renewable

²⁸² Act on the Promotion of the Development and Use of Alternative Energy states:

Article 11-6 (Public Notification of Price for Alternative Energy Power Generation and Support for Differences)

(1) The Minister of Commerce, Industry and Energy shall notify publicly the standard price by source of power generation which is supplied by the alternative energy power generation.

(2) The Minister of Commerce, Industry and Energy shall, where the power trade price for the electricity supplied by the alternative energy power generation (referring to the power trade price under Article 33 of the Electric Utility Act) is lower than the standard price notified publicly under paragraph (1), make a preferential support from the Electrical Industry Foundation Fund under Article 48 of the Electric Utility Act for the difference between the standard price and the power trade prices, to the alternative energy power generation businessman who has supplied the relevant electricity.

Energy”²⁸³ The program has helped supply renewable energy by supporting price differences between the market price (also called the system marginal price (SMP))²⁸⁴ and the standard price for different renewable resources, for 15–20 years.²⁸⁵

The FIT program can be diversified in detail, but it has two main characteristics: 1) support for price differences between the market price and

²⁸³ Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy states:

Article 17 (Public Notice of Standard Price for New and Renewable Energy Power Generation and Subsidization of Differences)

- (1) Where the Minister of Trade, Industry and Energy determines the standard price of electricity generated from new and renewable energy by source of electricity generation, he/she shall give public notice of such price. In such cases, the criteria for calculating the standard price shall be prescribed by Presidential Decree.
- (2) Where the transaction price of electricity generated from new and renewable energy (referring to the transaction price of electricity set under Article 33 of the Electric Utility Act) is lower than the standard price publicly notified under paragraph (1), the Minister of Trade, Industry and Energy shall give priority to subsidizing the difference between the standard price and the transaction price of electricity (hereinafter referred to as “power generation price difference”) from the Electrical Industry Foundation Fund under Article 48 of the Electric Utility Act to an entity engaged in new and renewable energy power generation business who has supplied such electricity.

²⁸⁴ Notification No. 2001-116 of the Ministry of Commerce, Industry and Energy “Project Operating Rules for Supporting Other Energy Sources” states:

Article 3 (Definitions of Terms)

6. “System Marginal Price (SMP)” shall be the price (KRW/kWh) in the electricity market which is applied by trading time to the power amount of general generators (except the generators by nuclear power, bituminous and anthracite coal) according to the Power Market Operation Regulations.

²⁸⁵ Notification No. 2010-176 of the Ministry of Knowledge Economy “Guidelines for Standard Prices of New and Renewable Electricity” states:

Article 10 (Power Sources and Support Standards eligible for Standard Prices) ② The subsidy for a licensee shall be equal to the amount calculated by multiplying trade volume in power market by the price difference (hereinafter referred to as “Feed-in Tariffs (FITs)”) between the system marginal price in power market and standard prices as specified in these Guidelines for the electricity supplied to power market after being generated from new and renewable energy sources eligible for the standard prices, that is, price difference subsidy = (standard price - system marginal price) x trading volume in power market.

Article 12 (Effective Period for Standard Prices) ① The standard prices as specified in these Guidelines shall be applied according to the results of installation confirmation application under Clause 3, Article 11. The effective period for standard price shall be a total of 15 years from the beginning date of feed-in tariffs support, and, in case of solar power source, may be 20 years.

the standard price or guaranteed above-market price, and 2) priority to be sold in the market.²⁸⁶ The program in Korea has been funded by the “Electrical Industry Foundation Fund” to pay for the advantages.²⁸⁷ In addition, priority for preferential purchase in the market is prepared for the program.²⁸⁸ It is said that 30% of renewable energy in Korea has benefited from the program, which means that the FIT in Korea contributed to the early domestic supply of renewable energy.²⁸⁹ However, the cost to be borne that includes concerns for the exhaustion of the Fund meant that the Korean government switched from the FIT program that had operated for 10 years to the RPS program. This was done because further operation of the program was expected to deplete the

²⁸⁶ Park, J.H.(2012), p.771

²⁸⁷ Electric Utility Act provides that:

Article 48 (Establishment of Fund)

The Government shall establish the Electrical Industry Foundation Fund (hereinafter referred to as the "Fund") to secure financial resources necessary for the sustainable development, and the creation of the foundation, of the electric utility industry.

Article 49 (Use of Fund)

The Fund shall be used to implement the following projects or programs:

1. A program to assist operators who produce electricity using new and renewable energy defined in subparagraphs 1 and 2 of Article 2 of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy;

²⁸⁸ Electric Utility Act provides that:

Article 31 (Electric Power Trading)

- (4) An operator of the electric sales business may preferentially purchase the electricity produced by any of the following persons, as prescribed by the rules on the operation of the electricity market referred to in Article 43:
 2. A person who has set up electric installations for private use (limited to where electric utility transactions are made pursuant to the proviso to paragraph (2));
 3. An electric power producer that produces electricity using new and renewable energy as defined in subparagraphs 1 and 2 of Article 2 of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy.

²⁸⁹ Koo, M.G(2013), p.4

fund, which would result in a skyrocketing electricity price.

Korea was categorized as a developing country in 1997 when the Kyoto protocol was adopted, and was therefore immune from the GHG emission reduction obligations. However, as the Paris Agreement took effect in November 2016, Korea is no longer free from the obligation to reduce GHG emission. The problem is that the efforts that have been made until now are insufficient, as confirmed in the table below, which means that additional efforts are required.

[Table 7] Supply of Renewables by Countries

Country		1990	1995	2000	2005	2010	2014p	(thousand toe, %)
Canada	Supply	33,609	38,591	42,430	45,821	44,318	47,252	
	Ratio	16.1	16.7	16.9	17.0	17.6	18.3	
Denmark	Supply	1,031	1,298	1,797	2,839	4,224	4,551	
	Ratio	5.9	6.7	9.6	15.0	20.1	27.8	
France	Supply	15,223	17,037	15,746	15,879	21,224	20,922	
	Ratio	6.8	7.2	6.3	5.9	8.1	8.6	
Germany	Supply	5,313	5,976	8,983	17,217	27,566	33,786	
	Ratio	1.5	1.8	2.7	5.1	8.4	11.1	
Iceland	Supply	1,620	1,561	2,413	2,383	4,790	5,143	
	Ratio	71.4	70.7	77.4	76.3	88.5	89.3	
Japan	Supply	15,146	15,766	16,490	16,378	19,098	21,425	
	Ratio	3.4	3.2	3.2	3.1	3.8	4.9	
Korea	Supply	1,007	430	758	1,079	1,812	2,805	
	Ratio	1.1	0.3	0.4	0.5	0.7	1.1	
New Zealand	Supply	4,224	4,737	5,175	5,333	7,109	7,863	
	Ratio	32.9	31.8	30.3	31.5	38.7	39.1	
Norway	Supply	11,396	11,532	13,488	12,978	11,676	13,067	
	Ratio	54.1	49.1	51.6	48.4	34.4	43.5	

Spain	Supply	6,202	5,507	6,815	8,397	15,048	16,853
	Ratio	6.9	5.5	5.6	5.9	11.8	14.8
Swiss	Supply	3,632	4,199	4,430	4,151	4,975	5,342
	Ratio	14.9	17.4	17.7	16.0	19.0	21.2
United Kingdom	Supply	1,029	1,836	2,264	6,796	8,351	11,408
	Ratio	0.5	0.8	1.0	3.4	4.3	6.4
United States	Supply	96,165	104,844	101,963	105,186	124,000	143,646
	Ratio	5.0	5.1	4.5	4.5	5.6	6.5

Data Source: Energy Balance of OECD Countries, IEA 2015 Edition

As mentioned earlier, the FIT and RPS programs are two major measures for renewable energy supply. That Germany has adopted the FIT program until the renewable energy's competitiveness improves reveals the importance of the FIT program at early supply; this has helped Germany's ratio of renewable energy increase from 6.2% to 32.6%.²⁹⁰ Simultaneously, it is worth noting that England and Japan have reintroduced the FIT program and have run this parallel with the RPS program. Many other countries have used the program, as shown in Table 8 below. Korea may need to redesign or change its renewable policy again to dramatically improve its renewable energy supply. In this regard, it should be required to examine the FIT program to prevent international conflicts in advance by being in accordance with WTO agreements, since the reintroduction of the FIT or its parallel operation with RPS should also be considered.

²⁹⁰ Germany did not reduce the FIT program until its competitiveness reached Grid Parity where the generating price for solar cell and fossil fuel energy became equal.

**[Table 8] Cumulative Number of Countries/States/Provinces
Enacting Feed-In Polices, and 2014 Policy Revisions**

Year	Cumulative ²⁹¹	Countries/States/Provinces Added That Year
1978	1	United States
1990	2	Germany
1991	3	Switzerland
1992	4	Italy
1993	6	Denmark; India
1994	9	Luxembourg; Spain; Greece
1997	10	Sri Lanka
1998	11	Sweden
1999	14	Portugal; Norway; Slovenia
2001	17	Armenia; France; Latvia
2002	23	Algeria; Austria; Brazil; Czech Republic; Indonesia; Lithuania
2003	29	Cyprus; Estonia; Hungary; Slovak Republic; South Korea; Maharashtra (India)
2004	34	Israel; Nicaragua; Prince Edward Island (Canada); Andhra Pradesh and Madhya Pradesh (India)
2005	41	China; Ecuador; Ireland; Turkey; Karnataka, Uttar Pradesh, and Uttarakhand (India)
2006	46	Argentina; Pakistan; Thailand; Ontario (Canada); Kerala (India)
2007	55	Albania; Bulgaria; Croatia; Dominican Republic; Finland; Macedonia; Moldova; Mongolia; South Australia (Australia)
2008	71	Iran; Kenya; Liechtenstein; Philippines; San Marino; Tanzania; Ukraine; Queensland (Australia); Chhattisgarh, Gujarat, Haryana, Punjab, Rajasthan, Tamil Nadu, and West Bengal (India); California (USA)
2009	81	Japan; Serbia; South Africa; Australian Capital Territory, New South Wales, and Victoria (Australia); Taiwan (China); Hawaii, Oregon, and Vermont (USA)
2010	87	Belarus; Bosnia and Herzegovina; Malaysia; Malta; Mauritius; United Kingdom
2011	94	Ghana; Montenegro; Netherlands; Syria; Vietnam; Nova Scotia (Canada); Rhode Island (USA)
2012	99	Jordan; Nigeria; Palestinian Territories; Rwanda; Uganda
2013	101	Kazakhstan; Pakistan
2014	103	Egypt; Virgin Islands (USA)
Total	108	

Data Source: REN21 Renewables 2015 Global Status Report

²⁹¹ “Cumulative” refers to number of jurisdictions that had enacted feed-in policies as of the given year.

2. Analysis of the Consistency of the FIT Program in Korea with WTO Agreements

That a government would provide subsidies for domestic producers or treat domestic products more favorably than foreign products to drive economic development in its domestic industries may be regarded as natural. However, such discriminations usually distort the market through non-market factors, such as government intervention, which leads to the undesirable outcome of harming consumers' welfare. Therefore, WTO agreements were born to maximize welfare through freer trade and fair competition. All the member countries have agreed on the purpose, but they are still easily tempted to discriminate in favor of their own industries. In particular, they are not willing to support both domestic and foreign products and industries equally with the government revenues levied on their people.

The backing of the urgency to counter climate change by most of the countries started to justify the support for the climate change industries, through which each member country has developed and supported their new growth engines. However, it has been confirmed with the WTO DSB rulings that the agreement does not defend discrimination in which countries only favor their own industries. This means that policies based on such discrimination are more likely to be brought to the WTO on the grounds that they can create suspicions about impediments to free trade by creating or aggravating unfair trade

environments.

Being sued in the WTO for a government policy issue, which would usually take years to be ruled upon, should not only hurt the relevant domestic industries but also constrict other government policies that are supported in a similar way. In addition, the alleged WTO violation should degrade a country's credibility in international relations. Thus, WTO infringement is a significant issue for every member country. Therefore, considering the possibility of potential conflicts in international relations in advance may help promote the effective implementation of national policies. This chapter will analyze the consistency of the FIT program in Korea with WTO agreements, which will hopefully help find a way to design the FIT program, one of the main renewable policies, to achieve its own objectives without garnering criticism from trading partners.

1) Consistency of the FIT Program in Korea with the National Treatment of the GATT 1994 and TRIMs Agreement

It is noteworthy that up to seven out of the eight energy disputes, including the Canada–Renewable Energy dispute, have been brought to the WTO in violation of Local Content Requirements (LCRs), which can also be

called Domestic Content Requirements (DCRs), since 2010.²⁹² LCRs are government measures that require recipients to use domestic products to some extent when producing their products. The LCR measures in the renewable energy industry are usually in two forms; one is a precondition to being a recipient, while the other is a part of the eligibility criteria for participating in government procurement.²⁹³

As previously reviewed in the Canada–Renewable Energy dispute, LCRs have been treated quite harshly by the WTO. They were found to be inconsistent with Art III: 4 GATT and Art 2 TRIMs (National Treatment) and Art III:8(a) (Exception of National Treatment Obligation by virtue of being Government Procurement). In the India–Solar cells dispute, not only the national treatment of Art III GATT and Art 2 TRIMs, but also the general exception of Art XX GATT was denied.²⁹⁴ In the Canada–Renewable energy

²⁹² Canada–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412) / Canada–Measures Relating to the Feed-in Tariff Program (WT/DS426) ; China–Measures concerning wind power equipment (WT/DS419); European Union and Certain Member States–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS452); India–Certain Measures Relating to Solar Cells and Solar Modules (WT/DS456); European Union–Certain Measures on the Importation and Marketing of Biodiesel and Measures Supporting the Biodiesel Industry (WT/DS459); European Union and its Member States–Certain Measures Relating to the Energy Sector (WT/DS476); United States–Certain Measures Relating to the Renewable Energy Sector (WT/DS510) (Center for Energy & Environmental Law and Policy(2015), p.55)

²⁹³ Stepheson.Sheery (2013), p.2; ICTSD (2013) p.1; for further discussion regarding LCRs, refer to ICTSD (2013)

²⁹⁴ Lee, H.Y. and Uhm, J.H.(2014), p.194; Appellate Body Reports, Canada–Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412) / Canada–Measures Relating to the Feed-in Tariff Program (WT/DS426), para. 5.75.

dispute, regardless of the national treatment violation, the recommendation would include that LCRs should be withdrawn without delay, once the program meets the definition of a subsidy (financial contribution and benefit conferred thereby), because they would make the program prohibited subsidies.²⁹⁵ Hence, LCRs have a high possibility of being brought to the WTO.

Then, why do the member countries continue to implement the LCRs? The outcome of the FIT program in Korea hints at why such risks do not hinder the member countries from using the measures; the main recipients of the program were mostly the contractors of the equipment and the generators. The manufacturers of the equipment that were originally targeted did not enjoy the fruits of their labor.²⁹⁶ One important objective for which governments develop supportive measures is the promotion of new technologies by creating an early market for them. This may explain why countries adhere to LCRs for systematic complements in spite of the risks if poor achievement is followed or caused by the program's own defects.

LCRs that are prerequisites for government support, such as price support in the FIT Program, appear to assist both the generation and manufacturing industries in the renewable energy sector. Unfortunately, the

²⁹⁵ Park, J.H.(2012), p.786;

See III.3 & IV.2 of this paper for further discussion regarding prohibited subsidies.

²⁹⁶ Koo, M.G.(2014), p.3

measure has a high risk of being in violation of a few provisions in WTO agreements, which continued to be confirmed explicitly through the Canada–renewable energy and India–Solar cells disputes. Some efforts can be made to find a way for the procured and discriminated products to be “like products,” considering that the AB’s findings denied the derogation of Art III:8(a) GATT since the two products were different. Nevertheless, LCR measures may have their own limits in that they cannot resolve the prohibited subsidy issue. Overall, the measure should be eliminated from the FIT Program, which means that the policies for nurturing the manufacturing industry in the renewable sector should be implemented separately from those for fostering the generating industry.

It was confirmed that the FIT program in Korea attached the implicit LCRs in 2008, with no specific ratio required though. According to Notification 2008-45 of the Ministry of Knowledge Economy, the licensees were required to use the authentication module, and some of them were asked to comply with the installation standards.²⁹⁷ The implied LCR measures in Notification 2008-45

²⁹⁷ Notification No. 2008-45 of the Ministry of Knowledge Economy “Guidelines for Standard Prices of New and Renewable Electricity” provides that:

Article 10 (Obligations of Licensees)

- ② The licensees for photovoltaic power supply business shall use the authentication modules obtained according to Notification of the Ministry of Commerce, Industry and Energy, “Regulations on Authentication of New and Renewable Energy Facilities.”
- ③ The licensees for more than 10kW power generation business shall install the monitoring facilities under Notification of the Ministry of Commerce, Industry and Energy, “Standards for Support, Installation and Management of New and Renewable Energy Facilities,” and such facilities shall meet the technical standards for monitoring system. However, it is not the case that the Minister of Knowledge Economy accepts it.

were valid in Notification 2010-176 of the Ministry of Knowledge Economy. In addition, Public Notice No. 2009-184 of the Ministry of Knowledge Economy²⁹⁸ even confirmed that such regulations were introduced to strengthen the weak foundation of the renewable energy industry and promote the export industry. It is fortunate that Notification 2015-200 of the Ministry of Commerce, Industry, and Energy, “Notification of abolition of Regulations on Authentication of New and Renewable Energy Facilities,” was announced. However, Notification 2008-232 of the Ministry of Knowledge Economy, “Standards for Support, Installation and Management of New and Renewable Energy Facilities,” still requires the installation of authentication products. Therefore, the current FIT program in Korea could be ruled in violation of the national treatment obligation under the Art III GATT and Art 2 TRIMs. Moreover, this could be filed to the WTO as a prohibited subsidy in violation of import-substitution subsidies,²⁹⁹ which will be explained later in the paper.³⁰⁰ Therefore, the consistency of the LCR-related condition in Korea’s FIT

²⁹⁸ Public Notice No. 2009-184 of the Ministry of Knowledge Economy “2009 Action Plan for Technology Development, Use and Diffusion of New and Renewable Energy Sources”

²⁹⁹ It is regarded as an import substitution subsidy if the preferential subsidy is given to a generator when a product is purchased from a domestic company, even though a similar or better foreign product can be obtained for the similar or more competitive price. (Center for Energy & Environmental Law and Policy(2015), p.55

³⁰⁰ See p.115 of this paper for further discussion regarding prohibited subsidies.

program with the WTO should be seriously considered.³⁰¹ That is, it is strongly recommended that the measure be eliminated to comply with WTO agreements.

2) Consistency of the FIT Program in Korea with the SCM Agreement

The consistency of the FIT program with the SCM Agreement has not been concluded in the WTO. Neither the Panel nor Appellate Body of the Canada–Renewable Energy dispute were able to complete their analyses; even worse, some of their legal grounds differed, which brings heated debate. In this regard, this chapter will scrutinize the FIT program in Korea in light of the subsidy requisites and the classification of subsidies in the WTO by considering future conflicts.

A financial contribution by a government or a public body, or any form of income or price support

Both the Panel and Appellate Body admitted the FIT program in Ontario had the “financial contribution” element of a subsidy as a “purchase of goods.” Given that ruling, the Korean FIT program also seems to have a “financial contribution” factor from the government, in that the Korean

³⁰¹ It is fortunate that the LCR condition was not found in the current FIT programs of local governments, such as the Seoul and Gyeonggi governments.

electricity market is mostly governed by the government or its agencies as was the case in Ontario.

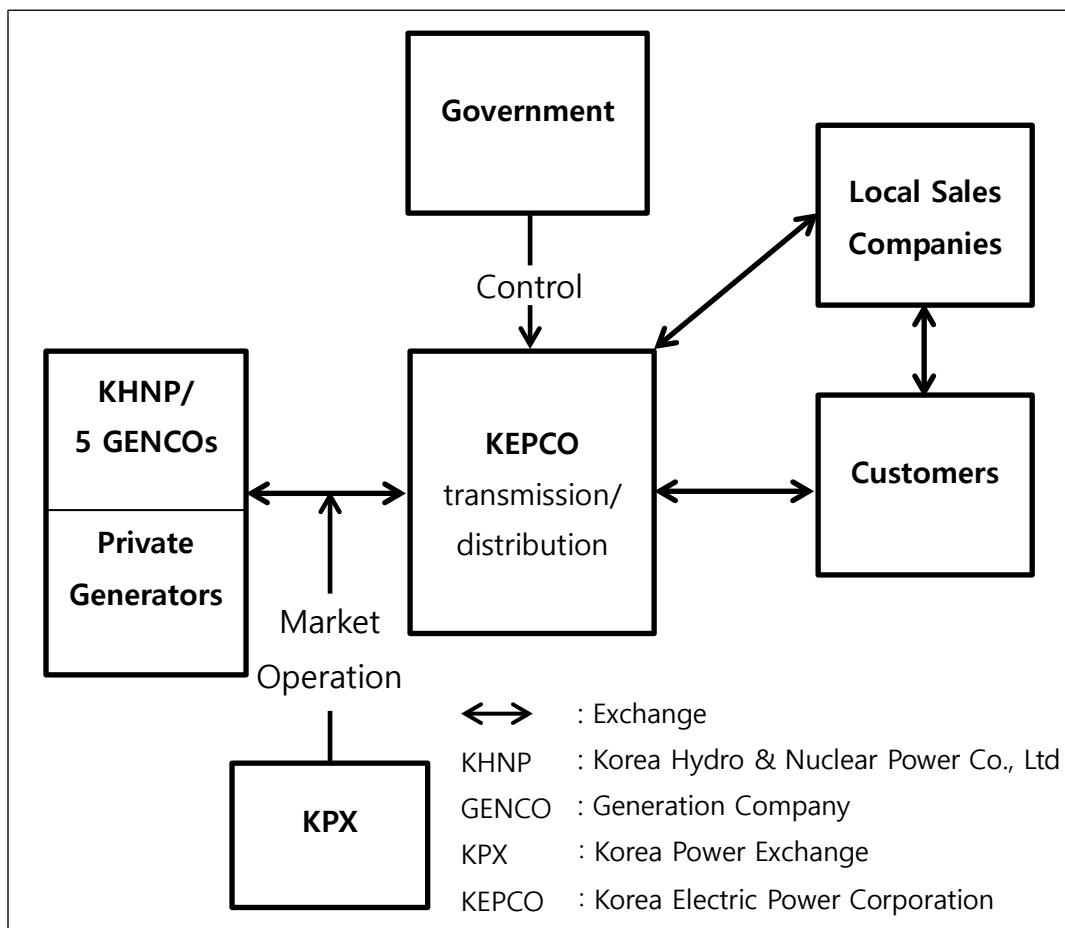
Korea's energy industry is a major industry that has been strongly controlled by the government. It may be a historical heritage of the industrial development since 1962 when the five-year economic development plan began. The system has been dominated by more state-owned companies compared to other industries, which was rationalized on the grounds of the high upfront costs and large initial investments required to build supply networks and economies of scale. However, the 1970s oil crisis introduced market mechanisms into the industry that gradually changed the its structure.

As a result, the Korea Electric Power Corporation (KEPCO), which had been wholly responsible for all electric utility including the production, transmission, and distribution of electricity in Korea since 1982, started to dismantle its monopoly of the South Korean electric power industry, splitting up its non-nuclear power generation operations into five separate regional businesses³⁰² and its nuclear and hydroelectric power generation operations into the Korea Hydro and Nuclear Power company (KHNP) based on “Act to Accelerate Restructuring Electricity Industry” in 2001. KEPCO continues to operate transmission and distribution, and Korea Power Exchange (KPX) was

³⁰² Korea South-East Power Co.,Ltd.(KOSEP), Korea Southern Power Co.,Ltd.(KOSPO), Korea Midland Power Co.,Ltd.(KOMIPO), Korea Western Power Co.,Ltd.(KOWEPO), and Korea East-West Power Co.,Ltd.(KEWESPO)

established to manage the wholesale power market. However, this restructure could not be developed due to the strong reaction followed by its labor union and NGOs, which meant that the Korea power market remained under the control of the government.

[Figure 2] Structure of Electricity Industry in Korea



Data Source: Electrical Journal

The FIT program in Korea was implemented in compliance with the “Electric Utility Act” Art 34³⁰³, and funded by “Electrical Industry Foundation Fund³⁰⁴,” which is additionally imposed on electric consumers. This program is implemented by Korea Energy Agency (KEMCO) entrusted by the Minister, and is paid the price difference between the standard price and the SMP by KEPCO and KPX under the control of the minister of Knowledge Economy (the

³⁰³ Electric Utility Act states:

Article 34 (Agreement on Compensation for Difference)

(1) An operator of the electricity generation business may enter into an agreement (hereinafter referred to as "agreement on compensation for difference") with an electricity purchaser (referring to an operator of the electric sales business, an operator of the district electric business who purchases electricity pursuant to Article 31 (3), or an electricity consumer who directly purchases electricity pursuant to the proviso to Article 32; hereafter the same shall apply in this Article) whereby a base price is established to reduce risks arising from fluctuations in trading prices and the difference between the base price and the electricity trading price is compensated.

(2) To stabilize supply and demand of electricity and to protect the interests of electricity consumers, operators of electricity generation businesses, and electricity purchasers meeting the standards prescribed by Presidential Decree shall trade electricity only by an agreement on compensation for difference in the volume of electricity determined and publicly notified by the Minister of Trade, Industry and Energy: Provided, That where contributions provided for in Article 44 (2) 1 of the Act on Construction of Dams and Assistance, etc. to their Enviros are decreased as a result of entering into an agreement on compensation for difference, electricity purchasers shall make up for the decreased contributions as prescribed by Presidential Decree.

³⁰⁴ Electric Utility Act provides that:

Article 48 (Establishment of Fund)

The Government shall establish the Electrical Industry Foundation Fund (hereinafter referred to as the "Fund") to secure financial resources necessary for the sustainable development, and the creation of the foundation, of the electric utility industry.

Article 49 (Use of Fund)

The Fund shall be used to implement the following projects or programs:

1. A program to assist operators who produce electricity using new and renewable energy defined in subparagraphs 1 and 2 of Article 2 of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy;

Article 50 (Creation of Fund) (1) The Fund shall be created with the following funds:

1. Charges and additional dues under Article 51;

Article 51 (Charges)

(1) To implement the projects or programs specified in the subparagraphs of Article 49, the Minister of Trade, Industry and Energy may impose and collect charges on electric consumers within the limits of 65/1000 of the electric utility rates (in cases of electric consumers that directly purchase electricity under the proviso to Article 32, referring to the sum of the purchasing prices and charges for the use of electric transmission or distribution installations specified in Article 15), as prescribed by Presidential Decree.

current minister of Trade, Industry and Energy) on the grounds of “Guidelines for Standard Prices of New and Renewable Electricity.”³⁰⁵ Therefore, it would be difficult to deny the FIT program is under the control of the government or a public body.³⁰⁶

However, there may be room for avoiding direct or potential direct transfers of financial contributions from the government to generators by

³⁰⁵ The FIT Program related regulations were announced in Notification No. 2001-116 of the Ministry of Commerce, Industry and Energy, “Project Operating Rules for Supporting Other Energy Sources” for the first time, but was not amended regarding general management agency, exclusive agency, and managing institutions despite repeated revisions;

Notification No. 2010-176 of the Ministry of Knowledge Economy “Guidelines for Standard Prices of New and Renewable Electricity” states:

Article 3 (Definitions of Terms) The definitions of terms used in these Guidelines are as follows;

2. “General Management Agency” shall be an institution with management manpower and facilities, which is delegated by government to totally manage part of FITs business for new and renewal energy sources.
3. “Exclusive Agency” shall be the electric power infrastructure development project center according to the Operating Regulations.
4. “Managing Institutions” shall be Korea Power Exchange under Article 35 of the Electric Utility Ace and Korea Electric Power Corporation (KEPCO) under the Korea Electric Power Corporation Act.

Article 4 (General Management)

- ① The General Management Agency shall be the New and Renewable Energy Center in the Korea Energy Management Agency as stipulated in Article 31, the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Sources of Energy and Article 29 of its Enforcement Decree.
- ② The General Management Agency shall perform the duties as follows;
5. Other tasks delegated by the Minister of Knowledge Economy (hereinafter referred to as “Minister”)

Article 9 (Payment and Management of Project Costs)

- ② The head of Exclusive Agency shall, in case of the payment request from the head of General Management Agency, shall deposit it in the FITs support project account for new and renewable energy sources by the name of General Management Agency. All fees resulted from depositing/withdrawing the project costs, and public charge and tax may be appropriated in the project costs.
- ③ The heads of Managing Institutions shall apply for the payment of project costs to the head of General Management Agency with documentary evidence of the details on FITs support by licensee as calculated according to Clause 2, Article 10.

³⁰⁶ The press release “Designation of Public Institutions 2016” states that KEPCO is a public enterprise and that KPX is an associated governmental organization on commission.

referencing *PreussenElektra AG v. Scheleswag AG*.³⁰⁷ in the European Court of Justice (ECJ). The ruling by the ECJ cannot be an absolute standard in compliance with the SCM Agreement, since it is not a finding by a Panel or Appellate Body, but its interesting interpretation deserves careful attention. The ECJ ruled that the FIT program in Germany “does not constitute state aid,” since it is “decided by the State but financed by private undertakings.”³⁰⁸ The finding seems to consider the privatized electric market in Germany, which significantly lowers the possibility of financial contributions from the government. Having the market be under private management may also bring a dispute over the “entrustment or direction” of private entities by the government to the WTO³⁰⁹, and it may not be appropriate to privatize the

³⁰⁷ Park, J.H.(2012), pp.788-789

³⁰⁸ *PreussenElektra AG v. Scheleswag AG*. Judgement of 13 March 2001—Case C-379/98

59. In this case, the obligation imposed on private electricity supply undertakings to purchase electricity produced from renewable energy sources at fixed minimum prices does not involve any direct or indirect transfer of State resources to undertakings which produce that type of electricity.

63. ... in order to preserve the effectiveness of Articles 92 and 93 of the Treaty, read in conjunction with Article 5(now Article 10 EC), it is necessary for the concept of State aid to be interpreted in such a way as to include support measures which, like those laid down by the amended Stromeinspeisungsgesetz, are decided upon by the State but financed by private undertakings.

66. The answer to the first question referred must therefore be that a statutory provision of a Member State which, first, requires private electricity supply undertakings to purchase electricity produced in their area of supply from renewable energy sources at minimum prices higher than the real economic value of that type of electricity, and, second, distributes the financial burden resulting from that obligation between those electricity supply undertakings and upstream private electricity network operators, does not constitute State aid within the meaning of Article 92(1) of the Treaty.

³⁰⁹ Art 1.1(a)(1)(iv) SCM provides that:

a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments;

electric market in Korea in the same manner as that in Germany. However, one thing of note in the German FIT program is the surcharge imposed on the end-consumers of electricity, which is believed to have made a very positive contribution to the successful diffusion of renewable energy in the country.^{310,311} Therefore, the German FIT program is worth noting, even though another dispute over consumers' increased burden seems to have begun in Germany.³¹²

The FIT Program in Korea has utilized an "Electrical Industry Foundation Fund" to guarantee a fixed market price for the electricity generated from renewable resources. The fund is raised by imposing extra charges on electric consumers, which appears to be a similar method to that of Germany. However, the fund in Korea is compiled in the national budget. The press release for the explanation by the Ministry of Trade, Industry, and Energy comments that the "Electrical Industry Foundation Fund" is annually planned on details through the deliberation of Congress, and reviewed through the closing procedures of

³¹⁰ Song, Y.J.(2016), p.7

³¹¹ According to the German FIT under Erneuerbare-Energien-Gesetz (EEG), which has been a regulation regarding renewable energy in Germany since 2000, the expense from the FIT program is included in the general electric charges, which means that the financial benefits that the renewable energy generators enjoy is funded privately, not by the a government.

³¹² Still, it is worth referencing, as the dispute over the electricity consumers' financial burden seems to have become public after the successful diffusion of renewable energy.

Congress.³¹³ The fund-related laws show that the “Electrical Industry Foundation Fund” has diverse sources of revenue and its use is not limited to the FIT Program³¹⁴, which may be distinguishable from that of Germany.

The policy that is designed so that electric consumers could bear the burden of supplying renewable energy would not deplete the fund, which can be

³¹³ The press release for explanation by the Ministry of Trade, Industry, and Energy (2016)

³¹⁴ Electric Utility Act states:

Article 49 (Use of Fund) The Fund shall be used to implement the following projects or programs:

1. A program to assist operators who produce electricity using new and renewable energy defined in subparagraphs 1 and 2 of Article 2 of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy;
2. An electric demand control program;
3. A project to promote electric power resource development;
4. A project designed to assist in providing electricity to the residents of islands and remote places;
5. A research and development program on the electric utility industry;
6. A project designed to assist the domestic coal industry, liquefied natural gas industry, and integrated energy industry, in combination with the electric utility industry;
7. A program to assist surveying, research and publicity of electrical safety;
8. A project to inspect electric installations for general use;
9. A project to assist neighboring areas under the Act on Assistance to Electric Power Plants-Neighboring Areas;
- 9-2. A project to support areas adjacent to transmission and substation facilities provided for in Article 10 (2) of the Act on the Compensation and Support for Areas Adjacent to Transmission and Substation Facilities;
10. A project to promote construction and use of smart grids provided for in the Smart Grid Construction and Utilization Promotion Act;
11. Other important projects prescribed by Presidential Decree, related to the electric utility industry.

Article 50 (Creation of Fund)

(1) The Fund shall be created with the following funds:

1. Charges and additional dues under Article 51;
 2. Penalty surcharges under Article 12-6 (1) of the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy;
 3. Proceeds accrued from the operation of the Fund;
 4. Revenues determined by Presidential Decree.
- (2) In addition to the financial resources secured pursuant to paragraph (1), the Minister of Trade, Industry and Energy may borrow money from the special accounts for energy and resources-related projects, other funds, etc. at the expense of the Fund.
- (3) When the Minister of Trade, Industry and Energy intends to borrow funds pursuant to paragraph (2), he/she shall, in advance, consult with the Minister of Strategy and Finance.

Article 51 (Charges)

(1) To implement the projects or programs specified in the subparagraphs of Article 49, the Minister of Trade, Industry and Energy may impose and collect charges on electric consumers within the limits of 65/1000 of the electric utility rates (in cases of electric consumers that directly purchase electricity under the proviso to Article 32, referring to the sum of the purchasing prices and charges for the use of electric transmission or distribution installations specified in Article 15), as prescribed by Presidential Decree.

a way of letting it self-perpetuate.³¹⁵ The problem is that it involves increasing the electric rates, which should persuade the public to form a social consensus.³¹⁶ Moreover, it requires discussion with the industries that have enjoyed the privileges of low rates through the economic strategy of supporting export-led growth. Thus, the scrutiny with regard to the “financial contribution” element should be done in various ways including redesigning the fund or introducing extra taxation to share the burden with people without overburdening them.

Then, is there any room left for the FIT program to be interpreted as income or price support? In the Canada–Renewable energy case, Japan and the EU argue that the FIT program and its related contracts with its reportedly above-market prices given by the Government of Ontario for electricity and the long-term contract period (20 years) enable the promotion of renewable energy supply in the province, which shows the measures at issue “contribute to income and prices received by FIT generators.” They add another basis that the challenged measures with LCRs operate to reduce the import of renewable

³¹⁵ Lee J.Y.(2005)

³¹⁶ FIT in Germany is especially worthy of notice, as it tries to be fair by sharing the burden of increased cost due to renewable energy consumption. The relevant regulations specify that renewable energy should be purchased in proportion to the other energy consumption, which results in equal shares of the escalated costs. (Hong, S.P. and Jeong, D.W.(2012), p.30)

energy generation equipment into Ontario.³¹⁷ This approach may come from the Panel report on subsidies and state trading.³¹⁸ Regarding “the extent to which subsidies and price support measures affect exports or imports and are therefore notifiable under Art 16,” the Panel report “considers it fair to assume that a subsidy which provides an incentive to increased production will, in the absence of offsetting measures, e.g. a consumption subsidy, either increase exports or reduce imports.”³¹⁹ If the assurance of higher prices and long-term contracts strongly encourages generators in Ontario to produce renewable energy, leading to purchases of domestic equipment and components due to the LCR conditions of the FIT program, then it can be interpreted as reducing imports into the province, which will be a basis for income or price support.³²⁰ Both the Panel and Appellate body in the case make no findings with respect to the issue on the grounds of judicial economy, since the complainants’ arguments over “income or price support” are the same as those examined and rejected by the Panel regarding “benefit,” which leaves much to be desired.³²¹

³¹⁷ Panel Reports, Canada—Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412), Canada—Measures relating to the Feed-in Tariff program (WT/DS426), paras. 7.172, 7.177

³¹⁸ Panel on Subsidies and State Trading, Report on Subsidies, L/1160, 23 March 1960.

³¹⁹ Ibid., para.10

³²⁰ Park, J.H.(2012), pp.785-786

³²¹ Panel Reports, Canada—Certain Measures Affecting the Renewable Energy Generation Sector (WT/DS412), Canada—Measures relating to the Feed-in Tariff program (WT/DS426), para.7.249.

Lastly, it is worth noting that the challenge measures in the Canada–Renewable energy dispute are the policy of Ontario which is one of the local governments in Canada. In addition, with the EU’s local authority subsidy policies being treated as equal to those of the central government, the EC and certain member states’ Large Civil Aircraft disputes³²² were also found to be inconsistent with the SCM Agreement. These interpretations seem to indicate that Art 4 of the Responsibility of States for Internationally Wrongful Acts (2001)³²³ applies to trade law that regulates examining the attribution of a state’s conduct irrespective of whether it is a central or local government.³²⁴ These findings encourage reviews and the continuous monitoring of the FIT program in all local authorities, not to mention the central authority, since Seoul and Gyunggi-province operate their own FIT programs even though the central government terminated it except for where it benefits existing generators.

³²² European Communities–Measures Affecting Trade in Large Civil Aircraft (WT/DS316), European Communities and Certain Member States–Measures Affecting Trade in Large Civil Aircraft (WT/DS347)

³²³ Responsibility of States for Internationally Wrongful Acts (2001) states:

Article 4 Conduct of organs of a State

1. The conduct of any State organ shall be considered an act of that State under international law, whether the organ exercises legislative, executive, judicial or any other functions, whatever position it holds in the organization of the State, and whatever its character as an organ of the central Government or of a territorial unit of the State.

2. An organ includes any person or entity which has that status in accordance with the internal law of the State.

³²⁴ Lee, J.M.(2011), p.234

Benefit

WTO has explicitly adopted “market benchmark,” finding that the proper comparison criteria for benefit analysis should be found in the relevant market.³²⁵ Here, “Market benchmark” means that financial benefits are only regarded as existing if the government provides a recipient with financial contributions on more favorable terms than those of the usual market.³²⁶ The market does not have to be a “perfectly competitive market”; however, it is not easy to find markets in which the measures at issue are conducted and to find the relevant market as a comparison criterion, since the trading pattern becomes more complicated.³²⁷ There is no “perfectly competitive market” in the real world, distortions cannot help but exist to some extent; how much distortion would be admitted remains uncertain.³²⁸

The WTO position regarding the renewable energy market would have been much more informative and predictable if the Panel and AB agreed on the “relevant market” issue in the Canada–Renewable energy dispute. However, it reveals a high level of difficulty, and the issue now comes under the spotlight. An objective standard would be required to define the “relevant market” in a

³²⁵ Oh, S.Y.(2013) p.373; Appellate Body Report, Canada–Measures Affecting the Export of Civilian Aircraft (WT/DS70), para.157.

³²⁶ Yoo, G.H.(2013), p.256; Oh, S.Y.(2013), p.373

³²⁷ Wolfrum, Rüdiger et al.(2008), p.595; Yoo, G.H.(2013), p.256; Oh, S.Y.(2013), p.373

³²⁸ Lee, J.M.(2012), p.306

new market, on which basis it could determine whether government intervention to create a new market that counters climate change is beneficial for the recipient. It is vitally important to reach common consent with international society, since it can be a standard in environmental subsidies.³²⁹

In addition, given the situation that environmental subsidies are one of the hottest issues, it is possible that the approach in the environmental subsidy rules of the non-actionable subsidies regulations within the SCM Agreement could be utilized or borrowed, even though the regulations would not be reintroduced soon. For example, if the FIT program made a new obligation that GHG emission should be reduced, the electricity generated from renewable energy is mandated to achieve it; thus, a subsidy within the cost may arguably not be involved with the benefit.³³⁰ In other words, a new rule to impose duties is accompanied by a subsidy or tax cut; giving aid lower than the cost permits the argument that the financial contribution does not devolve to the benefit. This seems to borrow the approach of Art 8.2(c) SCM³³¹, which may deserve consideration.³³²

Other than global efforts for international concurrence, individual

³²⁹ Oh, S.Y.(2013), p.374

³³⁰ Park, J.H.(2012), p.787

³³¹ See IV. 2.1)(2) of the paper for further discussion regarding environmental subsidies.

³³² Ibid.,(2012), p.787; Oh, S.Y.(2013), p.374

efforts to determine the standard for the “relevant market” regarding renewable generators in the domestic market should be pursued. Each country has different trade practices, so the “market benchmark” commonly refers to the market criterion in which the measure at issue is conducted.³³³ Since the Canada–Renewable energy dispute clearly provides different criteria, the relevant market should be prepared in terms of perspectives from both the Panel and the AB.

Specificity

The WTO has not clarified whether the FIT program is specific. Considering the U.S.–Upland Cotton case³³⁴, the element of specificity will be determined for each individual case. Given Art 2.3 SCM in which prohibited subsidies are automatically regarded as specific, the element of the LCR elements in the FIT, which is applied to import substituting subsidies, could easily be determined “specifically.”

The key issue over “specificity” can be related to the breadth of the recipient’s scope. The ratio of renewable energy in the power generation industry is still less than 20% in most countries except a few. Korea’s renewable energy supply is especially low; thus, renewable industry recipients in Korea

³³³ Oh, S.Y.(2013), p.376

³³⁴ Panel Report, US–subsidies on Upland Cotton (WT/DS267), para.7.1142

may be easily regarded as *de facto* specific, even though all companies in the renewable energy industry benefit. U.S.–Softwood Lumber IV also concluded that “*de facto* specificity” does not always require that a subsidy be “deliberately limited to a limited number of certain enterprises”³³⁵ This can be resolved in a time when renewable energy is broadly supplied. The problem is that the FIT program is required to improve the supply of renewable energy, and possible “specificity” could constrict the program.

Another possibility for “specificity” comes from the characteristics of renewable energy. The aid for renewable energy is usually provided to producers rather than consumers, whereas aid for fossil fuel energy tends to be given to consumers directly; this kind of attribute would satisfy “specificity” more easily. The reason that renewable energy aid is not directly given to consumers is explained by the possibility that direct aid for consumers may have a higher chance of increasing their energy consumption, which is against the objective of the measure to reduce GHG emissions.³³⁶ It can be also explained by the real difficulty that direct consumer aid cannot be implemented for renewable energy consumers. In other words, consumers cannot choose electricity by generation type under the current system. Therefore, it is impossible for a government to find renewable energy consumers in principle.

³³⁵ Park, J.H.(2012), p.790; Center for Energy & Environmental Law and Policy(2015), pp.53-54

³³⁶ Center for Energy & Environmental Law and Policy (2015), pp.53-54

Even though there are some consumers who only use renewable energy that is self-generated using solar cells, the government cannot provide the Sun for consumers in the manner that it provides coal for fossil fuel consumers. If a government can assist self-generating consumers with equipment for generating renewable energy, then it is no longer a consumer subsidy; it is a producer subsidy for the generator. In such a case, it is notable that there is room for aid to be regarded as the provision of general infrastructure if the equipment used to generate electricity is installed for the producers, and then financial contributions can be denied.³³⁷

For now, basing the standard for a subsidy on the GHG emission rather than the type of resource seems to increase the chance to avoid “specificity”; in other words, when subsidies are not only given to the renewable energy industry, but also to all industries that successfully reduce GHG emissions. Still, it has any chance to be regarded as specific if subsidies are consequently and virtually provided to only renewable energy companies, because they are the only ones who achieve the requirements, but it would depend on the program design. Moreover, that kind of effort can contribute to maximizing the energy efficiency of fossil fuel energy, which may spur further green growth strategies.

³³⁷ According to 1.1(a)(1)(iii) SCM, one element for financial contributions by a government to be considered a subsidy is “a government provides goods or services other than general infrastructure, or purchases goods,” which means that financial contributions can be denied if aid provided is general infrastructure.

Prohibited Subsidies

When prohibited subsidies are regarded as specific³³⁸, the complainants have no burden of proof for specificity in a WTO dispute over a subsidy issue.³³⁹ That is, withdrawal without delay will be recommended for any prohibited subsidy once the program meets the definition of a subsidy (financial contribution and benefit conferred thereby). Therefore, the exclusion of elements related to being an export subsidy or an import substitution subsidy are required in advance.³⁴⁰ For example, it is recommended that the connection between the export and LCRs be excluded from the FIT program.

As previously reviewed, the analysis regarding a subsidy was not completed by the WTO. However, it can be easily predicted that the FIT program attached by LCRs will be recommended for withdrawal without delay once the program meets the definition of a subsidy (financial contribution and benefit conferred thereby), because the LCR measure would make the program prohibited subsidies.

It was already analyzed that LCRs were implicitly attached to the FIT

³³⁸ Art 2.3 SCM

³³⁹ Lee, H.Y. and Uhm, J.H.(2014), p.31

³⁴⁰ Art. 3.1 SCM defines “Prohibited Subsidies” as:

- (a) Subsidies contingent, in law or in fact, whether solely or as one of several other conditions, upon export performance, including those illustrated in Annex I;
- (b) Subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods.

program in Korea in 2008, certain LCR measures remain in Notification 2008-232 of the Ministry of Knowledge Economy, “Standards for Support, Installation and Management of New and Renewable Energy Facilities,” even though some were abolished. It is of concern that the current FIT program in Korea could be ruled as prohibited subsidies in violation of import-substitution subsidies due to such measures.³⁴¹ In terms of “prohibited subsidy” as well as “national treatment principle,” the consistency of the LCR condition in Korea’s FIT program with the WTO should be seriously considered. Again, it is confirmed that LCRs should be eliminated to comply with the SCM Agreement.

Actionable Subsidies: Adverse Effect

Regarding the actionable subsidies that require “adverse effect” and “specificity,” Art. 5(b) SCM deserves attention among the three “adverse effects.” According to the Article, “adverse effects” exist when there is a “nullification or impairment of benefits accruing directly or indirectly to other Members under GATT 1994 in particular the benefits of concessions bound under Art II GATT.” Footnote 12 adds that “the term “nullification or impairment” is used in this Agreement in the same sense as it is used in the relevant provisions of GATT 1994, and the existence of such nullification or

³⁴¹ See Supra note 299

impairment shall be established in accordance with the practice of application of these provisions.”

It may imply that the FIT program may have future obstacles regarding the non-violation complaint, which is one of the grounds for a claim. It can be argued that the benefits of concessions are nullified or impaired according to Art 5(b). The problem is that governmental measures that are not inconsistent with the Agreement can also be filed to the WTO, which may negatively affect the FIT program. According to Art 26.1(c) of Understanding on Rules and Procedures Governing the Settlement of Disputes, non-violation complaints can burden the government, as the AB and Panel would recommend that parties make adjustments even though there is no obligation to withdraw measures when said measures are found to “nullify or impair benefits” or “impede the attainment of objectives.”³⁴² Moreover, a financial burden exists, since the compensation that is usually regarded as a temporary measure in other WTO disputes³⁴³ may be the final settlement of the dispute.³⁴⁴

³⁴² Understanding on Rules and Procedures Governing the Settlement of Disputes states:

Article 26.1(b)

where a measure has been found to nullify or impair benefits under, or impede the attainment of objectives, of the relevant covered agreement without violation thereof, there is no obligation to withdraw the measure. However, in such cases, the panel or the Appellate Body shall recommend that the Member concerned make a mutually satisfactory adjustment;

³⁴³ Understanding on Rules and Procedures Governing the Settlement of Disputes provides that:

Article 22 Compensation and the Suspension of Concessions

1. Compensation and the suspension of concessions or other obligations are temporary measures available in the event that the recommendations and rulings are not implemented within a reasonable period of time. However, neither compensation nor the suspension of concessions or other obligations is preferred to full implementation of a recommendation to bring a measure into conformity with the covered agreements.

The possibility of non-violation complaints with regard to the FIT program can be discussed with reference to the argument by Kim, D.W.(2014)³⁴⁵, who tried to reconcile the climate change subsidy with the SCM Agreement. According to Kim, D.W., this has much to do with the infringement of the “legitimate expectation” that the complaints’ benefit will not be intruded upon when the concession is made; this is clearly stated in Art 23.3 GATS.³⁴⁶ Kim adds that if the subsidy does not exist when the concession is made, it is not the measure reasonably expected in principle, so the implementation of the measure is more likely to infringe legitimate expectations.³⁴⁷ However, it is relieved that the EC–Asbestos case shows how the DSB tries to raise the burden of proof when it is involved with “non-commercial values” such as those related to the protection of humans or the preservation of natural resources,

Compensation is voluntary and, if granted, shall be consistent with the covered agreements.

³⁴⁴ Understanding on Rules and Procedures governing the Settlement of Disputes provides that:

Article 26.1(d)
notwithstanding the provisions of paragraph 1 of Article 22, compensation may be part of a mutually satisfactory adjustment as final settlement of the dispute.

³⁴⁵ Kim, D.W.(2014), pp.430-433

³⁴⁶ Ibid.; General Agreement on Trade in Services Article XXIII Dispute Settlement and Enforcement provides that:

3. If any Member considers that any benefit it could reasonably have expected to accrue to it under a specific commitment of another Member under Part III of this Agreement is being nullified or impaired as a result of the application of any measure which does not conflict with the provisions of this Agreement, it may have recourse to the DSU. If the measure is determined by the DSB to have nullified or impaired such a benefit, the Member affected shall be entitled to a mutually satisfactory adjustment on the basis of paragraph 2 of Article XXI, which may include the modification or withdrawal of the measure. In the event an agreement cannot be reached between the Members concerned, Article 22 of the DSU shall apply.

³⁴⁷ Kim, D.W.(2014), pp.430-433

which are based on Art XX GATT.³⁴⁸

The FIT program began being implemented even before major tariff concessions including the Uruguay Round, even though this was not as popular these days. Besides, many of the follow-up measures to counter climate change could be predictable, given that the UNFCCC, which is the framework convention, was adopted in 1992. In addition, the continued negotiations since 1990s raise the predictability for the support of renewable energy. It is also worth noting that the EC–Asbestos case was concluded that the non-violation complaint needed a particularly cautious approach when it is the measure applicable to Art XX GATT, since the objectives of Art XX GATT are very important.³⁴⁹ Overall, a non-violation complaint would not be a big obstacle for future FIT programs.³⁵⁰

³⁴⁸ Panel Report, European Communities–Measures Affecting Asbestos and Products Containing Asbestos (WT/DS135), paras. 8.278-282.

³⁴⁹ Ibid.

³⁵⁰ A. Green (2006), p.393; Kim,D.W.(2014), pp.430-433

VI. Conclusion

WTO agreements, especially the SCM Agreement, stem from the perspective that the protection and proliferation of home industries through uncontrolled subsidy policies triggered Great Depression of the 1920s and the subsequent World War II.³⁵¹ On the other hand, it has faced the criticism that the agreement neglects the economic efficiency of the subsidy.³⁵² Most of all, the current WTO agreements including the SCM Agreement have its own limitations in that many necessary subsidies, such as renewable energy subsidies and green subsidies for environmentally friendly technologies to help efficiently allocate resources by taking into account the externality, have no choice but to be found inconsistent with the agreements.³⁵³ Besides, the subsidies to correct the existing distortion in the market cannot be on a level playing field, since the benefit analysis is based on the normal competitive market.³⁵⁴

It is obvious that renewable energy policy should be urged to counter the climate change, which is the common global objective. This may require

³⁵¹ See. e.g. G. Hufbauer & J. Erb.(1984), p.8; Kim, D.W.(2014), p.417

³⁵² See. e.g. K. Bagwell & R. Staiger (2010); Kim, D.W.(2014), p.417

³⁵³ Kim D.W.(2014), pp.417-418

³⁵⁴ A. Sykes (2010), pp.501-503

some modifications of WTO agreements, in particular the current SCM Agreement with its limitations. However, it always takes a long time to reach an international agreement; therefore, to avoid international disputes, an individual country should review and realign its domestic policies.

As of now, considering its termination for supporting new generators on 31 December 2011, the FIT program in Korea is not considered as one of the major policies for renewable energy industry. Even though the support for the existing generators will be continued till 2025, there is less concern about the disputes for the declining policy. The withdrawal of the LCR-related notification³⁵⁵ in 2015 and the absence of LCR regulations in the FIT programs by local governments, including those of Seoul and Gyeonggi, also reduce the risk for the program in Korea to be filed against the WTO.

Nevertheless, the discussions on the FIT program regarding the reintroduction or parallel implementation with the RPS program have continued, which requires additional research on the program. A new design of the FIT program in Korea should focus on fund-raising from the Electrical Industry Foundation Fund and LCR-related regulations, which increases the risk of violation of WTO agreements. Monitoring the FIT programs by the local governments should also be continued.

³⁵⁵ Notification No.2008-45 of the Ministry of Knowledge Economy “Guidelines for Standard Prices of New and Renewable Electricity”

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전기사업법

경기도 공고 제2014-41호 경기도 태양광 소규모발전 투자촉진 보조금 지급

서울특별시 공고 제2016-296호 2016년도 서울형 발전차액 보조금 지원 계획

공고

산업자원부 고시 제2001-116호 타에너지지원사업운영요령(안)

_____ 제2002-034호 타에너지지원사업운영요령

산업자원부 공고 제2002-108호 대체에너지이용 발전전력의 기준가격 지침

산업자원부 고시 제2003-61호 대체에너지이용발전전력의 기준가격 지침

_____ 제2004-104호 대체에너지이용 발전전력의 기준가격지침 중

개정(안)

_____ 제2006-89호 신·재생에너지이용 발전전력의 기준가격 지침

지식경제부 고시 제2008-45호 신·재생에너지이용 발전전력의 기준가격 지침

_____ 제2008-232호 신·재생에너지설비의 지원·설치·관리에 관한
기준

_____ 제2009-96호 신·재생에너지이용 발전전력의 기준가격 지침

지식경제부 공고 제2009-184호 2009년도 신·재생에너지 기술개발 및 이용·보
급 실행계획

지식경제부 고시 제2010-176호 2009년도 신·재생에너지이용 발전전력의 기
준가격 지침

산업통상자원부고시 제2015-200호 신·재생에너지설비 인증에 관한 규정 폐지
고시

신·재생에너지 발전차액지원제도 운영규정 (개정 2010.12.28.)

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APPENDIX 1

대체에너지개발 및 이용·보급 촉진법

제11조의6 (대체에너지발전가격의 고시 및 차액지원)

- ① 산업자원부장관은 대체에너지발전에 의하여 공급되는 전기의 발전원(發電源)별로 기준가격을 고시하여야 한다.
- ② 산업자원부장관은 대체에너지발전에 의하여 공급한 전기의 전력거래가격(전기사업법 제33조의 규정에 의한 전력거래가격을 말한다)이 제1항의 규정에 의하여 고시한 기준가격보다 낮은 경우에는 당해 전기를 공급한 대체에너지발전사업자에 대하여 기준가격과 전력거래가격과의 차액을 전기사업법 제48조의 규정에 의한 전력산업기반기금에서 우선 지원한다.

신에너지 및 재생에너지 개발·이용·보급 촉진법

제17조(신·재생에너지 발전 기준가격의 고시 및 차액 지원)

- ① 산업통상자원부장관은 신·재생에너지 발전에 의하여 공급되는 전기의 기준가격을 발전원별로 정한 경우에는 그 가격을 고시하여야 한다. 이 경우 기준가격의 산정기준은 대통령령으로 정한다. <개정 2013.3.23.>
- ② 산업통상자원부장관은 신·재생에너지 발전에 의하여 공급한 전기의 전력거래가격(「전기사업법」 제33조에 따른 전력거래가격을 말한다)이 제1항에 따라 고시한 기준가격보다 낮은 경우에는 그 전기를 공급한 신·재생에너지 발전사업자에 대하여 기준가격과 전력거래가격의 차액(이하 "발전차액"이라 한다)을 「전기사업법」 제48조에 따른 전력산업기반기금에서 우선적으로 지원한다. <개정 2013.3.23.>

APPENDIX 2

산업자원부 고시 제2001-116호 타에너지지원사업 운영요령

제3조 (용어의 정의) 6. “계통한계가격(SMP)”이라 함은 전력시장운영규칙에 의거 거래시간별로 일반발전기(원자력, 석탄, 국내탄발전기 이외의 발전기)의 전력량에 대해 적용하는 전력시장가격 (원/kWh)을 말한다.

지식경제부 고시 제2008-45호 신.재생에너지이용 발전전력의 기준가격 지침

제10조(사업자의 의무조항)

- ② 태양광발전 사업자는 산업자원부고시 “신.재생에너지설비 인증에 관한 규정”에 따라 취득한 인증모듈을 의무사용하여야 한다.
- ③ 10kW 이상 사업자는 산업자원부고시 “신.재생에너지설비의 지원.설치.관리에 관한 기준”에 의한 모니터링설비를 설치하여야 하며 동 설비는 모니터링시스템기술기준을 준수하여야 한다. 단, 지식경제부장관이 인정하는 경우에는 그러하지 아니한다.

지식경제부 고시 제2010-176호 신.재생에너지이용 발전전력의 기준가격 지침

제3조(용어의 정의) 이 지침에서 사용하는 용어의 정의는 다음과 같다.

2. “총괄관리기관”이라 함은 관리인력, 시설 등 총괄관리능력을 갖추고 신.재생에너지 발전차액지원사업의 일부를 정부의 위임을 받아 총괄 관리하는 기관을 말한다.
3. “전담기관”이라 함은 운영규정에 의한 전력기반조성사업센터를 말한다.
4. “주관기관”이라 함은 전기사업법 제35조에 의한 한국전력거래소와 한국전력공사 법에 의한 한국전력공사를 말한다.

제4조(총괄관리기관)

- ① 이 규정에 의한 총괄관리기관은 신에너지 및 재생에너지 개발·이용·보급촉진법 제31조 및 시행령 제29조에서 규정한 에너지관리공단 부설 신·재생에너지센터로 한다.
- ② 총괄관리기관은 다음 각 호의 업무를 수행한다.

5. 기타 지식경제부 장관(이하 “장관”이라 한다)으로부터 위임받은 업무

제9조(사업비의 지급 및 관리)

- ② 전담기관의 장은 총괄관리기관의 장으로부터 사업비 지급을 요청받은 때에는 총괄관리기관 명의의 신·재생에너지 발전차액지원사업 예금계좌에 입금하여야 하며, 사업비 입출금에 따른 제반 수수료 및 제세공과금 등은 사업비에 계상하여 운영할 수 있다.

- ③ 주관기관의 장은 제10조 제2항의 규정에 따라 산정된 사업자별 지원금내역 결과를 증빙서류로 첨부하여 총괄관리기관의 장에게 사업비 지급을 신청하여야 한다.

제10조(기준가격의 적용대상 전원 및 지원기준)

- ② 사업자에 대한 지원금은 기준가격의 적용대상 신·재생에너지발전 전원에 의해 생산되어 전력시장에 공급된 전력에 대하여 이 지침에서 정하는 기준가격과 전력시장의 계통한계가격의 차액(이하 “발전차액”이라 한다)에 전력거래량을 곱한 금액 {차액지원금 = (기준가격 - 계통한계가격) × 전력거래량}으로 한다.

제12조(기준가격의 적용기간)

- ① 이 지침에서 정한 기준가격은 제11조 제3항에 따른 설치확인신청 결과에 따라 적용하며, 기준가격 적용기간은 발전차액지원개시일로부터 총 15년으로 하되, 태양광 전원은 20년으로 할 수 있다.

APPENDIX 3

전기사업법

제31조(전력거래)

- ④ 전기판매사업자는 다음 각 호의 어느 하나에 해당하는 자가 생산한 전력을 제43조에 따른 전력시장운영규칙으로 정하는 바에 따라 우선적으로 구매할 수 있다.
2. 자가용전기설비를 설치한 자(제2항 단서에 따라 전력거래를 하는 경우만 해당한다)
3. 「신에너지 및 재생에너지 개발·이용·보급 촉진법」 제2조제1호 및 제2호에 따른 신에너지 및 재생에너지를 이용하여 전기를 생산하는 발전사업자

제34조(차액계약)

① 발전사업자는 전력구매자(전기판매사업자, 제31조제3항에 따라 전력을 구매하는 구역전기사업자 또는 제32조 단서에 따라 전력을 직접 구매하는 전기사용자를 말한다. 이하 이 조에서 같다)와 전력거래가격의 변동으로 인하여 발생하는 위험을 줄이기 위하여 일정한 기준가격을 설정하고 그 기준가격과 전력거래가격 간의 차액 보전(補填)에 관한 것을 내용으로 하는 계약(이하 "차액계약"이라 한다)을 체결할 수 있다. <개정 2014.5.20.>

② 전력수급의 안정을 도모하고 전기사용자의 이익을 보호하기 위하여 대통령령으로 정하는 기준에 해당하는 발전사업자와 전력구매자는 산업통상자원부장관이 정하여 고시하는 전력량에 대해서는 차액계약을 통하여서만 전력을 거래하여야 한다.

제48조(기금의 설치)

정부는 전력산업의 지속적인 발전과 전력산업의 기반조성에 필요한 재원을 확보하기 위하여 전력산업기반기금(이하 "기금"이라 한다)을 설치한다.

전력산업기반기금

제49조(기금의 사용) 기금은 다음 각 호의 사업을 위하여 사용한다. <개정 2013.7.30.,

2014.1.28., 2015.5.18.>

1. 「신에너지 및 재생에너지 개발·이용·보급 촉진법」에 따른 신·재생에너지 발전사업자에 대한 지원사업 및 신·재생에너지를 이용하여 생산한 전기의 전력계통 연계조건을 개선하기 위한 사업
2. 전력수요 관리사업
3. 전원개발의 촉진사업
4. 도서·벽지의 주민 등에 대한 전력공급 지원사업
5. 전력산업 관련 연구개발사업
6. 전력산업과 관련된 국내의 석탄산업, 액화천연가스산업 및 집단에너지사업에 대한 지원사업
7. 전기안전의 조사·연구·홍보에 관한 지원사업
8. 일반용전기설비의 점검사업
9. 「발전소주변지역 지원에 관한 법률」에 따른 주변지역에 대한 지원사업
- 9의2. 「송·변전설비 주변지역의 보상 및 지원에 관한 법률」 제10조제2항에 따른 송·변전설비 주변지역 지원사업
10. 「지능형전력망의 구축 및 이용촉진에 관한 법률」에 따른 지능형전력망의 구축 및 이용촉진에 관한 사업
11. 그 밖에 대통령령으로 정하는 전력산업과 관련한 중요 사업

[전문개정 2009.5.21.]

제50조(기금의 조성)

① 기금은 다음 각 호의 재원으로 조성한다. <개정 2010.4.12.>

1. 제51조에 따른 부담금 및 가산금
2. 「신에너지 및 재생에너지 개발·이용·보급 촉진법」 제12조의6제1항에 따른 과징금
3. 기금을 운용하여 생긴 수익금
4. 대통령령으로 정하는 수입금

② 산업통상자원부장관은 제1항에 따라 조성된 재원 외에 기금의 부담으로 에너지 및 자원사업 특별회계 또는 다른 기금 등으로부터 자금을 차입할 수 있다. <개정 2013.3.23., 2014.1.1.>

③ 산업통상자원부장관은 제2항에 따라 자금을 차입하는 경우에는 미리 기획재정부장관과 협의하여야 한다. <개정 2013.3.23.>

[전문개정 2009.5.21.]

제51조(부담금)

① 산업통상자원부장관은 제49조 각 호의 사업을 수행하기 위하여 전기사용자에 대하여 전기요금(제32조 단서에 따라 전력을 직접 구매하는 전기사용자의 경우에는 구매가격에 제15조에 따른 송전용 또는 배전용 전기설비의 이용요금을 포함한 금액을 말한다)의 1천분의 65 이내에서 대통령령으로 정하는 바에 따라 부담금을 부과·징수할 수 있다. <개정 2013.3.23.>

국 문 초 록

캐나다 재생에너지 분쟁의 국내 발전차액지원제도에 대한 법적 함의 연구

앞으로의 신 기후 체제를 이끌 파리협정이 2016년 11월 4일 공식 발효됨에 따라 선진국뿐만 아니라 개발도상국까지 협정의 모든 당사국들이 온실가스 배출을 감축하는 의무를 지게 되었다. 국제협정은 국내법에 비해 집행상의 한계를 가질 수 밖에 없는데다, 온실가스 감축 목표의 설정 등 협정 이행에 있어 중요한 부분들이 법적 구속 대상에서 제외된다는 점에서 협정의 실효성에 대한 여러 비판이 존재한다. 그럼에도 불구하고 파리협정에서 각국은 국가결정기여(NDCs)를 주기적으로 제출하고 이에 대해 정기적으로 검증하기로 하는 등 협정 이행을 강화해 나가기로 합의하였고, 협정의 구체적인 이행방안에 대해서도 당사국 총회를 통해 지속적으로 논의할 예정이라는 점에서 각국의 에너지 및 산업, 경제 정책에 상당한 변화가 예상된다. 특히, 온실가스 배출의 주범 가운데 하나인 화석연료는 앞으로 그 사용이 감소할 것으로 예상되며 이에 따라 각 국가들은 에너지 안보, 기후 변화 대응, 지속 가능한 발전을

위한 신 성장 동력 확보 등의 차원에서 신·재생에너지 기술 개발과 보급에 더욱 박차를 가할 것으로 생각된다.

신·재생에너지 산업은 ‘기간산업’ 중 하나인 에너지 산업으로서 그 특성상 초기 설립에 막대한 자본을 필요로 한다. 또, 화석연료 사용으로 인한 부정적 외부효과를 해결하기 위한 수단이자 신기술 개발이라는 긍정적 외부효과가 발생하는 산업으로 정부의 적절한 지원이 없다면 기술 개발 및 보급 확대가 용이하지 않다. 다시 말해, 해당 산업을 육성하기 위해서는 정부의 보조금 지원이 불가피한 측면이 있다. 그러나 그러한 보조금 조치가 국내외 시장에서 교역상대국과 경쟁하는 상품을 대상으로 지급될 경우 시장 및 무역에 대한 왜곡을 초래할 수 있으므로 WTO 보조금 규범상 규제 대상이 된다. 특히, 오늘날과 같은 세계적인 경제 침체 상황에서는 보조금 정책이 보호무역의 수단으로 활용될 가능성이 매우 높다는 점에서 각국이 교역 상대국의 정책에 대해 예의주시하고 있다.

WTO 보조금협정이 국제교역을 왜곡하는 불법적인 보조금을 규제할 필요에서 도입되었다는 점에는 이견이 없을 것이다. 그러나 또 한편으로, 보조금 협정이 회원국들의 정당한 정책에 부당한 장애물이 되어서는 안 된다는

인식을 WTO 협정문과 일부 패널 보고서에서 확인할 수 있다는 점은 흥미롭다. 이는 각 회원국이 협정문에 위배되지 않는 한 정당한 정책 목표를 위한 보조금 정책은 운용할 수 있다는 의미로 받아들일 수 있을 것이다. 따라서 기후환경 분야에서의 시장 실패를 인정하고 이를 보완하기 위한 정부의 적극적인 지원을 장려하는 UNFCCC 체제와 보다 자유로운 무역 환경 조성을 위해 정부의 간섭을 최대한 배제하고자 하는 WTO 체제 간의 조화 또한 도모할 수 있을 것으로 판단된다.

본고에서는 이렇듯 중요한 두 체제인 UNFCCC 체제와 WTO 체제가 상이한 입법 배경 하에 잠재적으로 충돌할 가능성이 높을 수밖에 없는 배경들을 살펴보고 그러한 우려가 현실화된 실제 충돌 사례들을 검토해 보았다. 그 중에서도 WTO 체제하의 첫 에너지 보조금 분쟁인 캐나다 재생에너지 보조금 사건에 대한 법적 쟁점을 면밀히 검토하여 이를 토대로 국내 발전차액지원제도가 WTO 협정과 합치되도록 하기 위해 고려할 사항에 대한 제언을 마련하였다.

기후 변화에 대응하는 환경 정책이면서 동시에 지속 가능한 발전을 도모하는 녹색성장 전략인 신·재생에너지 보급정책을 WTO 협정에 합치하도

록 시행하는 것은 기 발효된 파리 협약 당사국으로서의 온실감축 의무를 충실히 이행하면서도 WTO 체제와의 갈등을 사전에 예방하는 하나의 방안이 될 것이다. 이러한 노력이 단기적으로는 현 WTO 협정 내에서 발전차액지원제도 가 나아갈 길을 모색하고, 장기적으로는 WTO 체제와 UNFCCC 체제의 조화를 도모하는 데 도움이 되기를 기대한다.

주제어: GATT/WTO, 유엔기후변화협약, 파리협정, 관세 및 무역에 관한 일반 협정, 보조금협정, 무역 관련 투자조치에 관한 협정, 신·재생에너지, 캐나다-재생에너지 분쟁(DS412, DS426), 발전차액지원제도

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