RENEWABLE ENERGY AND THE WTO: THE LIMITS OF GOVERNMENT INTERVENTION

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This paper examines the role of the government in designing and supporting renewable energy programs and the compatibility of such interventions with various covered agreements of the World Trade Organisation ('WTO'). The WTO treaty does not provide a special framework for renewable energy and a number of programs are susceptible to WTO challenges and domestic trade contingency measures. Of particular interest to developing countries such as India will be the availability of necessary policy space in fostering various renewable energy programs. This paper discusses the current treaty provisions of the WTO, especially the Agreement on Subsidies and Countervailing Measures ('SCM Agreement') and the Agreement on Trade Related Investment Measures ('TRIMs Agreement') and examines the extent of space in policy making available to various WTO Members across varying levels of development. In short, the paper seeks to examine the limits of WTO-consistent government intervention in the field of renewable energy.

Introduction

The world's leading economies have been pledging support for developing alternative and cleaner forms of energy, especially in the new millennium. According to the International Energy Agency ('IEA'), fossil fuels (oil, coal, and natural gas) will remain the dominant source of energy for the immediate future, but their share in the energy mix is bound to progressively decline in the future. IEA estimates that renewable energy demand may increase in 2035 by an amount ranging from 14 percent to 27 percent.

Recent years have witnessed massive growth in investment in the renewable energy sector in some of the developed countries. In the United States, renewable energy constitutes almost twelve percent of the total energy capacity. Focus on clean energy also means that the scope of governmental intervention has risen significantly. President Obama's FY 2013 budget, which seeks to support the continued manufacture, development and deployment of clean energy technologies, includes $5 billion in tax credits.[1] Similar measures have been adopted by various countries,

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[1] *The blueprint for A Secure Energy Future: Progress Report* (2012) *available at* http://www.whitehouse.gov/sites/default/files/emailfiles/the_blueprint_for_a_secure_energy_future_oneyear_progress_report.pdf

including the EU and Japan.[2]

The BRICS group (consisting of Brazil, Russia, India, China and South Africa) has already emerged as a major consumer of energy resources. China has recently overtaken the United States as the largest consumer of energy and energy-related resources. However, China has initiated several programs for generation of renewable energy. China is the leading installer of wind turbines and solar systems in the world.[3] It is also the leading hydropower producer. Likewise, India is one of the first countries in the world to establish a dedicated Ministry of Non-conventional Energy Resources. Since its launch in 2010, the Jawaharlal Nehru National Solar Mission (JNNSM) has been a key feature of the National Action Plan on Climate Change.[4] India has set a target of scaling up to at least ten percent of all new capacity in the field of renewable energy. Brazil, another prominent BRICS country, has been supporting the Program of Incentives for Alternative Electricity Resources (PROFINA) since 2002. Brazil is also the second largest producer (after the United States) of fuel ethanol and the world's largest exporter of ethanol.

There are other developed countries that have initiated massive programs for promoting renewable energy. Germany is the pioneer, and perhaps, the most successful country in the world in introducing a Feed-in-Tariff ('FiT') scheme. A FiT Scheme provides a guaranteed tariff to electricity produced from renewable energy sources.[5] The German FiT law, which was introduced in 1990, required utilities to provide renewable energy generators grid access and also purchase the energy produced. The German FiT program, which has since been revised, imposes an obligation on private distribution and transmission system operators to purchase and share the costs of paying the statute mandated tariff to the renewable energy producers. Germany's success in

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[2] Arunabha Ghosh and Himani Gangania, *Governing Clean Energy Subsidies: What, Why and How Legal*, ICTSD Global Platform on Climate Change, Trade and Sustainable Energy, 29-36, (August 2012), *available at* http://ictsd.org/downloads/2012/09/governing-clean-energy-subsidies-what-why-and-how-legal.pdf

[3] Renewable Energy Policy Network, *Renewables 2011 Global Status Report*, (September 2010).

[4] The JNNSM seeks to install 22 GW of solar power (grid and off-grid) using both PV and concentrated solar power technologies by 2022.

[5] A FiT is essentially a purchasing guarantee. This is generally done by the government through electricity utilities (may be either private or public bodies) on the directions of the government. In the case of the FiT scheme run by the Ontario Power Authority, a body that was created by provincial government statute in 2004, the program allows both large-scale (above ten kilowatts) and small scale (less than ten kilowatts) private energy producers with qualifying renewable energy fuel sources (including solar photovoltaic cells, water, wind and bioenergy production systems) to resell generated energy back onto the Ontario electricity grid at a fixed price for a twenty-year period.

introducing the FiT program has inspired several countries, including Canada.[6] As of now, nearly sixty-three countries have started offering FiTs.[7] The Canadian province of Ontario introduced the FiT and the micro FiT program, which is now in the midst of a WTO challenge.[8] The Preamble of the Green Energy Act passed by the Canadian government provides that the legislation strives towards "cleaner sources of energy" as well as the promotion of both, renewable energy projects and a "green economy".

The focus on clean and renewable forms of energy is indeed welcomed by all. However, the development of renewable energy programs has also raised significant concerns. The subsidies for renewable energy were about US $ 66 billion in 2010 alone. In the new policy scenario, subsidies to renewable energy will reach US$250 billion in 2035. Renewable energy support schemes are generally in the form of targets, mandatory quotas, price support (e.g. FiTs), tax incentives such as Production Tax Credits (PTC), Renewable Portfolio Standards (RPS), loans, grants, and various types of incentive schemes.[9]

The subsidies and other government support assume various forms. In China, the grants to Chinese wind turbine manufacturers were conditioned on use of key parts and components made in China rather than purchasing imports.[10] In Canada, the Ontario FiT program requires the solar and wind facilities to meet domestic content requirements, i.e., 60 percent and 50 percent for solar and wind projects respectively. India requires solar power developers, or their successors in contract, to purchase and use solar cells and solar modules of domestic origin in order to participate in the JNNSM and to enter into and maintain power purchase agreements under the JNNSM or with the National Thermal Power Company Vidyut Vyapar Nigam Limited. As a result, solar power developers, or their successors in contract, receive certain benefits and advantages, including subsidies, through guaranteed, long-term tariffs for electricity, contingent on their

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[6] Canada enacted the Green Energy and Green Economy Act of 2008, which provided statutory support to the FiT program. *See* Green Energy and Green Economy Act, 2009, S.O. 2009, c. 12, Schedule B, *available at* http://www.ontla.on.ca/html/source/statutes/english/2004/elaws_src_s4023_e.htm

[7] REN21 Secretariat, *Renewables Global Status Report: Update* (2009).

[8] Panel Report, Canada - *Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS412/R, (Complainant - Japan) WT/DS426/R (Complainant – EU), (December 19, 2012). FiT program is applicable to projects generating more than 10kW, while the micro-FiT program targets individuals interested in small-scale projects not exceeding 10kW. The Ontario Power Authority (OPA) is responsible for managing and administering the FiT program in Ontario.

[9] M S Srikar, *Renewable Energy Programmes in the European Union, Japan and the United States: Compatibility with WTO Law*, Centre for WTO Studies (CWS) Working Paper # 200/4, (August 27, 2012), *available at* SSRN: http://ssrn.com/abstracts=2179621.

[10] The size of the individual grants ranged between $6.7 million and $22.5 million.

purchase and use of solar cells and solar modules of domestic origin.[11]

Renewable energy technologies such as solar, wind, geothermal and biomass power generation are gaining traction and popularity, but are not yet viable at a utility scale level to play a significant role in a country's energy mix. The inability to internalize the cost of greenhouses gas (GHG) emissions has caused significant underpricing of non-renewable forms of energy. This market failure has also resulted in significant sub-optimal production of renewable energy. Economic theory posits that public intervention may be required when market fails to provide desirable public goods or prevent negative externalities. A number of firms in the renewable energy sector face complex risks involving future changes in demand, pricing, grid connection to wider markets, cost return on capital and other key performance and regulatory risks. The renewable energy industry is still developing and the economic viability of most such projects is uncertain. In addition, the discovery of shale gas has the potential to slow the development of renewable sources of energy. A recent study by KPMG, a consulting firm, indicates that the energy industry's focus on developing shale gas and other unconventional sources of energy could disrupt the economic viability of renewable energy and could potentially take the focus away from this sector.[12] Notwithstanding the above scenario, a number of developed and emerging economies have committed themselves to the production of renewable energy (*See* Table I).

Table I: Top Five Producers of Renewable Energy

New Capacity	Hydropower Capacity	Solar PV Capacity	Wind Power Capacity	Biodiesel Production	Ethanol Production	Solar Hot water/heat
China	China	Italy	China	United States	United States	China
United States	Vietnam	Germany	United States	Germany	Brazil	Turkey
Germany	Brazil	China	India	Argentina	China	Germany
Italy	India	United States	Germany	Brazil	Canada	India

[11] Press Release, *United States Challenges India's Restrictions on U.S. Solar Exports*, (February 12, 2013), *available at* http://www.ustr.gov/about-us/pressoffice/pressreleases/2013/february/us-challenges-india-restrictions-solar.

[12] KPMG, *Shale Gas: Global Perspectives*, 19, (2011) *available at* http://www.gses.com/images/documents/shale-gas-global-perspective.pdf.

India	Canada	France	UK/ Canada	France	France	Italy

Source: REN21 Report (2012)

It is widely perceived that the market for renewable energy is unstable under present conditions and that some form of government support is generally desirable or justifiable. Strong government policies may be required to provide a predictable environment. However, a spate of antidumping and CVD measures on renewable energy parts and components and multiple challenges before the WTO against some of the renewable energy programs have raised the issue whether the current international trading regime is against renewable energy initiatives.[13]

This article examines the nature and characteristics of the renewable energy sector and explores the extent to which public or governmental support can be extended to the renewable energy sector. In particular, Section A examines how some of the governmental support to the renewable energy sector is constrained by the Agreement on Subsidies and Countervailing Measures (SCM Agreement).[14] Section B examines the compatibility of domestic content requirement in some of the renewable energy programs and examines how it comports with various WTO provisions including the Agreement on Trade-related Investment Measures (TRIMs Agreement).[15] Section C examines the applicability of General Exceptions under the GATT in justifying the violations of various covered agreements under the WTO. Section D concludes.

Renewable Energy and Subsidies

Subsidies to renewable energy sector operate at different levels and are given at different stages. In certain cases, governments may provide subsidies to producers of renewable energy whereas in other cases governments may subsidize consumers of renewable energy products. Certain countries provide rebate on electricity bills whereas others provide preferential tax credits, low interest loans or investment credits. In China, subsidies were provided to cover installation costs for both grid and off-grid connections, in addition to other benefits, such as cheap land,

[13] Joost Pauwelyn, *Global Challenges at the Intersection of Trade, Energy and the Environment* 5, (2010), *available at* http://www.cepr.org/press/CTEI-CEPR.pdf.

[14] Agreement on Subsidies and Countervailing Measures, (Adopted on April 15, 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex IA, 1869 U.N.T.S. 14 [hereinafter SCM Agreement].

[15] Agreement on Trade-related Investment Measures, (Adopted on April 15, 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex IC, 1868 U.N.T.S. 186 [hereinafter TRIMS Agreement].

preferential contracts from state-owned entities, and low interest government loans.[16] Governments may also use carbon taxes and other market based instruments.

Each of the above examples presents challenges that are unique. If subsidies are given to domestic renewable energy products as opposed to imported products it may clearly result in a violation of Article III, the national treatment provision of General Agreement on Trade and Tariffs (GATT).[17] On the other hand, tax credits or preferential loans at the behest of the government could involve a direct transfer of funds and can be easily classified as a subsidy, a practice regulated by the SCM Agreement.

Furthermore, renewable energy programs also differ widely in their scope and nature. FiT schemes have gained popularity in recent times and need a special discussion. Broadly, FiT schemes have a regulatory component and vary significantly in terms of their nature and design. FiT schemes generally ensure price certainty for the generators. The nature of the energy market in many countries is such that the government does not play an active role in the electricity market in producing, transmitting and distributing energy. However, under a FiT, a utility is contractually obliged to connect renewable energy generators to the grid and pay the generators for the electricity for the life of the FiT contract. In the case of most FiTs, the government does not make the payment directly, but only mandates a guaranteed tariff. The provision of a guaranteed price support is to encourage the RE sector. The FiT rates are not generally aligned with the market and the program costs may be very high; however, in such cases most of the FiT programs pass on the cost to the ratepayers.

It is an established fact that a large number of currently implemented FiT programs are disassociated from the market price. For example, eighteen out of the twenty-seven European Union member-states have adopted schemes guaranteeing minimum resale prices for renewably produced electricity. The fixed tariff is just the pricing element of the FiT incentive. In addition to this, FiT schemes include other terms either to reinforce the package of incentives, or to implement the program on a long-term basis.[18]

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[16] Keith Bradsher, *To Conquer Wind Power, China writes the Rules*, N.Y.TIMES, (December 14, 2010). The steelworkers' petition cites various forms of subsidies and support that China has given to its industries in potential violation of international trade rules.

[17] Report of the Panel, *Italian Discrimination Against Imported Agricultural Machinery*, L/833, BISD 7S/60, (October 23, 1958).

[18] Luca Rubini, *The Subsidization of Renewable Energy in the WTO: Issues and Perspectives*, NCCR Trade Working Paper, (2011).

In examining the role of subsidies in encouraging clean and renewable energy programs, it is essential to examine the conflict between the role of the government and the distortionary impact of subsidies. In particular, all renewable energy programs will have to pass the test laid down by the SCM Agreement. The following discussion focuses on the concept of subsidy under the SCM Agreement and examines whether some of the renewable energy programs and, in particular, the FiT programs would raise concerns from the perspective of this Agreement.

Article 1.1 of the SCM Agreement provides a definition of the term "subsidy". According to Article 1.1, a determination of "subsidy" rests on satisfaction of two elements: (1) a financial contribution or income or price support by a public body; and (2) a conferral of "benefit" upon the recipient. The four types of "financial contribution" which are explicitly mentioned in Article 1.1 appear to be straightforward. They are:

- A direct transfer of funds;
- Government revenue that is "otherwise due" is foregone or not collected.
- A provision of goods or services or the purchase of goods or services by a government; and
- A government payment to a funding mechanism, or where the government entrusts or directs a private body to carry out a particular policy.

In addition to the above two requirements, a subsidy has to be meet the "specificity" test to fall under the disciplines of the SCM Agreement. A subsidy can qualify as "specific" in two different ways. Under Article 3 of the SCM Agreement, all export subsidies are import substitution subsidies are specific. Other subsidies can also be specific if they meet with the criteria under Articles 2.1 and 2.2 of the SCM Agreement.[19]

The financial contribution should from the government or a public body. One of the critical issues involved in the debate is the definition of a 'public body'. A WTO panel in *Korea-Commercial Vessels* pronounced that an entity is a public body when the government controls it.[20] More recently, the Appellate Body in *United States-AD/CVD*[21] decided that the evidence of a controlling interest itself

[19] Where a subsidy is explicitly limited to a sector or a region, either by the granting agency, or by legislation, it is *de jure* specific. On the other hand, where the authority or legislation establishes objective criteria or conditions governing the eligibility for, and amount of a subsidy, specificity shall not exist, provided that the eligibility is automatic and the criteria and conditions are strictly adhered to. *See* SCM Agreement, art 2.

[20] Panel Report, *Korea – Measures Affecting Trade in Commercial Vessels, WT/DS273/*R, (April 11, 2005).

[21] Appellate Body Report, *United States- Definitive Antidumping and Countervailing Duties on Certain Products from China*, ¶ 290, WT/ DS 379/AB/R (March 25, 2011).

is not sufficient to establish that an entity is a public body. According to the Appellate Body, "meaningful [governmental] control over an entity and its conduct may serve … as evidence that the relevant entity possesses governmental authority and exercises such authority in the performance of governmental functions." What is of relevance is whether the function of providing guaranteed tariff for renewable energy or enforcing a different type of renewable energy program is "normally vested" in the government, i.e., whethe the government would have normally performed this function instead of directing private entities to undertake it.

Assuming that government's role in renewable energy programs is quite prominent and uncontestable, it may be possible to establish that most of the government utilities or other funding agencies established and controlled by the state would qualify the definition of a public body.

It is also important to consider that financial contribution can be either direct or indirect. Mostly, in the case of FiT programs, a financial contribution presumably arises when the concerned governmental agency signs the FiT contract with the FiT generator and agrees to provide guaranteed rates. A direct transfer may arise when the public body transfers the difference between the market rate of electricity that the generator would receive under the standard operation of the market and the rate guaranteed under the FiT contract. Under the FiT contract, the FiT generators commit to supply the generated electricity into the grid in exchange of payment of the agreed rates. Such generation of electricity is expected in order to obtain the guaranteed rate, which provides in itself a benefit to the FiT generator. The panel noted in *EC-Large Aircraft* as follows:

> [W]hen assessing whether a transaction involves a "potential direct transfer of funds", the focus should be on the existence of a governmental practice that involves an obligation to make a direct transfer of funds which, in and of itself, is claimed and capable of conferring a benefit on the recipient that is separate and independent from the benefit that might be conferred from any direct transfer of funds. This can be contrasted with financial contributions in the form of direct transfer of funds, which will result in a benefit being conferred on a recipient when there is governmental practice that involves a direct transfer of funds.[22]

Another interesting issue is whether the FiT schemes involve a purchase of electricity by any public body within the meaning of Article 1.1 (a) (i) (iii) of the SCM Agreement? A clear answer to this question would depend on the type of the underlying FiT arrangement or model. Nonetheless, it appears that if the concerned public body dealing with the energy sector pays or undertakes to pay

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[22] Panel Report, *European Communities and Certain Member States- Measures Affecting Large Civil Aircraft*, ¶ 7.304, WT/DS 316/R (1 June, 2011) (as modified by the Appellate Body).

a certain price (which includes the FiT) as a consideration for the delivery of electricity into its transmission network which it owns and controls, it involves a sale and purchase transaction. Assuming that electricity is a good,[23] the essence of a bilateral contractual transaction between the public body and the renewable energy generators could properly place this transaction as a "purchase of goods" within the meaning of Article 1.1 (a) (i) (iii) of the SCM Agreement. To that extent, the characterization of this transaction as a "purchase of goods" appears more appropriate than an unqualified "transfer of funds". The WTO panel in *Canada-Renewable Energy* observed that a FiT or micro FiT program, as implemented in that case, could be appropriately characterized as a "government purchase of goods".[24]

Article 1.1(a)(1)(iv) also encompasses the case in which a government "entrusts or directs" a private body to effectuate a financial contribution as understood to carry out one or more of the functions enlisted in para (i)—(iii) of Article 1.1 (a) (i) of the SCM Agreement (hence encompassing the scenario where a private energy provider is entrusted to run a FiT program by government). For example, in Germany, the Erneuerbare-Energien-Gesetz(EEG) statutorily "directs" the private parties to purchase electricity sourced by renewable energy technologies.[25] This type of a scenario may not involve a cost to the government, but nonetheless could satisfy the requirements of a financial contribution.

Even if a government's involvement in the RE sector does not amount to a financial contribution, it can be found as an "income or price support" within the meaning of Article 1.1 of the SCM Agreement or Article XVI of the GATT. The term "support" is often used in the context of agriculture, especially with respect to government support programs for farm products. In the ordinary meaning, "support" denotes "the action of contributing to the success or maintaining the value of something". In the light of this ordinary meaning, the meaning of "support" within Article 1.1 (a) (2) refers to the action of the government that directly or indirectly increases the export of any product from its territory or reduces the imports of any product within its territory. The Appellate Body in *United States- Softwood Lumber* noted that the range of government measures capable of providing subsidies is broadened still further by the concept of "income or price

[23] There is no affirmative finding on this issue, but the WTO panel seems to have acknowledged this fact.

[24] Panel Report, *Canada- Renewable Energy Generation Sector*, *Supra* note 8 at ¶ 7.11.

[25] Germany's FiT program is one of the few FiT programs that do not rely upon a public body or State actor for the provision and management of FiT payments. *See* Laird and Stefes, *The Diverging Paths of German and United States Policies for Renewable Energy: Source of Difference*, 37 ENERGY POLICY 2619, 2624 (2009).

support" in paragraph (2) of Article 1.1(a).[26] Some academic commenters also suggest that the expression "income or price support" falling under Article 1.1 (a) (2) of the SCM Agreement could be a better alternative to the expression "financial contribution" appearing in Article 1.1 (a) (1) in properly characterizing and dealing with most FiT schemes.[27]

In the light of the discussion above, it appears almost certain that most government intervention either under a FiT scheme or direct support will fall under one of the gateways provided under Article 1.1 of the SCM Agreement. In other words, most government intervention could be characterized either as a "financial contribution" or as a form of "income or price support" under Article 1.1 of the SCM Agreement.

The second essential element required for the determination of a subsidy is the conferral of "benefit". The term "benefit" in Article 1.1(b) implies a financial contribution that places the recipient in a more advantageous position than would have been the case but for the financial contribution. It means that a financial contribution will only confer a "benefit", i.e., an advantage, if it is provided on terms that are more advantageous than those that would have been available to the recipient in the market.[28] As the *Canada- Aircraft* panel reiterated, the existence of "benefit" (in the context of financing) is determined by reference to the terms at which similar financing is available to the customer in the market.[29] In *EC-DRAMS*, the WTO Panel noted that the existence of a benefit is a constitutive element of the definition of a subsidy. The panel also noted, "…only in cases where the financial contribution provides the recipient with an advantage over and above what it could have obtained on the market will the government's financial contribution be considered to have conferred a benefit and will a subsidy thus be deemed to exist."[30] The panel further clarified, "if the public or publicly directed financial contribution is provided under the same conditions as a private market player would have provided, then there would be no reason

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[26] Appellate Body, *United States- Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, ¶52, WT/DS 257/AB/R (Feb. 17, 2004).

[27] LUCA RUBINI, THE DEFINITION OF SUBSIDY AND STATE AID, WTO AND EC LAW IN COMPARATIVE PERSPECTIVE (2009). There is a contrary view that price regulation in the context of utilities or network industries ought not to be considered as a price support under Article 1.1 (a) (2). *See* Robert Howse, *Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis* 12-13 (International Institute of Sustainable Development, Trade, Investment and Climate Change Series) (2010).

[28] Appellate Body Report, *Canada – Measures Affecting the Export of Civilian Aircraft*, ¶ 154, WT/DS70/AB/W (Adopted on August 20, 1999) [hereinafter *Canada- Aircraft*].

[29] Panel Report, *Canada – Measures Affecting the Export of Civilian Aircraft – Recourse by Brazil to Article 21.5 of The DSU*, ¶ 9.112, WT/DS70/RW, WT/DS70/AB/RW (Adopted on August 4, 2000).

[30] Panel Report, *European Communities – Countervailing Measures on Dynamic Random Access Memory Chips from Korea*, ¶7.175,WT/DS299/R (Adopted on August 3, 2005)[hereinafter *EC- DRAMS*].

to impose any discipline, simply because the financial contribution was provided by the government."

The relevant benchmark for the purpose of determining the existence of a benefit is the market. The Appellate Body in *EC- Large Aircraft* noted as follows:

The market place to which the Appellate Body referred to in *Canada- Aircraft* reflects the sphere in which goods and services are exchanged between willing buyers and sellers. A calculation of benefit in relation to prevailing market conditions thus demands an examination of behavior on both sides of a transaction, and in particular, in relation to the conditions of supply and demand as they apply to that market.[31]

The generators of renewable energy might seek a return on their investment to cover their costs. In most of the FiT programs, the prices in the price schedule are intended to cover development costs plus a reasonable rate of return projects. Furthermore, the fact that the public body imposes fees and charges on consumers to recoup the high costs involved in the generation of the electricity through the FiT program indicate that that the electricity generated through the FiT program would not be sold without the FiT program.

In the *Canada- Renewable Energy* dispute, Japan and the European Union argued that the FiT price exceeded various wholesale electricity market price benchmarks (inside and outside Ontario). They also argued that the very nature and objectives of the FiT program are intended to facilitate private investment in renewable electricity generation that the market would not otherwise provide. Canada, however, defended its measure arguing that the benefit analysis should be made with reference to the 'market' for electricity produced from wind and solar PV technologies, and not to benchmarks - such as those suggested by Japan and the EU - which reflect a single price for electricity, irrespective of its origin.

In regard to the determination of "benefit" the majority Panel agreed with Canada to the effect that Ontario's wholesale electricity market cannot offer any reliable benchmark because it is distorted by the government. The majority Panel concluded that there is no benefit, and consequently no subsidy, because there would not have been any similar investment in the market, i.e. an investment delivering the same goods as desired by Ontario (what the Panel describes as

[31] Appellate Body, *European Communities and Certain Member States- Measures Affecting Trade in Large Civil Aircraft*, ¶ 981, WT/DS 316/AB/R (June 1, 2011)[hereinafter *EC- Large Civil Aircraft*].

the 'missing money problem').[32] The panel noted that if the price achieved on the "organized" wholesale market is not allowed to rise to a level, which fully compensates generators for the all-in cost their investment (both fixed and sunk costs), private investors will not be willing to finance construction of new electricity generation under such conditions.[33] In the panel's view, alternative mechanisms to wholesale spot markets was required to provide long term investment to meet forecasted demand.[34]

Some of the rationale provided by the panel to determine the consistency of the subsidy aspects of the FiT program may be reviewed or modified by the Appellate Body. It seems almost self-evident that without the FiT program market forces in Ontario (and possibly in other parts of the world as well) would not lead to the reliable supply of renewable energy electricity which is desired for environmental and energy goals.[35]

In conclusion, in the renewable energy sector, the delineation of the market and the choice of the appropriate benchmarks for benefit determination will remain contentious. This debate will essentially determine the extent to which governments could subsidize renewable energy programs. It needs to be, however, reiterated that not all renewable energy subsidies are *per se* prohibited. However, if a subsidy is contingent upon the use of domestic over imported goods, such a requirement could convert the subsidy into a prohibited subsidy. The Canada FiT program is one such category where the FiT generator was required to purchase or use energy generation equipments and components that are of Canadian origin or from a Canadian source. In other words, if renewable energy subsidies do not fall within category, i.e. under Article 3 of the SCM Agreement, the existence of adverse effects[36] is essential for applying the other disciplines of the SCM Agreement to these categories of subsidies. Furthermore, a subsidy must be specific to certain industries or enterprises in order to be actionable under the SCM Agreement.[37] A number

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[32] Panel Report, *Canada- Renewable Energy*, *supra* note 8, ¶ 7.283.

[33] *Id.*

[34] *Supra* note 32

[35] *Supra* note 32 at ¶ 7.284 (the Panel notes that because of the specific features of electricity and the nature of competitive wholesale electricity markets, government intervention will often be necessary in order to secure an electricity supply that is safe, reliable and sustainable in the long-term).

[36] The various tests for adverse effects can be found in Article 5 and 6 of the SCM Agreement: (i) injury to the domestic industry, (ii) nullification and impairment of benefits, i.e. tariff concessions, and (iii) serious prejudice in various forms mainly of displacement and price effects in various markets.

[37] *See Supra* note 14. In terms of Article 2.1(b) of the SCM Agreement, a subsidy cannot be specific if the eligibility for the subsidy depends on 'objective criteria or conditions', i.e criteria or conditions which are neutral, which do not favour certain enterprises over others, and which are economic in nature and horizontal in application, such as number of employees or sizes of enterprises'.

of antidumping and countervailing duty actions have come up against various forms of state support given to parts and equipments used for renewable energy production.[38] But these trade contingent actions are unlikely to stop government intervention in the renewable energy sector. So long as the renewable energy subsidies do not fall within the prohibited category, the WTO members will have some leeway in implementing government subsidies, albeit in a selective way.

Section B examines the nature and WTO consistency of domestic content requirements in some of the renewable energy programs.

Renewable Energy and Trade-related Investment Measures

The SCM Agreement prohibits export subsidies and other types of subsidies that are conditioned on the use of domestically manufactured products. Subsidies that impose purchase obligations based on the origin of energy or technology can be a prohibited subsidy and can fall foul of the obligations under the TRIMs Agreement.

According to development scholars, export subsidies and local content requirements were key elements in the industrialization of number of "late industrializers".[39] Similar arguments are raised in relation to local content requirements in renewable energy programs. Local content requirements are widely considered as effective tools in industrial policy in as much as they ensure steady and fast development of an important and newly emerging domestic renewable energy sector.[40] A number of renewable energy programs require use of local content to encourage the local firms to either promote the domestic manufacturing sector or to create employment.[41]

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[38] *U.S. Sets Antidumping Duties on Chinese Solar panels*, BLOOMBERG NEWS, (October 11, 2012); In the case of China, the NME methodology under the antidumping measure is used as a proxy to deal with various types of subsidization as well. *See also* http://about.bloomberglaw.com/practitioner-contributions/wave-of-trade-disputes-complicates-global-market-for-renewable-energy-firms-particularly-solar-sector.

[39] Alvaro Santos, *Carving Out Policy Autonomy for Developing Countries in the World Trade Organization: The Experience of Brazil and Mexico*, 52 VA. J. INTL. L. 551, 561 (2012) (arguing that TRIMS Agreement is not too stringent in practice in enabling developing countries to maintain their local content requirements in important sectors).

[40] Dani Rodrik, One Economics, Many Recipes: Globalization, Institutions and Economic Growth (2008).

[41] Since 2005, Brazil has required that at least 60 percent of the total cost of wind energy products is sourced from Brazil. A number of EU countries have also implemented local content requirements in the renewable energy sector. In 2011, Italy has enacted local content requirements in their legislation for subsidization of solar energy based on the sourcing of renewable energy equipments and components. In 2012, France imposed a local content requirement wherein the government offers a 10% bonus on the price that Electricite de France (EDF) pays to the solar energy installers. The bonus is available only when 60% of the added value of the installed solar panels is generated within the EU. Again, in the United States, several states including Montana and Louisiana have a local content rule in their blending mandate for bio-fuels. *See* Jan- Christph Kuntze & Tom Moerenhout, *Local Contents Requirements and the Renewable Energy Industry: A Good Match*? (September 12, 2012), *available at* SSRN: http://ssrn.com/abstract=2188607.

Especially in the cases of countries such as China, the local content rules are considered to have been successful in helping transfer of technology and knowhow. It is reported that in the field of wind turbine equipment manufacturing industry, the five largest Chinese companies had growth rates of more than 113%.[42]

In most renewable energy programs involving local content requirements, the government provides subsidies in the form of tax rebates or credits contingent upon compliance of local content requirements. In particular, some of the state sponsored renewable energy support programs require that the concerned energy equipments are manufactured or principally manufactured in certain parts of the state or specific percentage of manufacturing or assembling is carried out in that region or by using domestic feedstock, etc.[43]

Local content requirements in the context of FiT programs are particularly problematic. FiT schemes are different from other renewable energy programs in as much as they may have heavy project costs and longer gestation periods. For most such programs to be politically feasible, it may be important to encourage local employment creation. Therefore, even if it is admitted that local content requirements have inefficient outcomes in the long run, it will be politically difficult for most governments to set apart government funds for green energy programs. Beyond this, most local content requirements, at least, indirectly support green industries- an objective that is laudable in itself. For example, the Canadian Minister's FiT Directive to the Ontario Power Board lists various objectives that, *inter alia*, include measures to "[e]nable green industries through new investment in renewable energy technologies".[44]Therefore, global technological innovation in renewable energy could be considered as a public good, which could significantly outweigh the baneful effects of local content or import substitution policies.

In the above context, a key consideration is whether the existing WTO framework provides flexibilities for local content policies in renewable energy programs. The only point of enquiry is whether the FiT program discriminates against the imported renewable energy generation equipment products vis-à-vis domestic products. If it does discriminate, such a measure may fall within the blanket prohibition under the TRIMs Agreement as could be evident from the following

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[42] *Id.*

[43] *See* World Trade Organization, Certain Local Contents in Some of the Renewable Energy Programs, Questions by India to the United States, G/TRIMS/W/117 (April 17, 2013).

[44] George Smitherman, *Ontario Legislative Assembly Debates* (Hansard), 39th Parliament First Session, (February 23, 2009), 4937, 4952, *available at* http://www.ontla.on.ca/web/house-proceedings/house_detail.do?Date=2009-0223&Parl=39&Sess=1&locale=en#P388_90530 (highlighting Ontario's policy on renewable energy and energy conservation).

treaty provisions.

Article 2.1 of the TRIMs Agreement provides that:

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

Paragraph 2 of Article 2 in turn states that:

An illustrative list of TRIMs that are inconsistent with obligation of national treatment provided for in paragraph 4 of Article III of GATT 1994 and the obligation of general elimination of quantitative restrictions provided for in paragraph 1 of Article XI of GATT 1994 is contained in the Annex to this Agreement.

Paragraph 1(a) of the Annex to the TRIMs Agreement states that:

TRIMs that are inconsistent with the obligation of national treatment provided for in paragraph 4 of Article III of GATT 1994 includes 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.

A number of renewable energy programs including FiT schemes make it obligatory on the generators to purchase or use a sufficient proportion of domestic goods or to meet the minimum required domestic content in order to receive the guaranteed, long-term rates under the FiT scheme. If there is a preference for domestic goods over imported goods for availing a benefit, it is more than sufficient to hold that that such a requirement is a prohibited TRIM.

Considering the zero tolerance that the GATT treaty and the TRIMs Agreement have shown to domestic content requirements, a number of well-meaning subsidies are *per se* considered as prohibited. However, there is a disconnect here, between the WTO legal standard and the renewable energy policies of a vast majority of WTO members. Domestic content requirement are highly pervasive and various federal, sub-federal and municipal units establish domestic content

requirements or "buy local" provisions to receive government support.[45] It will be inconceivable at this stage to negotiate flexible standards in regard to domestic content use either in the TRIMs Agreement or any other multilateral framework. It is necessary to find the flexibility somewhere else. Section C examines the availability of policy space under the WTO.

Renewable Energy and Lack of Policy Space under the WTO

Both the SCM Agreement and the TRIMs Agreement work in a fairly rigid and inflexible way at present, in the absence of clearly spelt out exceptions for environmental purposes. The "green-light" subsidies, i.e., the government measures that deemed certain governmental assistance non-actionable under the SCM Agreement expired at the end of 1999 given the lack of consensus among the WTO Members to extend them.[46] The Agreement on Agriculture (AoA) had a "due restraint" clause (commonly referred to as the "Peace Clause") in Article 13, which exempted green box measures from countervailing actions and multilateral challenge under the SCM Agreement during the implementation period. Although there is a clamour for reinstating such a safe haven for the purpose of promoting renewable energy or for climate change mitigation or adaptation, for all practical purposes, no formal decision has been taken for extending such flexibility. Therefore, no subsidy is immune from challenge for the time being.

In the absence of specific exceptions, WTO Members can only turn to general exceptions under the GATT. Article XX of the GATT 1994 provides exceptions for measures "necessary to protect human, animal or plant life or health" or "relating to the conservation of exhaustible natural resources". Article XX (b) permits the adoption of measures that are "necessary to protect human, animal or plant life or health" and has been used in several WTO disputes. This exception is not limited to public health policy measures, but also covers 'environmental' measures. In *Brazil-Tyres*, the Appellate Body commented that Article XX(b) could also include climate change measures.[47] Article XX (g) of the GATT, on the other hand, permits the adoption of measures that are related to the conservation of exhaustible natural resources, provided that such measures are made

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[45] *Supra* note 9 (listing the RE programs of specific countries and a detailed account of various TRIMs requirements).

[46] SCM Agreement, art 3. The SCM Agreement as it originally entered into force contained a third category — non-actionable subsidies. This category (along with a provision establishing a presumption of serious prejudice in respect of certain specified types of actionable subsidies) applied provisionally for five years ending 31 December 1999, and pursuant to Art. 31 of the Agreement could be extended by consensus of the SCM Committee. As of 31 December 1999, no such consensus had been reached.

[47] Appellate Body Report, *Brazil-Measures Affecting Imports of Retreaded Tyres*, ¶224, WT/DS332/AB/R (December 3, 2007); *see also* Christopher Tran, Using GATT, Article XX to justify Climate Change Measures in Claims under the WTO Agreements, 27 ENV'L & PLANNING LAW J., 346 (arguing how climate change measures can pass muster under Article XX).

effective in conjunction with restrictions on domestic production or consumption. In WTO dispute settlement, this provision was first invoked in *US- Gasoline,* where it was determined that "a policy to reduce the depletion of an exhaustible natural resource" was within the meaning of Article XX (g).[48]

In the context of renewable energy one of the key questions is whether a WTO member can successfully avail the general exceptions under Article XX of the GATT. In other words, can Article XX justify a violation to Article 3.1(b) of the SCM Agreement given the absence of a specific provision? This is an unresolved and lively issue and there are differing opinions on the applicability of Article XX.

The WTO Appellate Body in *China- Audiovisual*[49] ruled that the applicability of Article XX beyond the GATT framework could not be excluded altogether. This particular reasoning was rejected by the Appellate Body in *China- Raw Materials.*[50] In any case, this will be an issue that has to be examined case-by-case, agreement-by-agreement, or accession protocol-by-accession protocol. The question whether GATT Article XX could apply in respect of other Annex IA Agreement was also addressed in the recent dispute of *United States- Poultry.*[51] The WTO panel was of the view that a measure that was already found to be in violation of the SPS Agreement, and which expressly incorporates Article XX (b) of the GATT, could not be justified by having direct recourse to Article XX (b) of the GATT. Therefore, a more conservative view would limit Article XX exceptions generally to GATT 1994 and not to other Annex IA Agreements, which broadly come under the category of *lex specialis.*

The availability of general exceptions and exemptions is key to enabling the WTO members to preserve their policy space in areas such as renewable energy. The lack of a negotiating mandate for a substantive agreement on renewable energy subsidies within the WTO accentuates this difficulty for WTO members to encourage renewable energy programs. However, it looks improbable, in the absence of clear textual support, that the Appellate Body would accept a defence

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[48] Appellate Body Report, *United States- Standards for Reformulated and Conventional Gasoline*, ¶ 14, WT/DS2/AB/R, 20, (April 29, 1996) [hereinafter US- Gasoline].

[49] Appellate Body Report, *China – Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, ¶83, WT/DS363/AB/R, (December 21, 2009).

[50] Appellate Body Report, *China- Measures Related to the Exportation of Various Raw Materials*, WT/DS 394/AB/R, WT/DS395/AB/R, WT/DS 398/AB/R, ¶303 (January 30, 2012) [hereinafter *China- Raw Materials*].

[51] Panel Report, *United States- Certain Measures Affecting Poultry from China*, WT/DS 392/R, ¶ 4.116. (September 29, 2010),

under Article XX for a violation of a prohibited subsidy under the SCM Agreement or an illustrative TRIM under the TRIMs Agreement. As one commentator put it, it will be unreasonable to expect a panel or Appellate Body to adopt a "heroic approach to interpretation" to fill this void.[52]

Conclusion

The renewable energy sector has a crucial role in ensuring energy security and in addressing concerns of climate change. The dependence on fossil fuel based energy resources will have to be progressively reduced. It is, therefore, essential that rules of international trading system, which were crafted almost two decades ago, are interpreted in an evolutionary manner.

There is at least some evidence that well targeted subsidies themselves are not a significant area of concern in the field of renewable energy, but it is the provision of subsidies tied to the use of domestic inputs and renewable energy equipment over imported goods that make some of the renewable energy programs prohibited subsidies. Whatever be the economic merits in prohibiting such practices, it is important to secure political support for renewable energy programs and to attract investors to make long-term investments in this field. Domestic content requirements and local employment creation could be reasonable means for encouraging investment in this field. This paper has, however, argued that the room for flexibility in trade rules at present is very limited. The lack of specific exceptions and exemptions under the SCM Agreement and the TRIMs Agreement will create insuperable difficulty for the implementation of various renewable energy programs.

Given this lack of flexibility under the GATT, SCM and TRIMS Agreements, judicial organs of the WTO are likely to spend considerable time in interpreting the meaning of rather plain treaty texts or common terms such as "financial contribution", "benefit", "advantage" and their different variants under the SCM Agreement or such similar expressions under the GATT or the TRIMs Agreement in the future. It would have been far more desirable had a sectoral or stand-alone agreement on renewable energy was agreed upon to avoid these complexities. However, until a long-term framework is identified and agreed upon, the WTO panels and Appellate Body will have to carefully tread the field of renewable energy and international trade regulation. A false step taken in this direction could completely unsettle several renewable energy programs and could foil fresh

[52] Condon, *Climate Change and Unresolved Issues in WTO Law*, 12 J. INT'L ECON. L. 895, 911-913 (2009).

initiatives taken in this field.