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WORKING PAPER

Renewable Energy Programmes in the European Union, Japan and the United States

COMPATIBILITY WITH WTO LAW



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List of Abbreviations

1. AB – Appellate Body
2. ARRA – The American Recovery and Reinvestment Act, 2009
3. ASCM – Agreement on Subsidies and Countervailing Measures
4. DSB – Dispute Settlement Body
5. DSM – Dispute Settlement Mechanism
6. EC – European Commission
7. ECJ – European Court of Justice
8. EU – European Union
9. FiT – Feed-in Tariff
10. GATT – General Agreement on Tariffs and Trade
11. GATS – General Agreement on Trade in Services
12. GHGs – Green House Gases
13. IRC – Internal Revenue Code
14. ITC – Investment Tax Credit
15. Kwh – Kilowatt hour
16. LDC – Least Developed Countries
17. MFN – Most Favoured Nation
18. NJ REMI – New Jersey Renewable Energy Manufacturing Incentive
19. NT – National Treatment
20. PTC – Production Tax Credit
21. PV – Photo-voltaic
22. RE – Renewable Energy
23. REC – Renewable Energy Credits
24. RPS – Renewable Portfolio Standard
25. SGIP - Self Generation Incentive Programme
26. TBT – Technical Barriers to Trade
27. TEC – Tradable Energy Credits
28. TGC – Tradable Green Credits

- 29. TRIMS – Trade Related Investment Measures
- 30. U.S. – United States
- 31. VAT – Value Added Tax
- 32. WTO – World Trade Organization

Executive Summary

RE support programmes are implemented in various forms and with varying strategies across the world. RE, be it wind, solar or other forms of energy, owes a substantial part of its growth worldwide to support from governments. Active involvement of governments in pursuing a conducive policy and regulatory framework, along with direct and indirect support for RE, has led to the growth of the sector across the world. It is in this context that the relevance of the study of the compatibility of RE support programmes with international trade rules becomes crucial. With countries exercising domestic policy space in implementing a wide variety of programmes to encourage RE in their respective jurisdictions, tensions between trading partners are increasing and issues of violation of the rules of international trade contained in various WTO Agreements often become the cause of trade friction.

This study is being undertaken in the context of the phenomenal growth of RE support programmes around the world. As mentioned in the Terms of Reference:

“The RE sector including wind, solar and geo-thermal is fast growing and efforts to encourage this sector forms an integral part of the domestic energy policy of many countries. Concerns about sustainable development, climate change as well as overdependence on traditional, exhaustible sources of energy have propelled RE as a priority for many countries. Governments have crafted RE policies to encourage this sector including providing various types of subsidies.”

The support for the RE sector worldwide is growing as a policy response to energy security concerns and climate change challenges. The proliferation of incentive schemes to promote RE is common, especially in the U.S. and EU. In this context, the question of the compatibility of these RE programmes with respect to WTO law is highly relevant. The

primary focus of this study is to analyse in detail a few RE support programmes implemented in the EU, Japan and the U.S. in terms of their compatibility with WTO law. The EU RE Directive in the context of the EU, FIT in the context of Germany, France and Italy, FiT, support for wind equipment manufacturing and biofuel directive in the context of Spain, PTCs and ARRA in the context of the U.S. at the national level and the various sub-national support programmes in the states of Massachusetts, New Jersey, Washington, Montana and California have been studied to determine whether they are in conformity with WTO law or are in breach of the respective country's WTO obligations.

This study comes to the conclusion that several provisions of these programmes are arguably incompatible with provisions of the GATT and the ASCM. The countries implementing the support programmes are in breach of their WTO obligations in varying degrees. While the principles of NT and MFN are violated in many cases, the use of local content requirements is evidently in breach of a country's obligations in case of others. It is also noticed that many of the support programmes constitute various types of subsidies that can be construed as either prohibited or actionable, in the context of the ASCM.

This study¹ does not pronounce upon the effectiveness or desirability of any of these programmes. It only determines whether it violates the provisions of multilateral trade rules. While some violations may be a phenomenon across jurisdictions and widely practiced (e.g. local purchase of electricity under FiTs), it does not take away the fact that the provision is a breach of WTO rules.

The study ends with a few lessons that India can probably take from issues that arise in the context of RE support programmes and compatibility with international obligations. It concludes with a summary of the potential violations of support programmes in the EU, Japan and U.S. While "local content" requirements are a blatant form of discrimination that is harder to defend, other patterns of support may be more intricate and complex. The WTO

¹ This has been commissioned by the Centre for WTO Studies, Ministry of Commerce, and Government of India to study the support provided by developed countries to the renewable energy sector.

DSM has not faced any landmark case yet that would determine the contours of support that RE can enjoy in the context of the international trade regime. The increasing use of the DSM in challenging RE support programmes would, perhaps, provide answers to some of the critical questions that trade, energy and multilateral rules will face in the coming years.

A word of caution also needs to be in place. While this study analyses a few RE programmes, it is not an exhaustive account of all types of programmes implemented by these countries in the RE sector. For example, the U.S. Department of Energy implements a number of loan and grant programmes for the RE sector and the German Bank (KfW Bankengruppe) also offers a number of loans specifically to the RE sector. These, and many other potential breaches of WTO obligations, are beyond the scope of this study.

Chapter 1 – Introduction

The support for RE² programmes³ by the State is an acknowledged fact around the world. It takes place in varying forms and with myriad strategies.⁴ The avowed goals of climate change mitigation, environmental protection, energy security and pursuing cleaner technologies spurs investments and support for RE. While the existence of the support for RE programmes is not in dispute, their nature, impact and compatibility with international trade law as embodied in WTO law presents a complex issue. Without going into the debate about whether the present multilateral legal framework covering international trade is supportive or a hindrance to RE, this study seeks to provide a few insights into certain RE support schemes being implemented in the EU, Japan and the U.S. and their compatibility with WTO law.

RE broadly covers any form of energy from solar, geophysical or biological sources that is replenished by natural processes at a rate that equals or exceeds its rate of use. RE is obtained from the continuing or repetitive flows of energy occurring in the natural environment and includes resources such as biomass, solar energy, geothermal heat, hydropower, tide, waves and ocean thermal energy, and wind energy. Fossil fuels (coal, oil, natural gas) do not fall under this definition, as they are not replenished within a time frame that is short relative to their rate of utilization.

² According to the classification of the recent *Intergovernmental Panel on Climate Change Special Study on Renewable Energy Sources (SRRES)*, 31st May 2011, RE, grouped by source, would comprise bioenergy, direct solar energy, geothermal energy, ocean energy and wind energy. In terms of use, these sources of RE are used to produce electricity, thermal or mechanical energy and generate fuel.

³ The word programme has been interchangeably used with schemes which covers a wide array of support including tax incentives, FITs, manufacturing incentives, national targets, loans, grants, financial support and the regulatory environment. They include both direct and indirect forms of support.

⁴ See Clarisse Frass-Ehrfeld, *Renewable Energy Sources – A Chance to Combat Climate Change*, Kluwer Law International, 2009. Joost Pauwelyn (Ed.), *Global Challenges at the Intersection of Trade, Energy and the Environment*, Centre for Trade and economic Integration, The Graduate Institute, 2010.

The pursuit of growth, which is an integral part of a national developmental strategy, inevitably requires energy. The reduction on the dependency on fossil fuels and achieving the right balance with the use of renewable sources has been a constant endeavor of national governments. While it is recognized that a complex problem like climate change can only be addressed with the synergy of a mix of policies, which combine cleaner energy use and energy efficiency, it is clear that the possibility of reducing and eventually replacing this dependency is a crucial element of a national strategy to combat environmental challenges.⁵ RE programmes tend to offer a strategy to meet these challenges and the State plays an active role in them ranging from regulation to active participation. While the growth of renewable energy is unanimously welcomed and non-controversial, the issue of State support and possible inconsistency of national programmes with WTO law is often the genesis of trade disputes and frictions. Though it has not translated into a large number of disputes in the DSM of the WTO yet, the scale and range of measures does have a potential to become a major international trade law imbroglio.

The use of national support measures aimed at encouraging and supporting the development and use of RE are becoming an integral part of a nation's energy policy as well as a conscious effort to address environmental concerns. Support to encourage the use of RE is widespread across both the developed and developing worlds. The nature, extent and intent of these measures differ. However, the compatibility of these measures with existing WTO rules is often a subject matter of intense debate and friction between countries pursuing these policies. The seemingly conflicting goals of environmental protection (by implementing these support programmes) and "trade with reduced barriers and non-discrimination" are evidently at display.

⁵ Luca Rubini, "The Subsidies of Renewable Energy in the WTO: Issues and Perspectives", Working Paper No.2011/32/ June 2011, NCCR trade regulation. This study analyses the RE landscape and suggests what is the best policy framework for supporting RE.

This study analyzes a few selected RE support programmes implemented in the EU, Japan and the U.S. with respect to their compatibility with WTO law⁶. In response to the challenges posed by climate change, as well as to comply with international commitments, these countries have been adopting a wide range of measures to facilitate climate change mitigation efforts, to achieve energy security and to address environmental concerns. The support to generate electricity from RE sources as compared to fossil fuels and other traditional sources is a manifestation of this effort.

RE support programmes of the State that encourage the production of electricity from RE sources like wind, solar, biomass, geothermal are implemented with the support of legislation, regulations, rules and programmes. The purpose of this study is not to analyze the pros and cons of such policies. The primary focus is to make an objective analysis of a few programmes in the context of multilateral trade rules present in the various Agreements of the WTO.

The **Terms of Reference** of this study⁷ outline the purpose of this study:

“Following are the specific terms of reference for the study:

(i) To identify specific schemes being implemented by the EU, Japan and the U.S. for encouraging the growth of RE sector. The schemes could include tax concessions, local content requirement, preferential procurement by government at prices that are higher than otherwise applicable commercial prices, cross-subsidisation, differential pricing for energy produced from renewable sources, conditions on foreign investments etc.

⁶ By WTO law, reference is to all the Agreements established in the results of the Uruguay Round of Multilateral Trade negotiations that cover the multilateral trading system but primarily focused on the GATT, ASCM, GATS, TRIMS and TBT Agreements.

⁷ Annexure I of the Study contain the relevant parts of the Terms of Reference.

(ii) To assess whether the schemes being implemented by the EU, Japan and the U.S. for encouraging the growth of RE sector are in conformity with their WTO obligations under GATT, TRIMS, ASCM and GATS.

(iii) To highlight specific aspects of the schemes being implemented by the EU, Japan and the U.S. for encouraging the growth of RE sector that are not conformity with WTO obligations.”

The study, however, is not an exhaustive, overarching study of *all* RE programmes in these countries. It does not cover the entire gamut of programmes that are being implemented to encourage RE. It is a selective assessment of some of the major programmes. The study also does not comment on the desirability or otherwise of the programmes. The motivations and rationale of a particular programme, the method of implementation as well as overall policy to encourage the use of RE by countries is not the subject matter of this study. Further, this study does not suggest policy reform, either at the national level or within the international legal framework. It is an analysis of the programmes as they exist and their consistency with WTO rules. Inadequacies⁸ in the present international legal framework governing trade, energy and climate change or the specific measures needed to address them through legal reform are beyond the scope of this study.

Multilateral trade rules especially relating to GATT, ASCM, TRIMS and GATS govern the relations of States with respect to the rules of international trade in goods and services. National programmes that are in contravention of a country's obligations contained in these Agreements would be inconsistent and open to challenge by other member countries of the WTO.⁹ Availability of public funds for investment in green technologies, recent incidents with respect to safety of nuclear energy generation, questioning of the subsidization of fossil fuels and its negative impact on the environment have all provided a climate favouring

⁹ The WTO's Dispute Settlement Mechanism provides the forum for countries to challenge measures of other member countries that are allegedly inconsistent with the obligations under the WTO Agreements.

the growth and widespread acceptance of RE sources. Thus, while factors favour the involvement of the State in encouraging and promoting RE, a look at the multilateral trade rules embodied in the various WTO Agreements provide a glimpse of a friction that needs to be addressed.

It is not to suggest that all national programmes have a tendency to violate international legal obligations. The MFN provision (not treating goods of one member country more favourably than other countries) and NT principle (non-discrimination between local and imported goods) would imply that national programmes cannot be discriminatory vis a vis imported goods. Further, support programmes that constitute “subsidies” have to be analysed in the context of the ASCM and provisions related to “actionable” and “prohibited” subsidies. The WTO rules also provide for various “exceptions” under which domestic policy measures can violate WTO rules but still be consistent with the WTO legal framework under certain circumstances. Hence, whether a particular programme has the characteristic of satisfying the conditions laid down in the exceptions would also be a part of this study.

Multilateral trade rules are a complex quagmire of legal rules and judicial interpretation. Whether a particular programme is consistent with the rules requires a complete overview of the programme being scrutinized, a thorough understanding of the relevant legal provisions and the application of legal principles to facts of a particular case (which would include the minute details of the programme). Understanding the motivations and rationale of a particular programme/policy is important to contextualize it in the overall scheme of support for RE.

The study is structured in the following manner:

Chapter 1 (this chapter) is the introduction that gives an overview of the theme, ambit and structure of this study.

Chapter 2 gives an outline of the various types of RE support programmes that are implemented around the world. It sketches a theoretical understanding to the forms of support policies that countries implement and attempts to cull out some fundamental characteristics of these programmes. Regulatory policies, FiTs, Tax incentives and Manufacturing incentives are some of the common support programmes that will be discussed.

Chapter 3 gives an overview of the main multilateral trade rules that would need to be studied in the context of RE programmes. This is not an exposition of the entire gamut of Trade Agreements and legal rules that govern international trade but a brief understanding of the fundamental principles and provisions that could be contravened by RE programmes. It touches upon the MFN principle, NT principle and General Exception provisions in the GATT. It also throws light on the relevant provisions of the ASCM regarding subsidies, both prohibited and actionable. The chapter also touches on certain provisions of TRIMS and GATS that need to be kept in mind when analyzing RE support programmes.

Chapter 4 is specific to the RE programmes of the EU, Japan and the U.S. A few RE programmes that are implemented at the regional, national as well as the sub-national level have been studied in terms of their compatibility with various WTO provisions. In the case of the EU, the RE Directive is the most significant support measure implemented at the regional level. Thereafter, all the other support programmes are at the national level and are specific to the country that is implementing it. Specific national RE programmes of Germany (FiT), Spain (Biofuel Policy and local support programmes), France (FiT) and Italy (FiT) have been studied. In the case of Japan, the national FIT programme has been analysed. The U.S. has support programmes both at the federal and state level. While PTCs, the ARRA and “Buy American Provision” in ARRA has been studied at the federal level, State RE programmes of Massachusetts, Washington, Ohio, California and New Jersey have been studied. The

consistency of the provisions contained in all these programmes with the various WTO law obligations of these countries has been discussed.

Chapter 5 attempts to draw some broad lessons for India to follow in its RE support policy space based on the learnings from the compatibility of various RE programmes with WTO rules. This becomes relevant due to the increasing possibility of facing a challenge to one's domestic programme at the WTO. Increasingly there are indications that the once unchallenged area of RE might become a fertile ground for WTO litigation in the coming years.

Chapter 6 concludes the study with an overall assessment of the various support programmes and their WTO consistency.

Chapter 2 - RE Programmes - An Overview

Context and Overview

State support for RE programmes has been in existence for a number of years now. RE capacity is increasing rapidly around the world, and a range of factors including climate mitigation, access to energy, secure energy supply, job creation and others drives government interest in renewable technologies.¹⁰

The definition of RE is broad, encompassing a varied and heterogeneous group of technologies. The support also takes different forms and motivations. They range from direct loans, grants to a regulatory framework to encourage the production and use of RE. Policies and programmes of government at the national, state and local levels have supported the RE sector. This has been across geographies and the developmental divide. We see both the developed world and developing countries adopting a broad mix of measures to support their respective RE sectors. The support ranges from research and development support to investment tax credit and price support to regulatory support.

The number of countries with some type of policy target/ or support policy related to RE more than doubled from an estimated 55 in early 2005 to 118 by early 2011. Since the 1990's policies have begun to emerge in a growing number of countries at the local, state/provincial, national and international levels. Initially, most policies adopted were in developed countries, but an increasing number of developing countries have enacted policy frameworks at various levels of government to promote RE since the late 1990s and early 2000s. A large number of countries have actively and strategically involved themselves in this area to promote RE production as well as consumption.

¹⁰ Renewable Energy Sources and Climate Change Mitigation, Special Study of the Intergovernmental Panel on Climate Change. This study provides a comprehensive view on the motivations for adopting RE technologies as well as the role it plays in mitigating climate change.

The last decade has seen an increase in the production of RE in many countries of the world. The share of RE in the total energy production and consumption has gradually increased. More countries are moving towards greener sources of power for a variety of reasons from energy security to climate change. Renewables, counting traditional biomass, hydropower, wind, solar, geothermal, modern biomass and biofuels delivered close to 25% of global electricity supply of global power capacity from all sources in 2011.¹¹ At the end of 2010 the top five countries for non-hydro renewable power capacity were the U.S., China, Germany, Spain and India.

The success of such efforts depends not only on policy choice, but also on policy design and implementation. Consequently, governments continue to update and revise policies in response to design and implementation challenges and in response to advances in technologies and changes in the market. The purpose of this study, as mentioned earlier, is not to assess the rationale or success of these policy choices but to critically analyze their compatibility with WTO law.

It should be emphasized that governments are likely to use a mixed suite of policies to promote renewables. It should also be remembered that national policies tend to change through time as governments reflect on their performance. Programme designs are not necessarily static and it may indeed be scrapped and replaced with another strategy entirely.¹² A common feature of RE support programmes of governments across the world has been their mix (rather than relying on *a particular* type of support). Due to different resource potential of countries and differences in RE technology costs, a single support mechanism is seldom used to promote RE. States apply a combination of support schemes to realize their national goals of promoting RE which may include investment subsidies, soft loans, tax credits in addition to the main support scheme such as FiT or quota obligations.

¹¹ REN21.2011.Renewables 2011 *Global Status Study* (Paris: REN21 Secretariat) at p.11. This annual study outlines the status of the RE sector throughout the world.

¹² Christopher Beaton and Tom Moernhout, "A literature review on subsidies to electricity from RE sources", Working Paper No 2011/63/June 2011, NCCR trade regulation.

The most common ones in use are the FiTs and quotas or RPS. By early 2010, at least 45 countries had FiTs at the national level (including much of Europe), with a further 4 countries using them at the state/provincial/territorial and/or municipal. RPS or quotas are also widely used and, by early 2010, were in force in an estimated 10 countries at the national level. An increasing number of governments are adopting incentives and mandates to advance renewable transport fuels and renewable heating technologies. By early 2010, at least 41 states/provinces and 24 countries at the national level had adopted mandates for blending biofuels with gasoline or diesel fuel, while others had set production or use targets. Most mandates require blending relatively small (e.g., up to 10%) percentages of ethanol or biodiesel with petroleum-based fuels for transportation. Production subsidies and tax exemptions for biofuels have also increased in use in developed and developing countries.¹³

Measures supporting the development and deployment of climate-friendly technologies are made effective through incentives such as research and development grants and loans, fiscal support and investment measures. A number of these measures are specifically aimed at encouraging the use of climate-friendly goods and technology and renewable energies, through reductions in the cost of producing and consuming energy from renewable sources, and are made effective through various mechanisms that include price support measures, fiscal incentives and investment support. Other measures intend to channel research and development funds to encourage the invention of innovative technologies or support competitiveness of the firms.¹⁴

¹³ The REN 21.2011 gives a detailed overview of country specific RE programmes of countries across the world.

¹⁴ A list of all measures, including specifically domestic support and subsidies, that were imposed and are currently maintained by Organization for Economic Cooperation and Development (OECD) countries for climate change mitigation purposes is contained in the International Energy Agency's Database on Addressing Climate Change: Policy and Measures.

While looking at the spectrum of support programmes for RE, a broad categorization of measures for easier understanding and clarity of purpose is required. A brief summary of the broad categories¹⁵ of programmes is discussed below.

Types of Programmes

RE support programmes of governments can be broadly categorized into three types:

1. Regulatory Policies
2. Fiscal Incentives
3. Public Financing

1. Regulatory Policies

Regulatory policies refer to targets, quotas, standards and other mandates that are required to be followed either by a Government or others. These include broad targets/directives for share of RE generation as part of the overall energy generation, FiT programmes and RPS or quotas. These regulations are normally mandated by statute or regulation and provide an overall framework for the growth of RE in the country.

2. Fiscal Incentives

Fiscal Incentives include tax incentives, tax breaks, capital subsidy, PTCs and ITCs, reduction in sales, VAT or other taxes and energy production payment given to RE projects or products. Incentives may be for production, investment or consumption of RE. PTCs in the context of U.S. support programmes are discussed in detail in the later part of this study.

3. Public Financing

¹⁵ A joint WTO/UNEP Study on Trade and Climate Change has broadly classified the measures applied by WTO Members in response to climate change into economic incentive measures and regulatory instruments.

Public financing would mainly include public investment, loans, grants and other financial contributions from Government or public authorities to promote RE projects. Public disbursements of funds are common where the State plays an active role in guiding economic policy.

A more detailed analysis of the categorisation of support programmes is provided for below:

1. Regulatory Policies

a. Targets

Targets for achieving a certain percentage of RE production as part of the overall energy production are commonly imposed in various countries. These targets may be determined at the regional level (like the EU) or at the national level. Policy targets for various penetration levels of RE as part of the future energy supply continue to grow in number. Targets now exist in at least 96 countries, more than half of which are developing countries. Most targets are for shares of electricity and typically aim at 10–30% of total electricity within the next 1–2 decades. Other types of targets include RE shares of total primary or final energy, share of heat supply, installed capacities of specific technologies, and shares of biofuels in road transport fuels. Targets typically apply to a specific future year, although some apply to a range of years. These targets themselves are not internationally enforceable mandates but they are implemented to a large extent through a variety of programmes which encourage the RE sector. In order to achieve these targets, countries devise and implement a number of programmes drawing inspiration from the overarching mandate.

As an example, the EU agreed on binding targets for every member state to increase the share of RE sources – based on Directive 2001/77/EC¹⁶. In addition to the targets set by the EU, some Member States set national RE targets for the year 2020.¹⁷ Based on these targets,

¹⁶ The latest Directive is Directive 2009/28/EC dated 23rd April 2009 amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

¹⁷ Clarisse Frass-Ehrfeld, *Renewable Energy Sources – A Chance to Combat Climate Change*, Kluwer Law International, 2009.

a number of them are implementing national RE programmes to achieve their targets. The EU Directive will be discussed in detail in Chapter 4 of this study. Targets or mandates to achieve a certain percentage of RE production or consumption may not by itself have a bearing on a country's commitments at the WTO. However, the overall impact of the policy in terms of encouraging the use of RE and restricting the use of non-RE sources may be a case that requires deeper analysis in the context of GATT provisions. The policy may also be the basis for discriminatory national level RE support schemes.

b. Price Support Mechanisms (FiTs)

A basic FiT is a promotion policy that pays a guaranteed price for power generated from a RE source, most commonly for each unit of electricity fed into the grid by a producer, and usually over a fixed long-term period (typically 20 years). A FiT can also be developed for units of heat supplied from biomass, solar thermal, or geothermal energy sources.

The FiT payment is usually administered by the utility company or grid operator and is derived from an additional per-kWh charge for electricity (or other energy source, such as heat) that is imposed on national or regional customers, often spread equally to minimize the costs to individuals. Tariffs may be differentiated by technology type, size, and location, and they usually decline over time.

FiT is a policy tool defined by three key characteristics: guaranteed electricity purchase prices, guaranteed grid access and long-term contracts.¹⁸ Increasingly these programmes are designed in a way to encourage the adoption of RE sources. In these cases, eligible RE producers (including homeowners and businesses) are generally paid a premium for any RE they produce. Moreover, electric grid utilities are obligated to purchase the electricity; so renewable electricity producers are guaranteed a return on their investment. In other words, a FiT programme is a purchasing guarantee. Varying tariff rates are often set for different RE technologies depending on the costs of developing those technologies. The

¹⁸ Marie Wilkie, "Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal View," Issue paper No.4, International Centre for Trade and Sustainable Development, 2011.

cost-based prices therefore enable a diversity of projects (wind, solar, etc.) to be developed, by facilitating investment, as investors can obtain a reasonable return on their RE investments and benefit from planning guarantees.

From an economic perspective, a FiT can be seen as a subsidy for the generation of electricity that is considered beneficial. ‘Subsidy’ here refers to a transfer from electricity consumers or government to the suppliers of RE. To create more certainty for producers FiT schemes are often combined with priority access to the electricity grid and a guaranteed purchase of RE, to overcome the uncertainty related to the quantity-outcome. Crucial in the design of a FiT scheme is the determination of the tariff level and the duration of the support.

The policy community broadly agrees that a “typical” FIT includes three key provisions:

- 1) guaranteed grid access,
- 2) long-term contracts for the electricity (or heat) produced, and
- 3) prices based on the cost of generation plus a reasonable rate of return.

The diversity and complexity of FiTs is not the subject matter of this study. Nevertheless, it is interesting to note that there are a wide variety of FiT programmes across geographies and even within countries¹⁹. Comprehensive studies have been made indicating the diversity of FiT programme design and implementation models.²⁰

FiTs differ vastly in their structure and pricing mechanisms. The two main types are one that provides a **fixed tariff** for a considerable period of time irrespective of market fluctuations and the other that provides **fixed premiums** above the market prices. The most important

¹⁹ Mitchell, C., J. L. Sawin, G. R. Pokharel, D. Kammen, Z. Wang, S. Fifita, M. Jaccard, O. Langniss, H. Lucas, A. Nadai, R. Trujillo Blanco, E. Usher, A. Verbruggen, R. Wüstenhagen, K. Yamaguchi, 2011: Policy, Financing and Implementation, in IPCC Special Study on Renewable Energy Sources and Climate Change Mitigation [O. Edenhofer, R. Pichs-Madruga, Y. Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. von Stechow (eds)], Cambridge University Press, USA.

²⁰ Toby D Couture, KaryInn Cory, Claire Kreycik, Emily Williams, “A Policy Maker’s Guide to FIT Policy Design”, Technical Study, NREL/TP-6A2-44849, July 2010.

distinction is between FiTs that set a fixed price that is independent of electricity market prices and those with premium payments, which provide fixed premiums on top of market prices for electricity. FiT and premiums are granted to operators of eligible domestic renewable electricity plants for the electricity they produce and feed into the grid; the government dictates the electricity price (or premium) paid to the producer and lets the market determine the quantity. The tariff is normally guaranteed for a period of 10-20 years, providing a long-term degree of certainty, which lowers the market risk faced by investors.

The fixed-price FiT typically also ensures connection to the network at a pre-agreed price and guarantees the purchase of all generation, sometimes with limited exceptions. These three factors (a set price independent of the electricity price, network connection, and guaranteed purchase) lead to an almost risk-free contract from the point of view of generators. Premium payment systems have gained some ground in recent years. In some countries they are the primary form of support, whereas in others they operate in parallel with fixed price FiTs. These systems provide a secure additional return for producers but, compared to fixed-price FiTs, they provide less certainty for investors because producers are exposed to electricity price risk. This, in turn, implies higher risk premiums and a higher cost of capital. The advantage of premiums is that they encourage producers to adjust generation in response to market price signals.

Feed-in premiums are often described as a form of a FiT scheme, but in contrast to FiT schemes, 'premiums are paid to the producer on top of the conventional market price'. A premium system thus entails more risk for the investor since the investor is exposed to the usual price risk related to the conventional electricity market. Goal of the premium is to cover the production costs, but unlike FiT the income per unit is variable. In order to limit the intrinsic uncertainties of premiums, some countries have implemented upper and lower limits of the total remuneration (sum of market price and premium) by designing a variable premium.

The discussion on the types of FiTs in relation to fixed tariffs or premiums is not very relevant in terms of their compatibility with multilateral trade rules. Nevertheless, they are discussed to give an understanding about the scope and structure of FiTs implemented around the world.

FiTs can be very simple and available for one technology only, such as wind power, or they can be quite complex. For example, fixed payments can vary by technology according to state of development and/or generating costs. FiTs are suited to incremental adjustments and payments can be increased or decreased as necessary to meet policy goals or to account for technology advances or changes in the marketplace. An advantage of the FIT with a fixed price is the long-term certainty of receiving a fixed payment, which lowers investment risk. An advantage of the premium payment is that RE generators participate to a greater degree in the electricity market and, if they have fuel costs, they can be given incentives to produce electricity when the market needs it most.

By guaranteeing the price and providing a secure demand, FiTs reduce both the price and market risks, and create certainty for the investor regarding the rate of return of a project. FiTs oblige utilities to purchase RE at a certain price, typically per kWh of electricity produced. The distinction is therefore that FiTs guarantee RE producers a fixed price, whereas premiums promise them a price that will fluctuate according to the base market price for electricity.

FiTs are one of many forms of government intervention used to subsidize the production of renewable energy.²¹ The concept is simple: Utility companies must purchase electricity from renewable sources at a government-fixed “premium” rate for a guaranteed number of years. The purchase must encompass the total output of the producer and guarantee full access to the electricity grid.

²¹ Michael E. Streich, “Green Energy and Green Economy Act, 2009; A “FIT”-ing Policy for North America?” 33:2 *Houston Journal of International Law* 419.

Under the FiT, electric utilities are obligated to enable RE plants to connect to the electric grid, and they must purchase any electricity generated with renewable resources at fixed, minimum prices. These prices are generally set higher than the regular market price, and payments are usually guaranteed over a specified period of time. Tariffs may have a direct relationship with cost or price, or may be chosen instead to spur investment in renewables. With respect to the effectiveness of specific types of support measures, FiTs that provide for a fixed minimum price for RE electricity, often combined with a purchase obligation, seems to be particularly cost-effective.

Thus, FiTs constitute the main regulatory policy tool that governs the encouragement of the production and adoption of RE electricity, especially in Europe. Normally, countries have a legislative framework/regulatory structure that outlines the FiT mandate, its scope and structure along with an implementation methodology. The various provisions of these laws would have to be studied to ascertain a policy's consistency with multilateral trade rules.

FiTs have proved successful for a number of reasons. First, FiTs for RE sources usually have a long time frame and therefore offer long-term price guarantees, providing a high level of security for investors. Moreover, FiT are flexible in design and can be adjusted to account for advances in technology and changing market conditions, making them more effective and efficient. It has also been argued that FiTs encourage the development of local production of RE, thereby increasing price competition, and also contribute to increasing companies' profit margins, thus encouraging innovation. The literature on this topic shows that FiTs have been particularly successful when they form part of a broad package of support measures, including tax deductions, "soft" loans (i.e. at subsidized rates) as well as investment incentives (such as subsidies or partial debt relief) for selected technologies.

c. RPS or Quotas

Under a quota obligation, governments impose an obligation on consumers, suppliers or producers to source a certain percentage of their electricity from RE; the government dictates the quantity of RE and leaves it to the market to determine the price. While pricing laws like FiTs establish the price and let the market determine capacity and generation, mandated targets work in reverse—the government sets a target and lets the market determine the price. Typically, governments mandate a minimum share of capacity or generation of electricity (generally grid-connected only), or a share of fuel, to come from renewable sources. The share required often increases gradually over time, with a specific final target and end-date. The mandate can be placed on producers, distributors or consumers.

RPS oblige utilities to ensure that a certain amount of the electricity they purchase is RE, typically as a share of the total electricity they purchase, with the share being increased at regular intervals. If operators fail to comply, a financial penalty is incurred. An RPS policy is generally phased in over time. Like FiTs and premiums, it is a regulatory mechanism that sets up an artificial flow of benefits towards producers of RE, and focuses on deployment.

By early 2010, quotas were in place in 56 states, provinces or countries, including more than half of the US states. Under quota systems, governments typically mandate a minimum amount or share of capacity, generation or sales to come from renewable sources. Quotas tend to be placed on a purchasing authority, with any additional costs of RE generally borne by electricity consumers. There are significant variations of design from one scheme to the next even among various state-level policies in the USA and India.

Quotas can be linked to certificate trading, for example TGCs in Europe, or RECs in the U.S. The TGC schemes operate by offering “green certificates” for every kWh generated by a

renewable producer. The value of these certificates, which can be traded in the market, is then added to the value of the basic electricity.²²

TGCs or RECs allow for the sale of RE to be split up into two separate markets. In the first market – the market for kWh of electricity – RE is just like electricity from any other source, sold at the market price, with the exception that for each unit sold, producers are given a certificate. In the second market – the market for certificates – the producer can sell the certificates to electricity grid operators, who are required to hold a certain number at the end of a year (or some other, regular period), or face a penalty. The revenue that producers receive from the sale of certificates should, in theory, cover the additional costs that were necessary for the development of RE. This mechanism splits up the direct relationship that exists in RPS between purchasing RE and achieving a quota, creating equal opportunities for compliance in areas where there is little supply of RE. It also allows for the trade of certificates between different actors – for example, one utility with a surplus of certificates might sell to another utility with a deficit. The most important advantage it adds to an RPS is that grid operators have more flexibility to comply with their quota obligations.

Generally, certificates are awarded to producers for the RE they generate, and add flexibility by enabling actors with quota obligations to trade, sell or buy credits to meet their obligations—provided there is sufficient liquidity in the marketplace. Electricity suppliers, or other agents in the power sector, ‘prove’ they have met their obligations by showing the regulator (or other executive body) the number of certificates equal to their obligation. Most quotas have built-in penalties for actors who do not comply with the quota.

There are two main types of quota systems used today for electricity generation: obligation/certificate and tendering systems. The RPS widely used in U.S. is in the former category. Under an RPS, a political target is established for the minimum amount of capacity or generation that must come from RE, with the amount generally increasing over time.

²² Supra note 5.

Investors and generators then determine how they will comply—the type of technology to be used (except in the case where specific targets are established by technology type), the developers to do business with, the price and contract terms they will accept. At the end of the target period, electricity generators (or suppliers, depending on the policy design) must demonstrate, through the ownership of credits, that they are in compliance in order to avoid paying a penalty. Producers receive credit—in the form of “Green Certificates,” “Green Labels,” or “RE Credits”—for the RE they generate. Such credits can be tradable or sellable, to serve as proof of meeting the legal obligation and to earn additional income. Once the system has been established, government involvement includes the certifying of credits.

Under the tendering systems, regulators specify an amount of capacity or share of total electricity to be achieved, and the maximum price per kWh. Project developers then submit price bids for contracts. Governments set the desired level of generation from each resource, and the growth rates required over time. The criteria for evaluation are established prior to each round of bidding. In some cases, governments will require separate bids for different technologies, so that solar PV is not competing against wind energy projects, for example. Generally, proposals from potential developers are accepted starting with the lowest bid and working upwards, until the level of capacity or generation required is achieved. Those who win the bid are guaranteed their price for a specified period of time; on the flip side, electricity providers are obligated to purchase a certain amount of renewable electricity from winning producers at a premium price. The government covers the difference between the market reference price and the winning bid price. Each bidding round is a one-time competition for funds and contracts. In contrast, under the RPS, companies and projects must constantly compete in the marketplace, with existing and new projects, unless they have signed long-term contracts. As with the pricing law, the additional costs of RE under quota systems are paid through a special tax on electricity or by a higher rate charged to all electricity consumers.

13 U.S. states, covering 30 percent of the U.S. load, have mandated quotas through RPS laws. Quota systems are now in use in several other countries as well, including Japan, the United Kingdom, Italy and Australia. Though this system has been outlined here, this study does not cover the regime of TGCs or RECs in the country specific analysis.

2. Fiscal Incentives

Fiscal incentives reduce the costs of RE by lowering the price paid for RE or RE technologies, increasing the payment received, or reducing the cost of production. They include market compensation in the form of tax credits, rebates, and payments, which subsidize investment in a technology or the production of power.²³ Tax exemptions or reductions are often used as a supplementary support instrument.

PTCs, ITCs, import duty reductions, and/or other tax incentives are also common means for providing fiscal incentives at the national level in many countries. Energy production payments or credits, sometimes called “premiums,” exist in a handful of countries. These are typically a fixed price per kWh, or may be a percentage of other utility tariffs or baselines. Financial incentives of various forms—based on investment or production, and including tax credits, reductions and exemptions; accelerated or variable depreciation of investment expenditure; and rebates and grants can reduce the costs and risks of investing in RE by lowering the upfront investment costs associated with installation, reducing the cost of production or increasing the payment received for energy generated with renewable sources. Some countries have promoted RE deployment by subsidizing investment through grants or rebates. Grants consist of money provided up front to help finance an investment, whereas rebates are refunds provided after an investment has been made. Capital grants and rebates assist directly with reducing the upfront investment cost of a plant, with a government typically providing a certain level of financial support, for example a refund per

²³ Janet L.Sawin, “National Policy Instruments – Policy Lessons for the Advancement and Diffusion of Renewable Energy Technologies Around the World”, Thematic Background Paper, March 2004.

megawatt of installed capacity or a percentage of total investment, up to a specified limit. They can apply from the small scale, for example, a domestic solar thermal or PV system, through to large-scale generating stations such as biomass combined heat and power plants.

Tax credits, reductions or exemptions amount to tax-deductible sums that involve foregone government revenue and that are calculated as predefined fixed amounts or a percentage of total investment in an installation or on the basis of energy delivered. In theory at least, tax incentives are flexible tools that can be gradually increased or decreased as technologies and supply chains develop and as markets evolve. They can be targeted to specific technologies and/or selected markets, or applied more broadly.

Tax policies can influence supply and demand sides. For example, PTCs encourage an increase in production, whereas tax credits or exemptions for the use of RE electricity, heat or fuels affect the demand side. Investment tax credits focus on initial investment costs, whereas PTCs address operating production costs. Tax reductions and exemptions may also cover property, sales, energy, carbon and value-added tax and act directly on the total payable tax, thereby reducing its magnitude and thus the total cost associated with development.

Incentives that subsidize production are generally preferable to investment subsidies because they promote the desired outcome—energy generation; they encourage market deployment while also promoting increases in efficiency. However, policies must be tailored to particular technologies and stages of maturation, and investment subsidies can be helpful when a technology is still relatively expensive or when the technology is applied on a small scale particularly if they are paired with technology standards and certification to ensure a minimum quality of systems and installation.

Incentives help promote RE development by reducing the costs of investment, or by accounting for the external benefits of RE. The latter include eco- or carbon-tax exemptions. The former include accelerated depreciation, relief from taxes on sales and property, VAT exemptions, and reduction or elimination of import duties on RE technologies or components.

Broadly, two types of fiscal measures are used to encourage participation in climate change mitigation efforts: tax reductions (i.e. tax exemptions, tax deduction and tax rebates) and tax credits (i.e. income tax credits, personal tax credits, corporate tax credits, PTCs and investment tax credits).²⁴ Such fiscal measures may be either targeted at consumption (i.e. they may reward the purchase and installation of certain technologies) or at facilitating investment in the production of climate-friendly goods and RE. Fiscal measures aimed at consumption, for instance, can be illustrated by the reduction in VAT for small hydroelectric, wind and biogas power generation. Another fiscal measure, which is used mainly to encourage the use of RE sources, is “accelerated depreciation”, which allows investors in RE technologies to depreciate the value of their plant and equipment at a faster rate than is typically allowed, thereby reducing their stated income for the purposes of income taxation.

Two well-known examples of fiscal incentives are ITCs and PTCs.

i. ITC

ITCs give favourable tax treatment to firms and individuals who are investing in RE electricity. These credits offer them a partial tax write-off. ITCs can cover just the cost of a system—such as a wind turbine or solar hot water or PV panel, or the full costs of installation. They have been used extensively for the promotion of water and space heating systems based on biomass and geothermal energy. They can be helpful early in the diffusion

²⁴ Trade and Climate Change, UNEP/WTO Study, 2009.

of a technology, when costs are still high, and/or to encourage their installation in off-grid, remote locations. They directly reduce the cost of investing in RE systems and reduce the level of risk.

ii. PTC

PTCs provide an annual tax credit to the owner of or investor in an RE property. The tax credit is based on the amount of electricity that has been generated/produced over the whole year. PTCs provide tax benefits against the amount of energy actually produced and fed into the electric grid, or the amount of biofuels produced, for example. They increase the rate of return and reduce the payback period, while rewarding producers for actual generation of energy.

As an alternative to PTCs or ITCs, some states and countries have subsidized RE through production payments or rebates. Rebates are refunds of a specific share of the cost of a technology, or share of total installation costs (for example, 30 percent of total costs), or refunds of a certain amount of money per unit of capacity installed. As with investment credits, rebates are most effective when linked to technology and performance standards. Financing assistance in the form of low-interest, long-term loans and loan guarantees can play an important role in overcoming this obstacle. Lowering the cost of capital can bring down the average cost of energy per unit and reduce the risk of investment.

3. Public Financing

Many countries offer some type of direct capital investment subsidy or grant to the RE sector. A variety of countries, states, and provinces have established special RE funds used to directly finance investments, provide low-interest loans, or facilitate markets in other ways, for example through research, education, and quality or performance standards.

Long-term, low-interest loans and loan guarantees which work to reduce the cost of capital constitute the main types of public financing for the growth of RE.

The provision of public finance is also of great importance for supporting RE uptake. The main forms of capital involved include equity investment from the owners of the project, loans from banks, insurance to cover some of the risks, and possibly other forms of financing, depending on the specific project needs. For many RE projects the availability of commercial financing is still limited, particularly in developing countries, where the elevated risks and weaker institutional capacities frequently inhibit private sector engagement. Often the gaps can be filled only with financial products created through the help of public finance mechanisms, which help commercial financiers act within a national policy framework, filling gaps and sharing risks where the private sector is initially unwilling or unable to act on its own.

Public finance mechanisms can take the form of government funds set up to invest equity in private transactions, termed private equity. A public institution's role in the operation of private equity funds can be either as the fund manager, directly investing in projects or companies, or as a fund of funds, whereby they pool their funds alongside other investors in a private sector managed fund. Either way, the funds can be structured to provide a range of financial products, from venture capital for new technology developments, to early stage equity for project development activities, to late stage equity for projects that are already fully permitted and ready for construction.

Guarantees can mobilize domestic lending by sharing credit risk, thereby reducing what local banks might perceive as a high credit risk (i.e., repayment risk) associated with some RE projects. Guarantees help banks to gain experience managing portfolios of RE loans, putting them in a better position to evaluate true project risks and thus addressing perceptions of elevated risk associated with RE projects.

Loans (debt financing) account for the bulk of the financing needed for RE projects. The challenges for mobilizing this debt relate to access and risk. Financial sectors in many countries are not developed sufficiently to provide long-term debt required for RE and related infrastructure projects. Public finance mechanisms can be used to provide financing directly to projects or as credit lines that deliver financing through locally based commercial financial institutions.

Public finance is most commonly employed today in developing countries where the commercial financial sector is usually less mature and therefore unable to provide RE companies and projects with the many types of financing they require. In some cases, governments provide developers of RE electricity with loans or loan-guarantees that are below-market rates, or they provide below-market credit for things important to the viability and profitability of the industry, such as renewable-friendly infrastructure.

This Chapter draws the broad contours of RE support measures across the world. It is not an exhaustive account of the various programmes that are implemented by countries. It refers only to the dominant types of programmes in terms of both their spread across geographies as well as their impact in promoting RE. Governments, across the world, are proactive in giving a thrust to the adoption of RE. To what extent this is in consonance with multilateral trade rules is a matter of debate.

Chapter 3 - RE Programmes and WTO Law – An understanding

This chapter gives an overview of the various provisions of the WTO Agreements that would have a bearing on the plethora of RE programmes that countries implement. The chapter is not an exhaustive account of WTO law but provides an overview of certain provisions that are often discussed in legal discourse to either challenge or defend a national measure related to various RE support schemes. It attempts to give a basic understanding of the provision and seeks to understand how these provisions could impact RE programmes in their various forms.

While the next chapter focuses on the specific programmes of countries and their compatibility with WTO law, this chapter gives a broad overview of the measures that could have a bearing on the legality of programmes vis a vis multilateral trade rules. Since RE programmes across the world have similar characteristics in terms of their rationale, structure and provisions, a broad understanding of the law in relation to some features of RE programmes would be useful in deciphering the compatibility of specific programmes thereafter. The WTO DSM has not yet faced a landmark case dealing with the complex set of issues that RE support programmes posit for international trade law and policy, though the *Canada-Measures related to Feed-In Tariff Case*²⁵ may be a first in this respect.

The relevant provisions of the following WTO Agreements²⁶ would be analysed in this Chapter:

1. GATT²⁷
2. ASCM²⁸

²⁵ WT/DS426 (http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds426_e.htm) In this case the EU has challenged Ontario FIT programme in Canada as violating the GATT 1994, ASCM and TRIMS Agreement because of the local content requirement.

²⁶ There are a total of 30 Agreements covering areas ranging from tariffs, services and trade to intellectual property and investment measures in the WTO.

²⁷ General Agreement on Tariffs and Trade 1994 covers international trade in goods.

3. TRIMS²⁹
4. GATS³⁰

Though there is a lack of precedent in terms of the RE sector being analysed in detail at the DSM, Panel and AB decisions which have elucidated on the NT principle, MFN provision, jurisprudence of “like products”, “local or domestic content” requirements and subsidies in general would be useful in evaluating the legality of RE programmes. There is an abundance of jurisprudential discourse on these principles in the decisions of adjudicatory bodies of the WTO. An understanding of these basic principles would be a *sine qua non* to determine the compatibility of RE programmes with WTO law.

Further, the analysis of the RE sector must be done in two contexts: First, in relation to goods like solar panels, wind turbines and other components and technology which **produce** the RE and second, in relation to the “**electricity**” itself produced by renewable sources which can also be considered as a “good” under WTO law. Both these types of “goods” have an implication for international trade. Thus, a national support programme supporting the RE sector can pertain to both or either of these types of “goods”. The implication of these two kinds of goods on WTO law compatibility needs to be further explored.

I. GATT

The structure of GATT 1994 is built around five legal principles or pillars that form the core of the legal obligations undertaken by WTO members. These five pillars are (1) the

²⁸ Agreement on Subsidies and Countervailing Measures disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies.

²⁹ Trade-Related Investment Measures one of the Multilateral Agreements on trade in goods prohibits trade-related investment measures, such as local content requirements, that are inconsistent with basic provisions of GATT 1994.

³⁰ General Agreement on Trade in Services regulates the trade in services.

unconditional MFN obligation, (2) tariff bindings, (3) the NT obligation, (4) the elimination of quantitative restrictions, and (5) transparency of government regulations affecting trade.³¹

In this section, a review of the MFN and NT principles will be made. Thereafter, a general overview of their applicability to RE support measures will be attempted. Since the next chapter deals with country specific programmes in detail, this section only provides a broad, general picture of the applicability of these provisions to certain kinds of RE programmes. Thereafter, the applicability of Article XX General Exceptions GATT will be explored in the context of the objectives of RE programmes. An analysis would be made as to what are the relevant factors that determine the applicability of the general exceptions, especially in cases of RE and various modes of State support. This assumes significance since many of the measures, though violative of GATT provisions, may be justified on the basis of protection of the environment and climate change mitigation.

a. MFN, NT provisions and RE programmes

Under GATT 1994, the two principles that are fundamental in understanding the impact of GATT on national measures are the MFN³² and NT³³ principle and are relevant in the context of deciding whether particular national RE support programmes breach WTO obligations of members. This section will discuss the principles of MFN and NT, a broad overview of their applicability to RE support programmes and also the use of the General Exception Article XX GATT clauses in cases of violations of GATT.

i. Most-Favoured Nation Treatment

The MFN principle is contained in Article I GATT. It requires that a WTO member treat imports from all other members on an equal, nondiscriminatory basis *vis a vis* all other Members' imports. It states, *inter alia*:

³¹ See Patrick F.J. Macrory et.al (Eds.), *The World Trade Organization: Legal, Economic and Political Analysis*, Volume I, Springer, 2005.

³² Article I of GATT 1994

³³ Article III of GATT 1994

“Article I: General Most-Favoured-Nation Treatment

- 1. With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation or imposed on the international transfer of payments for imports or exports, and with respect to the method of levying such duties and charges, and with respect to all rules and formalities in connection with importation and exportation, and with respect to all matters referred to in paragraphs 2 and 4 of Article III, any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties.”*

Hence, a WTO member cannot grant any advantage, favour, privilege or immunity to any “RE” product originating in or destined to any other country without granting it immediately and unconditionally to all other WTO members. Thus, the treatment to all WTO members must be the same and cannot be advantageous to any particular WTO member. Here, the RE product could mean the “electricity” generated by RE or non-RE sources, the raw material required for generation of RE or the equipment that produce RE like solar panels, wind turbines and various other components. Thus, RE programmes cannot unduly favour RE products from a particular member country without immediately and unconditionally extending it to others. Programmes that treat different countries products differently (less favourably) would be violating the MFN principle.

Although the expression suggests offering some sort of special privilege to a trading partner, the intent is, in fact, quite the opposite. MFN’s main objective is to prevent discrimination by generalizing concessions made to a fellow trading partner. The provision therefore refers to an unconditional form of MFN: a contracting party will be afforded the privilege whether or not they reciprocate.

Thus, programmes that discriminate between member countries or are specially designed to favour, provide an advantage, privilege or immunity to particular members without extending to others, would violate Article I GATT and hence will be subject to a challenge under the DSM of the WTO.

ii. National Treatment (NT)

The principle of NT is contained in Article III GATT 1994. The principle of nondiscrimination embodied in the MFN commitment is carried over to the national level, so that members are required, first, to treat imports no less favourably than the domestic like product respecting internal measures and second, not to tax imports in excess of the amount of indirect taxes imposed on the like domestic product. Article III GATT 1994 mandates the following:

“Article III: National Treatment on Internal Taxation and Regulation

- 1. 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.*
- 2. 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.*

3. *With respect to any existing internal tax which is inconsistent with the provisions of paragraph 2, but which is specifically authorized under a trade agreement, in force on April 10, 1947, in which the import duty on the taxed product is bound against increase, the contracting party imposing the tax shall be free to postpone the application of the provisions of paragraph 2 to such tax until such time as it can obtain release from the obligations of such trade agreement in order to permit the increase of such duty to the extent necessary to compensate for the elimination of the protective element of the tax.*

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

These provisions are very crucial in understanding the scope of challenge to RE programmes worldwide. It essentially mandates that treatment given to imported products must in no way be less favourable than that given to like local products. Thus, if any measure, law, regulation favours a domestic product over an imported product, subject to the other provisions of GATT, it can be challenged as violating the NT principle of GATT.

In other words, a country must treat an imported good like a local good once it enters into the territory of the country. Essentially, measures whether it is an internal tax or requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations which affords “protection to domestic production” is not permitted as per these provisions.

While Article III:1 of the GATT stipulates that laws, regulations and requirements affecting the internal sale should not be imposed on imported products so as to afford protection to

domestic production, Article III:4 of the GATT mandates that once a product is imported into a WTO member country it shall be accorded “no less favourable” treatment than that accorded to like products of national origin in respect of all laws, rules and requirements affecting their internal sale. In other words, once an imported product enters a WTO member territory (apart from the import duty) it should be treated “no less favourably” than a like domestic product. This “no less favourable” treatment applies to internal taxes or any other law, rule or requirement affecting their internal sale. Article III:4 of the GATT sets out the NT obligation with respect to non-fiscal laws, regulations and requirements. Such non-fiscal measures must accord no less favorable treatment to imported products than to “like” domestic products.

The determination of whether a measure is in violation of Article III:4 entails two distinct steps. The first is to ascertain whether the imported product and the domestic product are “like.” The analysis of likeness under Article III:4 entails a weighing and evaluation of the same kinds of factors as is the case for fiscal measures—including physical characteristics, end uses, and consumer habits. If indeed the domestic and the imported product are determined to be “like”, the second step of determining whether the regulatory distinction between the two products results in less favorable treatment of imports³⁴ would be undertaken. Not all regulatory distinctions between “like” products are impermissible under Article III:4, but rather only those which result in less favorable treatment for the *group* of imported products in comparison to the *group* of like domestic products. Thus, the adjudicator will consider whether the regulatory distinction in question is, *overall*, disadvantageous to imports. There must be in the structure and design of the regulatory scheme some systematic bias or orientation in favor of “like” domestic products.³⁵

NT principle provides that a party must not discriminate against imports once they have crossed the border by treating them less favorably than domestic products with which they

³⁴ As decided in cases of *European Communities – Measures Affecting Asbestos and Products Containing Asbestos*, WT/DS 135 and *Korea, Republic of — Measures Affecting the Importation of Bovine Meat and Meat Products from Canada*, WT/DS 391.

³⁵ Robert Howse, “World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers”, UNCTAD, 2009.

are in competition. NT, as opposed to MFN that regulates a product's treatment "at the border", governs internal policies: after the product has passed customs. This may appear to be a fairly simple and straightforward dictum: treat the foreign product as you would your own domestic ones. The intricacies of applying NT can however at times be quite daunting, complex and open to myriad judicial interpretations.

iii. FiTs and MFN/NT principles

As FiTs are the most widely implemented RE support measure, it would be relevant to understand the general applicability of the MFN and NT principles to the measure. Though specific national programmes are analyzed in the subsequent chapter, a general understanding of the applicability of legal principles to certain "types" of programmes (like FiT) can be useful to have a wider appreciation of country specific programmes.

As has been explained in earlier chapters, FiTs are price support mechanisms that offer minimum prices for electricity produced from renewable sources. In all the FiT schemes, the price support of an "assured tariff" or a "premium" is given to electricity that is **produced locally** from renewable sources, and **imported electricity** (though in actuality no electricity is imported) is not eligible for that support. This could be challenged as violating the principle of NT. Although there may be some issue as to whether minimum price schemes are "subsidies" within the WTO definition which will be discussed subsequently in this chapter (and thus they might be subject to subsidies disciplines also), it is likely that, where imposed on both domestic and imported energy, minimum price measures could be considered as internal laws, regulations and requirements within the meaning of Article III:4 GATT.

Further, the basis of determining the price support is also relevant for the examination of whether it violates the NT principle. Minimum prices that are determined exclusively or largely based on *domestic costs* of RE could be suspect under Article III:4 GATT. The minimum price is usually not set in such a way as to allow for equal competitive opportunities between domestic and imported sources of RE. This may prove problematic

for minimum price schemes that are intended to address not only environmental goals but industrial policy goals of promoting a domestic RE industry. It may be in practice, however, that no foreign RE sources exist that are willing to supply the needs of the regulating state at a lower price than the price required to make the domestic industry viable.

However, the exception to Article III provided in Article III:8 should be kept in mind.

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

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

Thus, government procurements not with a view to commercial resale and subsidies paid exclusively to domestic producers would not amount to violation of the NT principle.

The issue of FiT price support being applicable only to locally generated electricity can be construed as a breach of the NT principle. A more detailed analysis of this issue would be made while analyzing the FiT programme of Germany in the next chapter.

Another aspect of an FiT having a bearing on the NT principle would be the local content requirement.³⁶ Many FiT programmes have a requirement that local sourcing of goods should be made in order to be eligible for the tariff or an additional incentive. This measure is a clear violation of the NT principle since local goods are treated more favourably than

³⁶ *Canada- Measures related to Feed-In Tariff (WT/DS426)* is not a subject of this study but it is the first case at the WTO DSM that would address the issue of WTO compatibility of FiTs with local content requirements.

imported goods. This would also be discussed in great detail when country specific programmes are analysed.

A number of national measures have “sustainability criteria” for biofuels. The impact of the sustainability criteria has to be analysed in the context of having an impact on treating goods from different countries differently. This may amount to treating certain countries’ goods more favourably than others thus violating the MFN principle. This would be analysed in greater detail when analyzing the Biofuel sustainability criteria in the EU Directive on RE in the next chapter.

Thus, it is clear that certain provisions have a direct impact on the NT principle enshrined in the GATT. Local content or domestic sourcing directly violates the NT principle. Other provisions provide a more nuanced impact and would have to be seen in the overall context of the measure, its objectives and a “de facto” rather than a “de jure” impact.

b. General Exceptions – Article XX GATT

The Article XX General Exception provision of the GATT provides, under certain circumstances, policy space for WTO members to adopt and enforce measures that are in contravention of the Agreement. Thus, if a measure is necessary to protect human, animal or plant life or health or relates to the conservation of exhaustible natural resources (support of RE programmes would mainly fall under this category) and is not a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, it still can be adopted or enforced by a WTO member in contravention of other provisions of the GATT.

Article XX GATT is widely used as a defence for measures undertaken by WTO members in the interest of environmental protection. While specific measures would have to be analysed in terms of the applicability of the various conditions of the exception, it is well

recognized that it provides an opportunity to WTO members to pursue their environmental agendas. To what extent this exception is used and justifiable when RE programmes are discriminatory or a disguised restriction on international trade is a complex question that arises when analysing support programmes in the RE sector.

The relevant provisions of Article XX of the GATT is as follows:

“Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

...

(b) necessary to protect human, animal or plant life or health;

...

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;”

The first para is commonly referred to as the chapeau of the Article. The two ‘exceptions’ with environmental relevance in Article XX are paragraphs (b) and (g) as quoted above. Paragraph (b) concerns measures that are ‘necessary to protect human, animal or plant life or health’; thus, this covers not only public health policy measures but also ‘environmental’ ones. Paragraph (g), on the other hand, refers to ‘measures relating to the conservation of exhaustible natural resources.’

The key terms ‘necessary to’ in paragraph (b) and ‘relating to’ in paragraph (g) invoke different tests, and the former seems to be stricter than the latter. However, the current interpretation of necessity as a ‘weighing and balancing exercise’, where a considerable degree of deference is given to Members particularly with respect to the level of protection decided, does not seem to represent an excessive obstacle for the protection of the relevant values.

The key argument would be that the support measure under examination does contribute to the objective of GHGs emissions reduction and hence to fighting climate change. The issue is one of evidence particularly because the necessity test of paragraph (b) requires balancing the environmental objective pursued and the contribution of the measure to that objective on the one hand with the restrictions on trade on the other. Climate change would certainly represent an important objective, thus lowering the standard of proof. Crucially, the AB has acknowledged that the contribution of certain environmental measures, like climate change measures that often operate within a comprehensive set of policy actions, cannot be evaluated in the short term, but only with the ‘benefit of time’. Broadly analogous considerations can be made if the exception of paragraph (g) is considered. However, considering the chapeau of Article XX the measure cannot be unjustifiably discriminatory or a disguised restriction on international trade.

The chapeau, however, requires an analysis of the ‘causes and the rationale of the discrimination.’ A measure may ultimately be justified only if it is applied in line with its legitimate objective. What is proscribed is the *arbitrary* and *unjustifiable* discrimination with regard to *how the measure is applied*, not discrimination *per se*. Further, this discrimination should be established ‘between countries where the same conditions prevail’, not only between different exporting countries but also between importing and exporting countries. The AB has established that the phrases ‘arbitrary discrimination,’ ‘unjustifiable discrimination’ and a ‘disguised restriction on international trade’ impart meaning to one

another and serve the same purpose of preventing abuse and illegitimate use of the exceptions.

The key question for our analysis is whether the various support schemes that support RE could pass muster with both the ‘necessity’ test and the criteria of ‘unjust or arbitrary discrimination’ of the chapeau. It has been seen that measures of support with discriminatory impact are indeed common in the RE sector, and, according to policy analysts, are also among the most cost effective. Thus, it would be incumbent on the country implementing the measure to show that the programme is justified by the requirements of Article XX GATT and also satisfies the conditions in the chapeau of Article XX. Thus, a measure, though furthers the objective of protecting the “environment” in terms of reducing GHG emissions, would still not satisfy the requirements of Article XX if it leads to “arbitrary” or “unjustifiable” discrimination.

II. ASCM

Perhaps the WTO Agreement that has the greatest bearing on the analysis of RE support programmes is the ASCM. The nature of RE support programmes implemented by countries make it eligible cases for being construed as “subsidies” and hence, under the radar of the ASCM. While all RE support programmes may not constitute “subsidies” as defined under the ASCM, many have the characteristics of being so. Further, even if they constitute “subsidies” as defined by the ASCM, they may not necessarily be prohibited or actionable under the ASCM.

In this section, a brief review of what constitutes a subsidy under the ASCM is explained. Further, the issue of specificity of a subsidy, provisions related to prohibited and actionable subsidies is also analysed. Thereafter, a study of the general characteristics of a few RE programmes in the context of these provisions is explored. The analysis in the context of RE programmes would be to determine whether a programme/measure/scheme has the

characteristics of a “subsidy” as defined under the ASCM. This would involve assessing the various characteristics of a programme in the light of the conditions laid down to constitute a “subsidy”. The next stage of enquiry would be to determine whether it is prohibited or actionable as per the ASCM. If an RE programme is found to be a “prohibited” or “actionable”, it would imply that the programmes are incompatible with WTO law.

a. Subsidy under ASCM

The ASCM develops the ‘unilateral’ and ‘multilateral tracks’ of Articles VI and XVI of the GATT by providing detailed rules on i) the power to unilaterally impose duties to counteract subsidized imports, and ii) the obligations on WTO Members when granting subsidies that cause cross-border effects. It addresses two separate but closely related topics: multilateral disciplines regulating the provision of subsidies, and the use of countervailing measures to offset injury caused by subsidized imports. It provides the overarching framework for subsidies that are prohibited, actionable and permitted thus regulates national measures that may be a contravention of the Agreement’s provisions.

The ASCM is highly relevant in the context of the RE sector since most of the national support programmes in relation to RE have the characteristics of “subsidies” due to the involvement of the State in providing a favourable environment for the sector. Thus, a close look at the various provisions, their import as well as their applicability to RE measures is fundamental in coming to a conclusion about the compatibility of RE programmes with WTO law.

Article 1 of the ASCM offers a definition of the term “subsidy,” which has three elements.³⁷ First, a subsidy requires a “financial contribution by a government or any public body,” or an “income or price support” in the sense of GATT Article XVI. The concept of financial

³⁷ See Alan O. Sykes, “The Questionable Case for Subsidies Regulation – A Comparative Perspective”, *Journal of Legal Analysis*, Volume 2, Number 2, Fall 2010 for a detailed analysis of subsidies under the ASCM.

contribution is in turn defined to include direct transfers of funds, situations where “government revenue that is otherwise due is foregone,” government provision of goods and services, government “payments to a funding mechanism,” or situations where a government entrusts or directs a private body to make these types of contributions. Second, a subsidy exists only if conduct falling into the above categories confers a “benefit.” No subsidy arises, for example, if a government sells goods and services for the same price as competing private suppliers. Third, the provisions of the Agreement that allow action to be taken against subsidies apply only if the subsidy is “specific” (satisfies the “specificity test”), a concept that will be elaborated further below.

It is important to note that the legal definition of a “subsidy” does not necessarily coincide with the economic notion of subsidy, predicated on the basis of the economic effects of the conduct of the government, but rests on the presence of well-identifiable (albeit not always clear) legal requirements.

The first question is the determination of whether the measure of support at issue constitutes a “subsidy” under the ASCM. The first step of the legal analysis is whether this measure does constitute ‘a financial contribution by a government or any public body’ (which should be intended to include any public body with regulatory powers) or ‘any form of income or price support’.

A Subsidy is defined in Article 1 of the ASCM.

“Article 1: Definition of a Subsidy

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

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

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

(e.g. loan guarantees);

(ii) government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits)⁽¹⁾;

(iii) a government provides goods or services other than general infrastructure, or purchases goods;

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

or

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

and

(b) a benefit is thereby conferred.”

Thus, as an alternative to the financial contribution, a subsidy may also exist when there is any form of income or price support in the sense of Article XVI of the GATT, provided that a benefit is conferred. The sense of Article XVI of the GATT should be interpreted as comprising all forms of price support that increase exports of any product from a WTO Member’s territory or reduce imports of this product within its territory.

“Financial contribution” is a defined term and explicitly includes a range of situations other than direct cash payments, such as provision of goods and services or tax breaks where the government foregoes revenue “otherwise due”. Article 1.1 (a) (1) of the ASCM defines the term “financial contribution”, which is the first prong of the definition of a subsidy. It requires a financial contribution by a government or any public body, including quasi-governmental entities. It is defined more broadly than a charge on the public accounts. It

identifies four categories of financial contribution – direct transfer of funds, foregoing of revenue that is otherwise due, government provision of goods and services or the purchase of goods and making payments to a funding mechanism.

What amounts to conferring a benefit?

It is possible to provide a financial contribution without conferring a benefit on the recipient. However, to be considered a subsidy within the meaning of the ASCM, a financial contribution must also confer a benefit on the recipient. “Benefit” denotes the requirement that the subsidy must confer a competitive advantage on the recipient; the notion of advantage is understood by reference to the conditions the recipient would otherwise have to face in a competitive marketplace, absent the government intervention in question. The benchmarking in question is assisted by Article XIV of the ASCM, which provides a non-exhaustive list of “market” benchmarks: for example, in the case of equity capital infusions by government, the infusion “shall not be considered as conferring a benefit unless the investment decision can be regarded as inconsistent with the usual investment practice (including for the provision of risk capital) of private investors in the territory of that Member.” In the case of provision of goods or services or purchase of goods and services, a benefit only exists if the provision is made “for less than adequate remuneration” or the purchase is made “for more than adequate remuneration”, with regard 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 and sale).”

While a crucial objective of subsidy discipline is to determine whether the subsidy confers a *competitive* benefit, this does not necessarily takes place when the benefit is determined. What is crucial is that in determining whether a benefit is conferred, the relevant analysis should not focus on whether the recipient is better off than its competitors in a marketplace. Rather, the question is whether a recipient is better off than *it* would

otherwise have been absent the financial contribution.³⁸ RE support programmes in the form of FiTs, tax incentives, grants, loans need to be analysed in terms of whether they confer a “benefit” on domestic manufacturers of equipment or electricity and whether the recipient of the financial contribution is better off than what it would have been without the financial contribution.

b. Subsidy and Specificity

In addition, to be subject to the disciplines of the ASCM, subsidies must also be specific (i.e., specifically targeted to an enterprise, an industry, a group of enterprises or industries).

The principle of specificity has been defined under Article 2 of the ASCM:

“2.1 In order to determine whether a subsidy, as defined in paragraph 1 of Article 1, is specific to an enterprise or industry or group of enterprises or industries (referred to in this Agreement as “certain enterprises”) within the jurisdiction of the granting authority, the following principles shall apply:

(a) Where the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to certain enterprises, such subsidy shall be specific.

(b) Where the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions(2) governing the eligibility for, and the amount of, a subsidy, specificity shall not exist, provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to. The criteria or conditions must be clearly spelled out in law, regulation, or

³⁸ Thomas Cottier, Olga Nartova, Luca Rubini, Sadeq Z.Bigdeli, Sofya Matteotti, Yulia Selivanova, “Towards a WTO Framework Agreement on Trade in Energy”, Background Note for the Second Biennial Global Conference of the Society of International Economic Law (SIEL), 8.07-10.07.2010.

other official document, so as to be capable of verification.

(c) If, notwithstanding any appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b), there are reasons to believe that the subsidy may in fact be specific, other factors may be considered. Such factors are: use of a subsidy programme by a limited number of certain enterprises, predominant use by certain enterprises, the granting of disproportionately large amounts of subsidy to certain enterprises, and the manner in which discretion has been exercised by the granting authority in the decision to grant a subsidy⁽³⁾. In applying this subparagraph, account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority, as well as of the length of time during which the subsidy programme has been in operation.

2.2 A subsidy which is limited to certain enterprises located within a designated geographical region within the jurisdiction of the granting authority shall be specific. It is understood that the setting or change of generally applicable tax rates by all levels of government entitled to do so shall not be deemed to be a specific subsidy for the purposes of this Agreement.

2.3 Any subsidy falling under the provisions of Article 3 shall be deemed to be specific.

2.4 Any determination of specificity under the provisions of this Article shall be clearly substantiated on the basis of positive evidence.”

Specificity is intended to distinguish those subsidies that are generally available to all industries and enterprises within the jurisdiction of the granting authority from those targeting a specific enterprise, an industry or a group of enterprises or industries. By modifying the market structure in the same way for all operators, subsidies of the first kind are not considered harmful under WTO law. Subsidies that meet the requirement of

specificity are deemed to cause distortions and are, therefore, subject to international regulation. This requirement is critical for the application of the disciplines of the ASCM: only subsidies that are specific may be challenged multilaterally or be countered through the application of countervailing duties.

Specificity may be either *de jure* or *de facto*. *De jure* specificity occurs when the subsidy is limited by law to an industry, an enterprise or a group of industries or enterprises. *De facto* specificity occurs when, notwithstanding the appearance of non-specificity, the subsidy is in fact being used only or predominantly by a limited number of enterprises or is being granted in disproportionately large amounts to certain enterprises, or it has been granted in a discriminatory fashion. Subsidies targeting certain enterprises located within a designated geographical region meet the requirement of specificity. Prohibited subsidies are deemed to be specific.

The ASCM identifies four types of specificity: enterprise specificity, industry specificity, regional specificity and prohibited subsidies. The terms of the government support programme must target the subsidy to some specific or limited class of users, either particular industries or firms; a subsidy may be *de facto* specific, however, even if not by its terms targeting certain industries or firms, where a limited sub-set of industries or firms are the predominant or disproportionate users of the subsidy.

Specificity in the context of RE support programmes do not pose that much of a legal issue. Most of the programmes are meant for the RE industry thus attracting the “*de jure*” specificity condition. Even where the subsidy is for general purposes, a *de facto* test may have to be undertaken in the circumstances of a particular scheme to determine its specificity to the RE sector.

c. Prohibited and Actionable Subsidies

Subsidies under the ASCM to be challenged must be established to be either prohibited or actionable subsidies. Both these types of subsidies will be explained in a little detail in order to understand the implication for RE programmes.

In order for a subsidy to be challenged at the WTO as “prohibited” or “actionable,” it has to fall within the definition of “subsidy” in Article 1 of the ASCM, which means it must entail a “financial contribution”: governmental financial assistance to firms, from cash payments to equity infusions to the provision of goods and services below market prices. It must also confer a “benefit” on an enterprise. And it must be “specific,” either *de jure* (legally targeted at a particular industry or enterprise or group of industries or enterprises) or *de facto* (in fact used only or disproportionately by a particular industry, enterprise, or group of industries or enterprises). In the case of “prohibited” subsidies, for example export subsidies, specificity is presumed and does not have to be proven by the claimant.

i. Prohibited Subsidies

Prohibited subsidies are deemed to be specific subsidies. In other words, the specificity test under the ASCM need not be established in case of prohibited subsidies. A subsidy as per Article 1 that satisfies the conditions laid down in Article 3 of the ASCM would constitute a prohibited subsidy.

Prohibited subsidies are those subsidies as defined under Article 1 that are contingent on export performance or local content. Prohibited subsidies are defined in Article 3 of the ASCM:

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

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

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

3.2 *A Member shall neither grant nor maintain subsidies referred to in paragraph 1.”*

Two types of subsidies are deemed “prohibited” by Article 3: export subsidies and so-called import substitution subsidies, defined as “subsidies contingent, whether solely or as one of several conditions, upon the use of domestic over imported goods.” When a member confers a prohibited subsidy, other members may complain to the DSM and are entitled to a ruling directing the offending member to eliminate the subsidy or face the prospect of sanctions. The main features include an expedited timetable for action by the DSB, and if it is found that the subsidy is indeed prohibited, it must be immediately withdrawn. If this is not done within the specified time period, the complaining member is authorized to take countermeasures.

Contingency will be found when the subsidy is granted conditionally or its existence depends on the recipient’s exports. De jure contingency will be evident from the words of the relevant measures, either explicitly or by necessary implication. De facto contingency is met when the facts demonstrate that the granting of a subsidy, without having been made legally contingent upon export performance, is in fact tied to actual or anticipated exportation or export earnings. Local content subsidies are subsidies contingent upon the use of domestic over imported goods, aimed at reducing imports of products from other trading partners, favouring domestic production.

Thus, RE support programmes that mandate local content requirements in terms of using only locally produced products or a percentage of it, will be subject to scrutiny under this provision.

ii. Actionable Subsidies

The ASCM by introducing a category of subsidies termed “actionable,” which can be challenged at the WTO provided, for the first time, a multilateral legal remedy against subsidization.³⁹ In order to be actionable or countervailable, the subsidy needs to be ‘specific’ to certain enterprises or industries. Once it has been established that the measure constitutes a specific subsidy, it is necessary to assess whether it causes ‘adverse effects’ to the interests of one Member or ‘material injury’ to the domestic industry of a Member.

Subsidies that are actionable under the ASCM are defined under Article 5.

“No Member should cause, through the use of any subsidy referred to in paragraphs 1 and 2 of Article 1, adverse effects to the interests of other Members, i.e.:

(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.”

Any government measure that fits within the definition of a subsidy and that causes the kinds of harmful effects enumerated by the ASCM is potentially within the actionable category. The ASCM stipulates that no member should cause, through the use of subsidies, adverse effects to the interests of other signatories, i.e. injury to domestic industry of another signatory, nullification or impairment of benefits accruing directly or indirectly to other signatories under the GATT (in particular the benefits of bound tariff concessions), and serious prejudice to the interests of another member. Members affected by actionable

³⁹ Robert Howse, “Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis”, International Institute for Sustainable Development, May 2010, p.3.

subsidies may refer the matter to the DSB. In the event that it is determined that such adverse effects exist, the subsidizing member must withdraw the subsidy or remove the adverse effects.

Non-prohibited subsidies under WTO law may be “actionable” if they have certain kinds of adverse trade effects. Actionability means either that a complaint can be made against the measure in question by a WTO Member government in WTO dispute settlement, or that the subsidy may be addressed through unilateral countervailing duties imposed by the government of an affected country in compliance with the procedures set out in the ASCM and pursuant to domestic law. Countervailing duties may *only* be imposed where it can be shown that the subsidy has caused injury to the domestic industry in the country imposing the duties through the import of competing subsidized products. Where the domestic industry is not injured or threatened with injury from subsidized imports, countervailing duties are an impermissible measure under WTO law.

If a member pursues the option of approaching the WTO DSM, it must show the existence of certain “adverse effects” on WTO members other than the subsidizing member, including the complaining member.

These adverse effects are listed in Article 5 of the ASCM, and include:

- Injury to domestic producers of a like product in competition with the imported subsidized product (injury in this sense must exist if countervailing duties are to be imposed).
- Nullification or impairment of benefits accruing “directly or indirectly” under the GATT, in particular tariff concessions.
- Serious prejudice to the interests of another member.

The first possibility, injury to the domestic industry of another member, relates closely to the material injury requirement for the imposition of countervailing duties in GATT Article VI. Its

inclusion in Article 5 ASCM means that if subsidized goods are causing injury to import-competing firms in another member, the importing member can choose between the use of countervailing duties (a unilateral remedy) and a complaint to the WTO seeking the removal of an “actionable” subsidy.

“Serious prejudice” is further defined in Article 6.3 of the ASCM.

6.3 *Serious prejudice in the sense of paragraph (c) of Article 5 may arise in any case where one or several of the following apply:*

- (a) the effect of the subsidy is to displace or impede the imports of a like product of another Member into the market of the subsidizing Member;*
- (b) the effect of the subsidy is to displace or impede the exports of a like product of another Member from a third country market;*
- (c) the effect of the subsidy is a significant price undercutting by the subsidized product as compared with the price of a like product of another Member in the same market or significant price suppression, price depression or lost sales in the same market;*
- (d) the effect of the subsidy is an increase in the world market share of the subsidizing Member in a particular subsidized primary product or commodity as compared to the average share it had during the previous period of three years and this increase follows a consistent trend over a period when subsidies have been granted.*

The possibility of “serious prejudice” is a more significant development. The term originated in GATT Article XVI, but was not defined. Article 6 of the ASCM, however, elaborates the concept at length.

Article 6.3 ASCM elaborates on four possible types of serious prejudice: (1) the subsidy displaces or impedes exports by one member into the market of the subsidizing member; (2) the subsidy displaces or impedes exports by one member into a third country market (where the member in question competes with the subsidized goods); (3) the subsidy results in significant “price undercutting” relative to the price of a like product of another member in the same market, or “significant price suppression, price depression or lost sales” in the

same market; or (4) the subsidy results in an increase in the world market share in a subsidized “primary product or commodity” relative to a prior three year period.

In short, the notion of serious prejudice allows a member to bring a case against a subsidy when the subsidy causes substantial damage to its export opportunities on world markets. It thereby affords a remedy that unilateral countervailing duties cannot achieve, since a member can levy countervailing duties only with respect to imports into its own market. Note also that the treaty text on serious prejudice is written in the present tense—it does not appear to encompass threat of future serious prejudice, and is thus different from the material injury test for countervailing duties, which does allow them in the event of a threat of material injury.⁴⁰

To show “serious prejudice” the complaining WTO Member must show that the effect of the subsidy is to displace imports of a “like” product into the market of the subsidizing Member or to displace exports of the complaining Member to a third country market; or significant price suppression or price undercutting in the same market with respect to like products; or finally “the effect of the subsidy is an increase in the world market share of the subsidizing Member in a particular subsidized primary product or commodity as compared to the average share it had during the previous period of three years and this increase follows as a consistent trend over a period when subsidies have been granted.

Where the member instead chooses the option of imposing a countervailing duty, it must comply with the various procedural and substantive criteria in the ASCM that apply in the case of such actions, including the requirement of showing “material injury.” These criteria apply also where a member is countervailing a “prohibited” subsidy.

Article 8 of the ASCM originally included a defined list of subsidies to be deemed “non-actionable,” that is, subsidies immunized from challenge in WTO dispute settlement as well as countervailing duty action, even if they were found to meet the criteria discussed above.

⁴⁰ Alan O. Sykes, *supra* note 37.

This list included certain subsidies for research and development and environmental protection, and to disadvantaged regions. However, this provision for deemed non-actionability applied provisionally, for only the first five years that the ASCM was in force. Since its effective expiration, WTO members have been unable to agree to either continue with the list as it now stands or create a different list. Therefore, today no subsidy programmes are explicitly protected as non-actionable.

The next section would analyse the broad features of some of the RE support programmes and their compatibility with the ASCM.

d. RE support programmes and ASCM – A broad overview

There are many hurdles that a complainant country must overcome to successfully challenge an “actionable” (non-prohibited subsidy) in WTO dispute settlement. In the context of RE support programmes like FiTs, tax incentives, grants, loans and manufacturing incentives, it would be necessary to see whether they fulfill the conditions of a prohibited or actionable subsidy.

Often, understanding of the true nature of measures involves complex questions of law and fact. Whether the measure is a financial contribution, whether they confer a benefit or whether they constitute injury to domestic industry or serious prejudice to the interests of another Member are very complicated questions involving appreciation of legal jurisprudence as well as interplay of intricate facts. It involves, at times, detailed economic analysis as well as an understanding of legal nuances. There are no clear-cut answers and are invariably subject to interpretation. RE support programmes are no exception.

While forms of support of RE like grants, loans or guarantees do not raise any particular issue of being a “subsidy” since they readily amount to ‘transfer of funds’ under Article 1, whether they cause “adverse affects” as per Article 5 would need to be analysed. Further,

the legal classification of tax incentives and regulatory measures like price support schemes (FiTs) are the one's that pose more problems and thus deserves more attention.

i. Whether Subsidies?

RE support schemes are predominantly in the form of targets, mandatory quotas, price support (FiTs), tax incentives like PTCs and ITCs, RPS, loans, grants, and various types of incentive programmes. Whether they constitute “subsidies” that are violative of the ASCM would depend on the nature of each programme/measure in terms of their intent and content. Apart from looking at the general nature of the measure, the specific conditions of the programmes would have to be studied in detail to establish their consistency or inconsistency with the ASCM. In this section, the general characteristics of FiTs and certain tax incentives are studied to determine whether they satisfy the legal definition of a “subsidy” under the ASCM.

To qualify as a subsidy within the SCM definition, the subsidizing government or public body must undertake a financial contribution, which includes the concepts of foregoing revenue otherwise due (for example, by providing price support) and the provision of services.⁴¹ The broadness of this definition means that a wide range of subsidies fulfills the financial contribution test, including many of those aimed at fostering use of RE. The second step of the test is to ascertain if the recipient received a benefit as a result of the financial contribution.

Price support schemes (FiTs)

The issue of FiTs, which is a highly popular form of support to the RE sector across the world, as subsidies is both an interesting and complicated one. Various kinds of FiTs exist in different parts of the world. A comparative analysis of these schemes is not the subject matter of this study. However, the common thread across the schemes is that it provides a

⁴¹ Daniel Peat, *The Wrong rules for the Right Energy: The WTO ASCM and Subsidies for Renewable Energy*.

guaranteed tariff to electricity produced from RE sources. A FiT is essentially a purchasing guarantee.⁴²This is done directly by the Government or through electricity utilities (may be either private or public bodies) on the direction of the government.

Article 1.1 (a) (1) (iv) ASCM states that a subsidy shall be deemed to exist if there is a financial contribution by a government or any public body where a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out a government practice involving a direct transfer of funds which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments.

Thus, in the case of FiTs where the government *by itself* directly pays the guaranteed tariff or directs a “public utility” (owned or controlled by government) to do so, there would be little difficulty in establishing that it is a financial contribution. The payment of guaranteed tariff would, in such FiTs, amount to a financial contribution. However, in most FiTs the government does not make the payment directly but only mandates, through a regulatory (normally statutory) structure, the payment of such a guaranteed tariff. This direction is normally given to electricity utilities that are private entities. In that case, the issue would be whether the function of “paying of a guaranteed tariff or a minimum price purchase requirement” would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by government. Thus, what is of relevance is whether the function of providing a guaranteed tariff for RE is “normally vested” in the government i.e. the government would have normally performed this function instead of directing private entities from undertaking it.

Experts⁴³ have argued that the minimum price purchase requirement of a FIT ‘do not represent a delegation of a governmental function to any private body; rather they

⁴² The nature of FiTs is discussed in detail in the preceding chapter.

⁴³ See Robert Howse, “Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis”, International Institute for Sustainable Development, May 2010 and Luca Rubini, “The Subsidization of RE in the WTO: Issues and Perspectives”, Working paper No.2011/32/June 2011, NCCR trade regulation.

represent a *regulation* of the electricity market, and their directive character goes to regulating market behavior and transactions, not imposing a governmental function on a private body. Thus, the argument is that, since the laws only mandate price support rather than implementation by government itself, it would not attract the characteristics of a financial contribution.

However, the position may not be that clear and is open to challenge. Although appealing, ‘delegation of function’ and ‘market regulation’ is not always an easy test to distinguish. In the common version of FiT schemes, price regulation is strictly combined with a purchase obligation. In the context of the legal analysis of a subsidy, it is however the mandate to buy energy that comes into play as candidate for the financial contribution. What eventually determines whether this mandate is a subsidy is the possibility of classifying it as ‘normal governmental practice of government’. An assessment of what governments commonly do would define whether we have a ‘delegation of function’ covered by subsidy rules or rather ‘market regulation’ not covered by subsidy rules.⁴⁴

Merely because the measure is a “regulatory” measure as opposed to a direct transfer of funds, need not, ipso facto, exempt it from the characteristic of being a financial contribution. The intent of the measure is of primary importance. The provision of a guaranteed price support is to encourage the RE sector as compared to the non-RE sector. The nature of the market in many countries is such that the Government does not play an active role in the electricity market in terms of actually producing, transmitting and distributing electricity. Hence, the participation of private electricity utilities is a normal feature. If not for these private entities, the function of producing electricity and also providing price support directly to producers of RE would have vested with the government and would have normally been followed by governments. Thus, even though the price support mandate has the characteristic of a regulatory measure, it does delegate a function that is normally performed by government. In this sense, FiTs that involve private electricity

⁴⁴ Daniel Peat, *supra* note 41.

entities paying guaranteed prices due to a government mandate can also be considered as financial contributions. Not doing so would lead to a discriminatory situation wherein countries in which governments play a more active role in FiTs (in terms of running electricity utilities and guaranteeing payments) would fall under this category of subsidies, while countries only “mandating” or “regulating” the payment, fall outside the radar of this provision. This would discriminate against developing and LDCs where the government tends to play a more active role in providing services. While this is not to comment on the more efficient or desirable way of providing the service (public or private), the interpretation of Article 1 of the ASCM should not lead to this discriminatory situation. Thus, it could be argued that FiTs, which provide a guaranteed tariff, do constitute a financial contribution and hence amount to a subsidy.

The essential argument suggests that such measures be assessed as government ‘entrustment or directment’ to a private actor to purchase goods at higher than market price, even in the absence of a cost for the government. As noted above, a financial contribution may well exist when the government entrusts or directs a private body to carry out one or more of the functions described under items (i)–(iii) of Article 1.1(a)(1) of the ASCM. ‘Entrustment or directment’ requires that the action of the government take a notion of delegation or command. The acts of entrusting and directing carry with them three elements: (i) an explicit and affirmative action, be it delegation or command, (ii) addressed to a particular party and (iii) and the object of which is a particular task or duty.

The above debate, thus, shows the various policy arguments that outline the unique nature of regulatory measures such as FiTs. It is also clear that these measures are very similar to more traditional forms of subsidies and produce similar if not identical effects. Thus, price support mechanisms like FiTs of varying forms could constitute “subsidies” under the ASCM.

Another issue is that of “price support”. Article 1.1 (a) (2) ASCM provides that a subsidy shall be deemed to exist if there is any form of income or price support in the sense of Article XVI

of GATT 1994. This is a much broader ambit and would require further scrutiny.⁴⁵ While FiTs may not easily be caught under the precise concept of “financial contribution” due to the legal complexity explained in the preceding paragraphs, a guaranteed tariff could well constitute ‘any form of price support’ under the same provision. Though some experts have opposed this formulation⁴⁶, the argument in considering it as a “price support” is persuasive.

As per Article XVI GATT 1994 which deals with subsidies in general “if any contracting party grants or maintains any subsidy, including any form of income or price support, which operates directly or indirectly to increase exports of any product from, or to reduce imports of any product into, its territory, it shall notify the CONTRACTING PARTIES in writing of the extent and nature of the subsidization, of the estimated effect of the subsidization on the quantity of the affected product or products imported into or exported from its territory and of the circumstances making the subsidization necessary.”

Thus, a price support programme of a country under Article XVI GATT 1994 has the characteristic of operating to “directly” or “indirectly” increase exports of any product from, or to reduce imports of any product into, the country’s territory. What this means in the context of FiTs is interesting. The mandating of a guaranteed price, irrespective of the market price, definitely constitutes a form of “price support”. The issue whether it leads to an increase in exports of any product or reduces imports of any products into the country

⁴⁵ Thomas Cottier, Olga Nartova, Luca Rubini, Sadeq Z.Bigdeli, Sofya Matteotti, Yulia Selivanova, “Towards a WTO Framework Agreement on Trade in Energy”, Background Note for the Second Biennial Global Conference of the Society of International Economic Law (SIEL), 2010.

⁴⁶ See Robert Howse in *supra* note 43. Howse states: “In my view, price regulation by government, in the context of utilities as well as network industries more generally, ought not to be considered price support under Article I.1(a)(2). Because such utilities are often characterized by elements of monopoly provision, and price regulation reflects a variety of public policy goals, including universal service and incentives for appropriate investment in infrastructure, it would be difficult and very intrusive into the operation of the democratic regulatory state for the WTO dispute settlement organs to assess whether, against some hypothetical model of a perfect market, the tariffs in question constitute price support.”

providing the measure either directly or indirectly would have to be established. This would depend on the facts and circumstances of each case.

The effect on exports and imports can be argued at two levels:

1. FiTs are known to support the local energy sector by boosting the local production of energy from RE sources. This indirectly promotes the development of the local manufacturing industry pertaining to RE due to certainty in the investment climate and establishment of RE production units. There is evidence across the world that FIT programmes for wind energy have helped establish robust, local wind turbine manufacturing industries in that country. Though no direct support may be given to these manufacturers, it has promoted local goods. It indirectly impacts on imports of such goods from outside which would not have happened if the sector was not subsidized.
2. Another direct impact on “reduction of imports” of the good would be that FiTs apply only to locally generated electricity. Thus, it results in a reduction of import of electricity, both from renewable and non-RE sources. Though in practice there is rarely any import of electricity, legally the price support has the potential to reduce import of electricity.

Thus, viewed from the price support provision it would be a strong argument to put forth that FiTs do constitute “subsidies” as understood under the ASCM. It seems to be the easiest route since its language is broad and unqualified. In the context of the definition of subsidy, this limb has a clear extensive function going beyond what may amount to a financial contribution. It has been postulated that this provision should regulate measures *different* from, and in particular *additional to*, those considered as financial contribution when the ‘range of government measures capable of providing subsidies is *broadened still further* by the concept of “income or price support” in paragraph (2) of Article 1.1(a)’.

Although ultimately the subsidy status of regulation is a legal issue, it is clear that a positive finding must find a textual basis in Article 1 of the ASCM. These are flexible concepts that have to be assessed on a case-by-case basis. For example, the broad popularity of FiT systems, with at least 50 countries and 25 states or provinces using it in the world, may make a good candidate for a thorough analysis of the definition of subsidies in all its variety. Equally, quantitative requirements of various types are very common and the question of whether they could constitute a financial contribution is certainly not unreasonable.

The pending *Canada – Measures related to the Feed-in-Tariff Programme*⁴⁷ may provide an answer to the pivotal question of whether FiTs constitute subsidies. Although the element challenged is the local content requirement, the subsidy is a FiT. Hence, unless the parties are in agreement on the existence of a subsidy, the Panel will have to first establish whether the FiT is a subsidy and then determine whether it is prohibited because it is contingent on the use of local inputs.

A more detailed analysis of FiTs implemented in Germany, Spain, France and Japan will be undertaken in the following chapter.

Financial Incentives

Various fiscal incentives like tax credits, investment credits, financial grants, loans are common in the RE sector. Article 1.1 (a) (1) (ii) ASCM provides that a subsidy shall be deemed to exist if there is a financial contribution by a government or any public body within the territory of a country where government revenue that is “otherwise due” is foregone or not collected (e.g. fiscal incentives such as tax credits).

This would involve the Interpretation of “otherwise due” under Article 1 ASCM for determining whether there is a financial contribution. The determination of whether a fiscal/tax incentive constitutes a form of financial contribution depends on a positive finding

⁴⁷ WT/DS 426

that the measure involves the “foregoing of government revenue which would otherwise have been due”. As shown by the *United States – Tax Treatment for “Foreign Sales Corporations”*⁴⁸, this determination is inherently unstable because of the difficulties of the ‘otherwise due’ language. The fact is that determining what is ‘otherwise due’ requires a complex counterfactual analysis that ultimately rests on whether the measure under examination is a derogation from the otherwise applicable benchmark norm. This is a two-step analysis. First, the normative benchmark has to be identified – which is the real crux of the problem. Second, the tax measure has to be compared against this benchmark. It is the convergence with or divergence from this baseline that will eventually tell whether there is a financial contribution.

The position will be straightforward where there is a general system of taxation into which special, more favourable, treatment is introduced in respect of certain forms. Furthermore, the range and diversity of firms’ activities is such that many systems of classification for tax purposes will identify certain defined categories alongside a residual, ‘all others’ category. The latter will lend itself to being treated as the benchmark against which the degree of favour enjoyed by the other groups can be measured. When such residual category does not exist and the taxation system envisages different schemes, all favourable, for each category of firms, the assessment of whether a particular group of firms is being favoured becomes more complex and the benchmark more difficult to identify.

Loans and capital grants would also qualify as financial contributions, as they involve a direct transfer of funds.

Whether they confer a benefit?

The existence of a subsidy requires also the finding of a benefit conferred to the recipient by means of a financial contribution. The WTO AB has interpreted this requirement as encompassing a form of advantage to the recipient, that is better placed than would have

⁴⁸ WT/DS 108.

been the case in the absence of the financial contribution, as determined by the marketplace. Therefore, where the RE incentives place companies and firms in a more advantageous condition than the one they were placed in before receiving the financial contribution, a subsidy would be found. In *Canada — Measures Affecting the Export of Civilian Aircraft*⁴⁹, the AB quoted approvingly the Panel’s focus on the recipient of the subsidy in its interpretation of the term “benefit” under Article 1.1 (b) of the ASCM:

“[T]he ordinary meaning of ‘benefit’ clearly encompasses some form of advantage.... In order to determine whether a financial contribution (in the sense of Article 1.1 (a)(i) confers a ‘benefit’, i.e., an advantage, it is necessary to determine whether the financial contribution places the recipient in a more advantageous position than would have been the case but for the financial contribution. In our view, the only logical basis for determining the position the recipient would have been in absent the financial contribution is the market. Accordingly, 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 on the market.”

It further elaborated on the concept of a “benefit” in the context of existing “market conditions.”

“We also believe that the word ‘benefit’, as used in Article 1.1 (b) implies some kind of comparison. This must be so, for there can be no ‘benefit’ to the recipient unless the ‘financial contribution’ makes the recipient ‘better off’ than it would otherwise have been, absent that contribution. In our view, the marketplace provides an appropriate basis for comparison in determining whether a ‘benefit’ has been ‘conferred’, because the trade-distorting potential of a ‘financial contribution’ can be identified by determining whether the recipient has received a ‘financial contribution’ on terms more favourable than those available to the recipient in the market.”

As a general matter, it has been acknowledged that correctly identifying a “benefit” and whether it exists can be a complex matter in situations where the market conditions themselves have been pervasively influenced by government intervention, and therefore a meaningful “market” benchmark for “benefit” is elusive. This consideration may be of importance in the case of financial support measures for RE, for the “market” against which

⁴⁹ WT/DS 70.

the competitive advantage conferred by the financial support measure is supposed to be defined (the “benefit”), is often a market that historically has been shaped in terms of investment conditions, prices, supply and other relevant market factors by pervasive government action (usually in favor of non-RE). For example, does a government loan or guarantee for investment in RE constitute a “benefit” or competitive advantage, under market conditions where private providers of capital almost never fully capitalize a major energy project without some kind of government support or guarantees? The practices of the marketplace themselves, in other words, may assume and internalize government support measures.

It is argued that certain programmes that would appear to confer benefits may, in fact, simply act as corrective measures without placing the recipient in any advantageous position. This argument is put forth in the context of the subsidies granted to the RE industries, which are acting in a market that historically has seen subsidies granted to fossil fuels and where existing networks for the distribution and retailing of energy, whether electricity grids or chains of service stations, have been largely designed to favour fossil fuels. Therefore, governmental intervention aimed at supporting the use of alternative sources of energy are viewed as corrective action needed to balance the competitive relationship between fossil fuels and renewable energies. The possible implications of this argument on the assessment of the WTO compatibility of subsidies granted to renewable energies are important. However, this does not take away the fact that a benefit is conferred and the relevance of the existence of subsidization in the traditional energy sector is minimal in considering the existence of a benefit in the RE sector. The comparison of the two sectors and existence of subsidization in the traditional energy sector will not be sufficient to establish compatibility with WTO law in the RE sector. Incompatibility with WTO law would need to be assessed on the specific nature of RE programs, irrespective of justifiable or unjustifiable subsidies elsewhere.

The concept of benefit in presence of financial contributions directed to the RE sector needs to be clearly established. It is argued that the WTO analysis directed at assessing the existence of the benefit is focused on the details of the programme at issue and does not take into account whether the market into which the subsidy operates is already distorted by the presence of (government-mandated) market imperfections. This would be in consonance with the textual interpretation of WTO Agreements.

Specificity in case of RE programmes

In order that a subsidy is subject to the provisions of the ASCM it has to satisfy the test of “specificity”. Specificity in the context of RE support programmes does not pose a serious legal issue. Most of the programmes are meant specifically for the renewable energy “industry” attracting the “de jure” specificity condition. The programmes are designed to encourage the sector and are expressly provided for. Even where the subsidy is for general purposes, a “de facto” test may have to be undertaken in the circumstances of a particular scheme to determine its specificity to the RE sector. In all the programs analysed here, the specificity test has been satisfied and need not be reiterated.

ii. Local content in RE programmes and Prohibited Subsidies

Those subsidies that are based on domestic content requirements, or contingent on export performance and fulfill the Article 1 criteria of financial contribution and benefit, are deemed to be ‘specific’ within the meaning of Article 2, and are automatically deemed as trade-distorting and prohibited under Article 3 of the ASCM.

In the context of RE support programmes, local content subsidies become very critical. What is the legality of RE support schemes that favour local content over imported goods? Local content requirements are often considered as a very effective tool of industrial policy, particularly in certain settings, in as much as they can ensure the steady and fast

development of a crucial domestic industry. However, to what extent they violate ASCM is a matter of further investigation.

Local content is at two levels:

1. Purchase of locally produced electricity – FiT which mandates purchase of locally produced electricity from RE to the exclusion of others
2. Purchase of locally produced goods to produce RE electricity – FiT which mandates that the producers of electricity must ensure local content in their purchases of RE products like solar panels, wind turbines or components thereof

While the first category is very common across FIT programmes in many countries, the second category is found less in FIT programmes. FIT schemes include other terms either to reinforce their incentive effect or to impact on other related equipment markets (like ‘local content’ requirements). This obligation to buy all RE produced nearby the grid (within the territorial limits of the country) is a very common element of FiTs. In as much as this purchase obligation affords a privileged access on locally sourced electricity, it is equivalent in economic effects to a local content requirement. It certainly operates differently since the obligation is not on the beneficiary of the subsidy (the producer) but on a third-party (the distributor) but the effect – from the producer’s end – is the same. One implies that you must buy all or a certain proportion of RE produced in your area, the other that you must buy inputs or other goods necessary for RE deployment in your country.

Projects mandating the use of local products in RE projects are also finding their way in some countries. The minimum required amount of domestic content requirements either increases over time or provides an added incentive on the tariff. Provided that the existence of a subsidy is identified (i.e., the financial contribution conferring a benefit), this requirement could appear to pose serious WTO-compatibility concerns.

Both the above categories are discriminatory but their assessment seems to be different in literature on WTO law jurisprudence. FiTs are widely praised as one of the most – if not the most – cost-effective tools to support RE. This praise extends to the purchase obligation, with no real effort in distinguishing those with a discriminatory effect from those with a neutral impact. Frequent reference is for example made to the German FIT system, which includes a purchase obligation on locally sourced energy, as a good example of a well-designed FiT system that significantly contributed to the success of Germany in deploying RE. By contrast, FiTs contingent on local-content requirements of RE products are more controversial and, as the pending *Canada- Measures related to Feed-In Tariff*⁵⁰, shows, are being challenged.

One explanation for this discrepancy in attitude towards the two categories of “local content” could be that, at least with respect to energy, the two obligations apply to different economic products/markets (electricity vs. technological products), for which we still have a technical reason or in the difficulty of tracing the origin of electricity in the absence of an established and wide-spread system of certification. Further, cross border trade in electricity is still not a widespread phenomenon. But these circumstances may change and with them trade patterns, making the availability of cross-border energy easier and more common. If so, what will be the legal implication of the equivalence in effects between local-content and FiT's purchase obligation? The (discriminatory) purchase obligation of FiTs legally assimilated to a local-content subsidy can be objected to as a prohibited subsidy under Article 3 ASCM.

iii. Whether actionable subsidies?

Those programs that do not have local content requirements cannot be construed as “prohibited” subsidies. Further, it is not sufficient that RE programmes are determined as being “subsidies” under the ASCM. To be actionable under the ASCM, subsidies that are not

⁵⁰ WT/DS 426.

prohibited must be shown to cause “adverse effects”. Thus, those RE support programmes like FiTs, tax Incentives and other directives which satisfy the test of being a “subsidy” and are not prohibited subsidies, must also result in “adverse effects” as per Article 5 ASCM.

Article 5 ASCM lists adverse effects as injuries to the domestic industry of another member (meaning material injury to the industry, including an evaluation of all ‘relevant economic factors’), nullification or impairment of benefits accruing directly or indirectly under the GATT 1994, or serious prejudice to the interests of another member (for example, if a subsidy displaces imports of a “like” product into the market of the subsidizing Member or to displace exports of the complaining Member to a third country market)⁵¹.

Certain RE programmes can result in “adverse effects”. It would depend on the circumstances of the particular RE programme and the impact it has. Fiscal Incentive programmes that provide PTCs to RE projects indirectly encourage local manufacturing of RE technology products like wind turbines, solar panels etc. This could cause injury to the domestic industry in RE products of an exporting country. Further, it could cause serious prejudice to the interests of the exporting country. This could be the case, for example, of certain FiT schemes also, which do not appear to specifically target the renewable good or technology but may have significant indirect effects on the expansion and growth of production and investment in the technology.

RE goods vs. non-RE goods

There is a possibility that RE subsidies could be challenged based on their “adverse effects” not on competing renewables imports but on foreign non-RE products. Here it must be noted that the “adverse effect” in question must be on a *like* product from another WTO Member. The meaning of likeness for purposes of the ASCM was addressed in *Indonesia-Certain Measures Affecting the Automobile Industry*⁵² case. In that case, the Panel did not

⁵¹ Alan O. Sykes, *supra* note 37.

⁵² WT/DS 54.

delineate very clearly the concept of “like products,” instead evoking a very broad notion that entails considering the kinds of factors that are at issue under Article III of the GATT as well perhaps as others, such as the way the industry had segmented itself. In this case the Panel emphasized physical characteristics in its likeness analysis, but largely because, as it said, physical characteristics, *in the case of automobiles*, were closely linked to consumer relevant criteria such as brand loyalty, brand image/reputation and resale value. Related issues would arise if a WTO member were to challenge subsidies on renewables aimed at shifting energy consumption from non-renewable to renewable sources. Here the claim might be that of adverse effects on producers of non-renewable inputs such as fossil fuels.

Where the harm alleged is “serious prejudice” within the meaning of Article 6 of the ASCM, the requirement to identify a like product exists explicitly with respect to serious prejudice due to price undercutting, but not with respect to the other kinds of effects identified in Article 6.3(c) of the ASCM, notably significant price suppression, price depression or lost sales.

In relation to the requirement of specificity, subsidies granted to the domestic RE sector would likely appear to fall within the definition of specificity, as directed to a specific sub-sector of the energy industry. Subsidies that are provided to users of RE could be deemed non-specific if they are generally available to enterprises in the market. The analysis above shows that some domestic support measures targeting the RE sources and renewable fuels sectors could possibly fall within the disciplines of being an actionable subsidy.

Incentives to RE and fuels are likely to cause, directly or indirectly, a number of effects on trade in RE goods and technologies. To the extent that they reduce the production costs connected with the manufacturing of the renewable good or technology, they may cause harm to third countries’ exports towards the subsidizing country or may affect trade in a third country.

Subsidies may affect third countries' trade interests in a number of ways. The WTO recognizes that the following effects may be produced by subsidization: injury to the domestic industry producing the like product; alteration of the significance of tariff concessions, or other WTO obligations; or serious prejudice.

e. Article XX General Exceptions GATT applicability to ASCM violations

Is the defence under Article XX of GATT available to RE support measures that are found to be violative of ASCM either as a prohibited subsidy or an actionable subsidy? In other words, when a particular programme is challenged as being a “prohibited” or “actionable” subsidy under the ASCM, can a WTO member justify it as falling under one of the exceptions that are provided under Article XX GATT. It may be recalled that the Article XX defence was discussed in the preceding sections dealing with GATT obligations. There is a difference of opinion as to the applicability of the exception to the ASCM? This question becomes acutely relevant since many national support programmes for RE could constitute subsidies as defined by the ASCM.

On the one hand, some experts object to the applicability of the exception to the ASCM. The core of the argument is the following. The applicability of GATT Article XX would undermine the ‘inner balance of the rights and obligations’ of the ASCM that already had a category of justifications – non-actionable subsidies - that is now expired. A finding that Article XX can apply to the ASCM would alter this balance – against the intention of the Members – and could potentially have broader negative systemic implications, opening such claims of applicability for all other covered agreements and ultimately significantly undermining market access. On the other hand, we have those who are more positive about Article XX of the GATT justifying breaches of other-than-the-GATT covered agreements. Both sets of arguments are discussed below.

Does Article XX defence apply to the ASCM?

Some experts argue that interpreting Article XX of the GATT to be applicable to the ASCM is possible within the present framework and doing otherwise would lead to illogical results. The arguments put forth are as follows:

- i. The ASCM elaborates on the GATT 1994 disciplines on subsidies. It builds on and develops the GATT disciplines on subsidies. Of primary importance is Article 1 of the ASCM, which provides a rigorous definition of subsidies – a definition not attempted in the GATT 1994.
- ii. The term ‘this Agreement’ in the chapeau of Article XX of the GATT 1994 has no clear ‘ordinary’ meaning of its own. This term was contained in the GATT 1947, prior to the Uruguay Round, when the GATT 1947 itself constituted the primary multilateral trade agreement. The GATT 1947 was carried over into the WTO Agreement essentially as it is, without being rewritten to take into account its new place as one of many related ‘goods’ agreements, bound together in an annex. The reference to ‘this Agreement’ must, therefore, necessarily be interpreted in the light of today’s placement of this provision and the link of the GATT 1994 to other Annex 1A agreements, as discussed above.
- iii. Article XX exceptions apply to ‘this Agreement’. The narrowest meaning proposed in the literature equates ‘this Agreement’ with the GATT 1994. In other words, Article XX applies not only to some but to *all* provisions of the GATT 1994. Accordingly, the general exceptions apply to all provisions of the GATT 1994, including rules on subsidies and countervailing duties.⁵³
- iv. It could appear to suggest that since the ASCM is simply a *lex specialis* to the GATT provisions on subsidies, Article XX can be used as a defence against any claim of violation of the more specialized rules in the ASCM. Such an interpretation would also

⁵³ Amicus Curiae submission before the World Trade Organisation Panel in *Canada – Certain Measures Affecting the RE Generation Sector*, (WT/DS 412), 10th May 2012.

take account of the apparently illogical result of not applying Article XX: WTO members would have more policy space to enact much more obviously and severely trade-distorting measures, such as import bans and quotas, than what are generally understood to be less distortive measures, namely domestic subsidies.⁵⁴

- v. More specifically, Part II of the ASCM (prohibited subsidies) elaborates on Article XVI:4 of the GATT 1994 by enumerating subsidies (such as export subsidies) that may not be granted by Members. Part III of the ASCM (actionable subsidies) elaborates and clarifies Article XVI:1 of the GATT 1994 by rigorously defining ‘serious prejudice’ (Article 6) and the footnote to Article 5(c) of the ASCM explicitly states that serious prejudice so defined ‘is used in this Agreement in the same sense as it is used in paragraph 1 of Article XVI of GATT 1994’. Part V of the ASCM (countervailing measures) clarifies the conditions for imposing CVDs set out in Article VI of the GATT 1994 (e.g. by defining the term ‘domestic industry’) and regulates procedural questions relating to the imposition of CVDs (e.g. by setting guidelines for the calculation of the amount of subsidies by investigating authorities in Article 14). The local content subsidies under Article 3.1(b) of the ASCM are already the type of discriminatory measures disciplined under Article III of the GATT 1994. The ASCM reinforces this discipline by flatly prohibiting the subsidies in question. The wording of several provisions of the ASCM underlines the close relationship between the ASCM and the GATT 1994.
- vi. The GATT 1994 and the ASCM, together with the other covered agreements, form an integral part of the WTO Agreement. This suggests that ‘[w]ithin this framework, all WTO Members are bound by all the rights and obligations in the WTO Agreements and its Annexes 1, 2 and 3’, including both the GATT 1994 and the ASCM. Moreover, as part of an ‘integrated, more viable and durable multilateral trading system encompassing the [GATT 1994] ... and all of the results of the Uruguay Round’,²² all

⁵⁴ Robert Howse seems to suggest, “ ... it would seem that it would be sufficient to simply clarify through an interpretative understanding that the existing Article XX applies to ASCM, given its status as a *lex specialis* of the GATT. Thus, one would not need to amend either the ASCM or the GATT in order to accomplish this result.”

provisions of the WTO Agreement must be interpreted harmoniously, in a manner that gives meaning and effect to all of them.

The spirit of this approach is that Article XX GATT does have a natural expansiveness because of its central position in the GATT, its general and broad wording, and its policy value. The foundational legal argument supporting this hypothesis is that the WTO is a single undertaking and the GATT is clearly developed in various covered agreements.

Why Article XX does not apply to the ASCM

There are at a number of reasons why application of the defence of Article XX of the GATT to a breach of the ASCM is legally untenable.⁵⁵

- i. The wording of the chapeau of Article XX clearly states that ‘...nothing in this Agreement shall be construed to prevent the adoption or enforcement [of Article XX exceptions]...’ [emphasis added] lends weight to the idea that Article XX is *limited* to excepting certain policies from being ruled illegal under GATT rules, and is not applicable to **other agreements** in the WTO. This would be a textual interpretation of the GATT Agreement.
- ii. Article XX (an exception in GATT) cannot be applied to a *prima facie* breach of rules contained within a specialised agreement, such as the ASCM. The ASCM does not explicitly contain reference to Article XX, whereas other specialised agreements, such as the SPS, do. This is supported by a recent WTO Panel ruling⁵⁶, which interprets the application of Article XX to China’s accession protocol as being based on an *explicit* reference to the ‘WTO agreement’ (including provisions of the GATT, and hence Article XX) within the Chinese protocol of accession.
- iii. Further, the ASCM contains explicit reference to agricultural exceptions, which stands in stark contrast to the lack of reference to Article XX, suggesting that it was

⁵⁵ For a detailed analysis, see Daniel Peat, *supra* note 41.

⁵⁶ *China — Measures Related to the Exportation of Various Raw Materials*, WT/DS394

intentional to leave the ASCM without an exception clause. Further, the former Article 8 category of non-actionable subsidies provided a *de facto* exception, which covered areas of similar characteristics as Article XX (such as environmental protection), and which would not have been necessary were Article XX directly applicable. Even though the validity of this category has lapsed, the conclusions we can draw regarding the applicability of Article XX to the SCM should not be affected by this expiration.

- iv. The various WTO agreements sometimes include specific priority rules. Furthermore, the WTO Agreement's *General Interpretative Note to Annex 1A* indicates that in the event of a conflict between a provision of the GATT 1994 and a provision of another agreement in Annex 1A, the provision of the other agreement shall prevail to the extent of the conflict. This expresses the basic legal principle of *lex specialis*: specific rules trump general ones. In sum, all instruments apply simultaneously, with more specialized and recent treaties being of preferred application when compared to general rules.

The importance of the arguments in favour of the applicability of the Article XX GATT exception to the ASCM in the context of RE programmes should not be underestimated. If the general exception does apply, then countries will have a greater possibility of defending their policies even though they violate the ASCM. The overarching and general exception would give sufficient (some would argue, excessive) policy space to countries to defend extremely “inward looking” domestic policies. Of course, they have to satisfy the chapeau of Article XX. Nevertheless, this would make it even more difficult for countries to challenge RE support programmes.

This study brings out this debate only to sensitize the legal jurisprudence surrounding the existence of policy space in implementing RE programmes. While challenging another countries RE programmes it would be advisable to take a stand that the GATT exception does not provide a defence. However, this would have a bearing on defending one's own RE

policy when challenged (in terms of inapplicability of the defence). Thus, while challenging RE programmes as prohibited or actionable subsidies under the ASCM, it would be justifiable to assert that the general exceptions under Article XX of the GATT are not applicable and do not save the programmes from WTO incompatibility. It is submitted in this study that while challenging RE programmes of the E.U., Japan and the U.S. the stand that Article XX defence is unavailable under the ASCM can be strongly advocated.

III. TRIMs

The **TRIMs Agreement** applies only to measures that affect trade in goods. It recognizes that certain measures can restrict and distort trade, and states that no member shall apply any measure that discriminates against foreigners or foreign products (i.e. violates “national treatment” principles in GATT). It also outlaws investment measures that lead to restrictions in quantities (violating another principle in GATT). An illustrative list of TRIMs agreed to be inconsistent with these GATT articles is appended to the Agreement. The list includes, among others, measures requiring the purchase 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. Evidently, there is a potential overlap between TRIMs, the general NT provisions contained at GATT 1994 Article III and the ASCM’s provisions on prohibited subsidies, since all local content provisions affect the import of foreign manufactured goods. Furthermore, similarly to TRIMs, Article III:4 of GATT 1994 specifically restricts measures that require an investor to use domestic content in manufactures.

The principles of NT and quantitative restrictions found in GATT are reiterated in relation to trade related investment measures.

“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.”

Hence, an investment measure that violates the NT principle is a clear violation of this Agreement. A number of RE support programmes are in the form of rules that regulate investment. These rules must be in conformity with TRIMs provisions to avoid a violation. In the legal literature related to RE measures and WTO law compatibility this study relies on,

the issue of TRIMs is not raised often. Though references have been made, no direct studies or articles related to this aspect have been found. However, from the above provisions it is clear that a “local content” requirement that favours domestic products over imported products would not only violate GATT but also TRIMs. Thus, where an enterprise is mandated to purchase or use products domestically produced it violates the NT principle of GATT as well as TRIMs.

TRIMs Agreement recognizes that certain domestic investment measures can restrict and distort trade in goods. TRIMs provides that no contracting party shall apply any investment measure inconsistent with Articles III (NT) and XI (prohibition of quantitative restrictions) of the GATT. The present study has not explored the possible violations of the TRIMs Agreement.

IV. GATS

The scope and structure of GATS obligations is significantly different than in the case of the GATT. The Agreement applies to measures *affecting* trade in services, defined as the supply of services by the service suppliers of one WTO Member to the consumers of another WTO Member, through any of four “modes” of delivery.

Mode 1 refers to a situation where neither the supplier or the buyer of the service crosses the border in order to effect the transaction: supply of electricity across the border, to the extent that this is a service (see above), falls within mode 1 in many cases. Mode 2 entails the consumer going to the jurisdiction of the supplier in order to consume the services (e.g. tourism). Mode 3 involves the supplier establishing a commercial presence in the jurisdiction where the consumers of the service reside (and this mode may have important implications for the energy sector as well as mode 1). Mode 4 involves the entry of personnel of the service supplier into the jurisdiction where the consumers reside in order to deliver the service.

There are some general obligations in the GATS that apply to all services supplied from one WTO Member's providers to consumers of another Member in any of these modes of delivery, including MFN treatment and transparency. However, many of the most important obligations apply only in respect of sectors where individual WTO Members have made commitments in their "schedules", and this includes NT (Article XVII) and the GATS equivalent (roughly speaking) of GATT Article XI (Quantitative Restrictions), namely GATS Article XVI (Market Access) and Art. VI (Domestic Regulation). Further complicating the structure of obligations in GATS is the possibility for WTO Members to use their "schedules" to limit or qualify obligations such as NT in scheduled sectors, and these limitations may apply across the board, or to only one particular mode of delivery for a particular service sector.

One would have to study the impact of the GATS on RE support programmes⁵⁷ in the context of GATS negotiation. When the GATS was being negotiated in the late 80s and early 90s, de-monopolization of electricity utilities and unbundling of functions had only barely begun. In the circumstances, it is understandable that there were few specific commitments that bear upon the services entailed in the provision of electricity. Moreover, there is no clear and precise classification that would facilitate the scheduling of specific commitments on energy services in GATS. "The WTO "Services Sectoral Classification List" does not include a separate comprehensive entry for energy services.

What seems fairly clear is that trade in TECs could fall within ambit of the WTO instruments on financial services. These certificates do not entail an entitlement to energy, but rather an entitlement to be relieved of an obligation to purchase RE that would otherwise fall on the

⁵⁷ For some understanding on the applicability of GATs on RE support programmes see the following works: Leslie Alejandro, "Renewable Energy Services in the GATS", Yale School of Forestry and Environmental Studies, 67; Panagiotis Delimatsis, "GATS, Financial Services and Trade in Renewable Energy Certificates (RECs) – Just another Market-Based Solution to cope with the Tragedy of the Commons?", Working Paper No.2006/31, NCCR trade regulation. See also Pietro Poretti, *The Regulation of Subsidies within the General Agreement on Trade n Services of the WTO*, Kluwer Law International, 2009.

bearer of the certificate, because the issuer of the certificate, in another jurisdiction, is prepared to bear that burden.

WTO Members have made financial services commitments in the Uruguay Round negotiations and in subsequent negotiations dedicated to financial services which concluded in 1997/1998, and in a number of cases these commitments have been made in the context of adherence to the Understanding on Commitments in Financial Services. This understanding includes a NT obligation, a requirement of market access through cross-border trade and commercial presence, and various related provisions on entry of personnel, and various exceptions or limitations. There is a best efforts commitment also to eliminate non-discriminatory regulations that have significant adverse impacts on the trade of other WTO Members.

An important question is whether tradable RE certificates fall under any of the existing classifications under which WTO Members have made commitments in the financial services negotiations or whether they constitute within the meaning of the Understanding a “new financial service.” (Article 7 of the Understanding requires that “A Member shall permit financial service suppliers of any other Member established in its territory to offer in its territory any new financial service.”) Possibly relevant classifications include “derivative products, but not limited to, futures and options” and “-other negotiable instruments and financial assets, incl. bullion.”

The nature of its financial services commitments may well affect a state’s ability to confine a TEC programme to within its national borders. Since the unconditional MFN obligation in GATS applies to financial service measures (unless within four months of the entry into force of GATS a WTO Member has lodged an MFN reservation with respect to the particular measure in question — GATS Second Financial Services Annex), questions could arise where a WTO Member’s authorities recognize certificates issued by some other WTO Members’ nationals and not those of other WTO Members, or where a Member seeks to operate an international certificate trading scheme based on reciprocal or mutual recognition.

However, based on the GATT jurisprudence, it is likely that distinctions of this kind could be drawn where they are based on genuine origin-neutral criteria such as the authenticity of the certificate, the environmental practices of the issuer, the method of generation and so forth.

To make an analysis of GATS obligations and RE programmes it would be pertinent to study the specific commitments of the relevant countries as well as their specific programmes. Beyond a point, a generalized assessment is difficult under GATS because of the hugely varying individual commitments that GATS allows. This study does not make a detailed analysis of GATS obligations in the context of RE support programmes. This would require a separate, exhaustive study due to the vastness and sheer enormity of the task.

This Chapter provided only the overview of the relevant WTO law provisions that may have a bearing on RE support programmes. It does not deal with the specifics of country-wise programmes. The next chapter analyses some of the specific RE support programmes of EU, Japan and the U.S. to examine their compatibility with WTO law.

Chapter 4 - RE Programmes of specific countries, WTO Law and Compatibility – An Analysis

The previous chapter laid down the broad principles on which RE programmes are open to scrutiny under WTO law. This chapter studies a few specific RE support programmes in the EU, Japan and the U.S. and provides an overview of their compatibility with WTO law. It is well known that these countries have been encouraging the use of RE for many years now in different forms. The strategy of this study is to make a selective, intensive analysis of a few programmes and consider its compatibility with multilateral trade rules. The comparison of the relationship between State Aid under European Law⁵⁸ and Subsidies under the ASCM of the WTO is also out of scope of this study.

Another feature of RE support programmes is their operationalization at multiple levels. While most of them are formulated and implemented at the national level, numerous programmes are implemented at the local level, either at the sub-national or municipal level. Local governments in many countries of the EU and states of the U.S. are active in promoting the growth of RE. Thus, for a comprehensive analysis of support programmes, one has to look across levels of government. In the context of the EU, another layer of regulatory support is in the form of the Directives at the EU level.

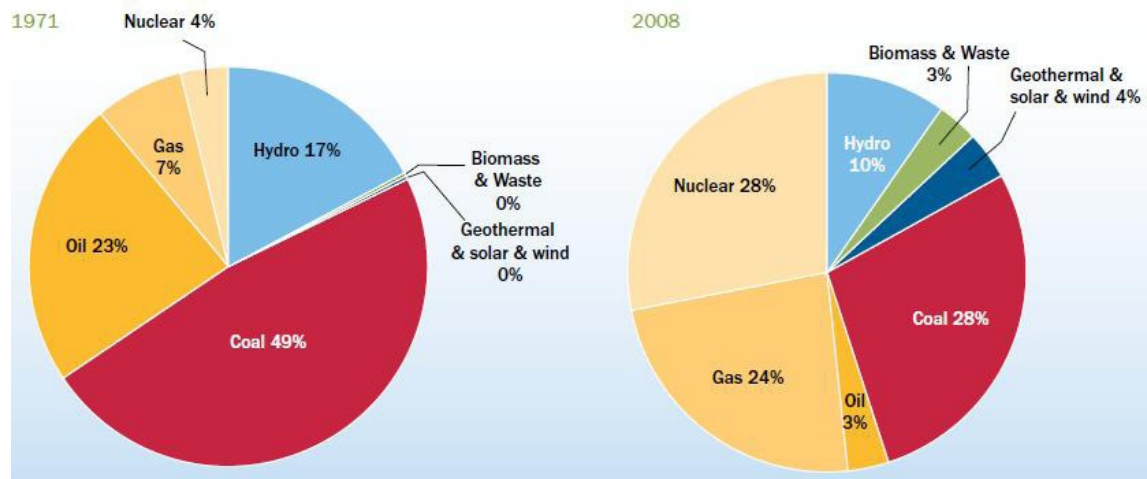
a. EU

The growth of the RE sector in Europe has been a model for the rest of the world. Apart from a supportive regulatory framework at the regional level, a number of national level incentives to support RE are operational.

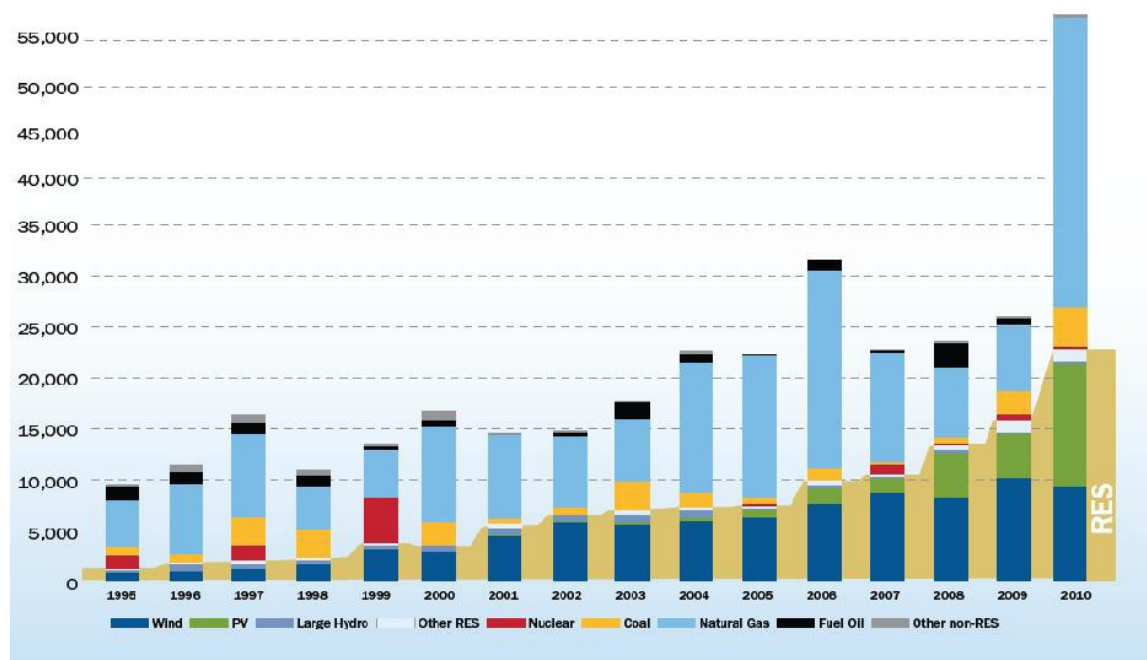
⁵⁸ Luca Rubini, *The Definition of Subsidy and State Aid: WTO and EC Law in Comparative Perspective*, Oxford University Press, 2009.

The graphics below indicate the ascendancy RE is playing in Europe’s energy sector.

EUs evolving energy mix (% of electricity consumption)⁵⁹



Installed capacity per year in the EU 1995-2010 (MW)⁶⁰



⁵⁹ Scola, J., Wilkes, J., Moccia, J., Wlicke., P., Gruet, R., Radvilaite, V., Dragan, M. (2011). *EU Energy policy to 2050, EU Energy Policy to 2050 achieving 80-95% emissions reduction*. Study European Wind Energy Association, available at

http://www.ewea.org/fileadmin/ewea_documents/documents/publications/studys/EWEA_EU_Energy_Policy_to_2050.pdf, p. 11.

⁶⁰ Scola, J., et al. (2011). *EU Energy policy to 2050, EU Energy Policy to 2050 achieving 80-95% emissions reduction*. Study European Wind Energy Association, available at

http://www.ewea.org/fileadmin/ewea_documents/documents/publications/studys/EWEA_EU_Energy_Policy_to_2050.pdf, p. 16.

i. Regional level

At the regional level, the overarching EU Directive that is the source and basis of all RE support programmes in the EU has been studied. The EU Directive⁶¹ enacted by the European Parliament and Council in 2009 on the promotion and use of energy from renewable sources is the primary foundation for all RE programmes in the EU member states. It replaced an earlier Directive of 2003. The Directive lays down the broad policy and framework for promoting RE in member states of the EU. Though it does not contain specific support programmes, it provides the underlying rationale on the basis of which countries in the EU enact legislation and implement various programmes related to RE. It also provides for the “sustainability criteria” in relation to biofuels with respect to the targets mandated in the Directive.

This study analyses the Directive in general and also focuses on the “sustainability criteria” that has been evolved for biofuels in the Directive in the context of compatibility with WTO rules. The Directive has been heralded as the main reason for the increase in the proportion of RE produced in the EU over the years. It mandates national targets for energy from renewable sources as well as for transport and encourages national support schemes.

The Directive which was formally adopted in April 2009 mandates that a 20 per cent share of final energy consumption in the EU must come from renewable sources by 2020 with each Member State's contribution differentiated in accordance with their respective starting points. The Directive also mandates that a 10 per cent share for renewables in the transport sector should be achieved with considerable emphasis placed upon the role of biofuels in

⁶¹ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140/16)

meeting this target.⁶² It sets mandatory national targets for the use of RE sources in EU Member states by 2020. Where the target set in the former Directive of 2001 had an indicative character, the new target is legally binding.⁶³ In line with the propositions of the European Parliament the target is divided between the 27 EU member states. The main purpose of the mandatory national targets is to ensure certainty for investors and encourage the development of different RE technologies used to generate electricity.

In Article 3 of the Directive it is stated: *‘Member states shall introduce measures effectively designed to ensure that the share of energy from renewable sources equals or exceeds that shown in the indicative trajectory [...]’*. It should be noted however that the binding nature of the national targets is only in the provisions prescribing member states to set up National Action Plans.

The main effect of the Directive is that each EU Member must ensure that, in their country in 2020, the share of gross final consumption of energy from renewable sources is at least the national overall target for that year as fixed by the Directive.⁶⁴

Laying down the scope of the Directive, Article 1 states:

“Article 1

Subject matter and scope

This Directive establishes a common framework for the promotion of energy from renewable sources. It sets mandatory national targets for the overall share of energy

⁶² Stephanie Switzer and Joseph A. McMahon, “EU biofuels policy – raising the question of WTO compatibility,” *International and Comparative Law Quarterly*, 2011.

⁶³ Jip Engels, “The promotion of electricity from RE sources in the EU”, LL.M. law and Economics, Utrecht, August 2011.

⁶⁴ Andrew D. Mitchell and Christopher Tan, “The Consistency of the EU RE Directive with the WTO Agreements”, Georgetown Business, Economics and Regulatory Law Research Paper No.1485549, October 2009.

from renewable sources in gross final consumption of energy and for the share of energy from renewable sources in transport. It lays down rules relating to statistical transfers between Member States, joint projects between Member States and with third countries, guarantees of origin, administrative procedures, information and training, and access to the electricity grid for energy from renewable sources. It establishes sustainability criteria for biofuels and bioliquids.”

The Directive defines⁶⁵ “energy from renewable sources” as energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.

The definition of a “support scheme” in the Directive raises important questions of the similarity with subsidies under GATT and the ASCM. Of course, to violate WTO law the subsidy must be prohibited or actionable.

A support scheme is defined⁶⁶ as “any instrument, scheme or mechanism applied by a Member State or a group of Member States, that promotes the use of energy from renewable sources by reducing the cost of that energy, increasing the price at which it can be sold, or increasing, by means of a RE obligation or otherwise, the volume of such energy purchased. This includes, but is not restricted to, investment aid, tax exemptions or reductions, tax refunds, RE obligation support schemes including those using green certificates, and direct price support schemes including FIT and premium payments.”

The Directive in Article 3 (3) clearly mandates that member states can employ support schemes to achieve the national overall target. Thus, use of support schemes to enhance the share of RE production and consumption is the stated objective of the EU. Support schemes are seen as a legitimate means to achieve the objectives of the Directive. Whether these support schemes are in consonance with WTO law depends on the particular provisions of

⁶⁵ Article 2 (a) of the Directive.

⁶⁶ Article 2 (k) of the Directive.

the scheme and their compatibility with WTO provisions. In order to ascertain whether a particular support scheme, whether it is a tax incentive, price support, grant, FiT or RE certificate is violative of WTO law is a question of both law and fact. The particular scheme would have to be analysed in terms of its provisions and its compatibility would have to be judged in the context of various provisions in the Agreements that have a bearing on RE programmes.

With respect to transportation, each Member State shall ensure that the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State.⁶⁷

The overall national targets are provided for in Annex I of the Directive produced below:

ANNEX I

National overall targets for the share of energy from renewable sources in gross final consumption of energy in 2020

In order to be able to achieve the national objectives set out in this Annex, it is underlined that the State aid guidelines for environmental protection recognise the continued need for national mechanisms of support for the promotion of energy from renewable sources.

A. National overall targets

	Share of energy from renewable sources in gross final consumption of energy 2005 (S2005)	Target for share of energy from renewable sources in gross final consumption of energy, 2020 (S2020)
Belgium	2,2 %	13 %
Bulgaria	9,4 %	16 %

⁶⁷ Article 3 (4) of the Directive.

Czech Republic	6,1 %	13 %
Denmark	17,0 %	30 %
Germany	5,8 %	18 %
Estonia	18,0 %	25 %
Ireland	3,1 %	16 %
Greece	6,9 %	18 %
Spain	8,7 %	20 %
France	10,3 %	23 %
Italy	5,2 %	17 %
Cyprus	2,9 %	13 %
Latvia	32,6 %	40 %
Lithuania	15,0 %	23 %
Luxembourg	0,9 %	11 %
Hungary	4,3 %	13 %
Malta	0,0 %	10 %
Netherlands	2,4 %	14 %
Austria	23,3 %	34 %
Poland	7,2 %	15 %
Portugal	20,5 %	31 %
Romania	17,8 %	24 %
Slovenia	16,0 %	25 %
Slovak Republic	6,7 %	14 %
Finland	28,5 %	38 %
Sweden	39,8 %	49 %
United Kingdom	1,3 %	15 %

“Sustainability criteria” in the EU Directive and compatibility with WTO law

The “sustainability criteria” set forth in the Directive needs to be analysed in terms of their contravention of Articles I, III and XI GATT. The EU Directive has a set of “sustainability criteria” for biofuels that has an acute bearing on the WTO compatibility of the provisions of the Directive. While the mandatory targets may not pose a violation of multilateral trade

rules per se, the most controversial provisions of the EU Directive are the “sustainability criteria” for biofuels.

Article 17 and 18 of the EU Directive lay down the details of the sustainability criteria for biofuels and bioliquids which need to be complied with if they have to be considered for meeting overall national targets, compliance with RE obligations and eligibility for financial support for the consumption of biofuels and bioliquids. This sustainability requirement applies to energy from biofuels and bioliquids made from raw materials both within and outside the EU. Thus, the criteria applies to raw materials grown both within the EU and outside. This extraterritoriality of the sustainability criteria raises doubts about its validity in the context of WTO rules.

The criteria essentially implies that to be included in the calculation of gross final consumption of energy from renewable sources, the biofuel must satisfy the sustainability criteria set out in Article 17 of the Directive. The sustainability criteria are defined in terms of certain conditions set out in Articles 17 (2) to (6) of the Directive.

The criteria has two aspects – one related to GHG emissions while the other is land related. According to the criteria, the use of the biofuel must result in a GHG emission saving of at least 35%. From 1 January 2017, that figure rises to a saving of at least 50%. From 1 January 2018, for biofuels the production of which started on or after 1 January 2017, the figure rises to a saving of at least 60%. Apart from the GHG criteria, there is a land related criteria too. According to the “land-related criteria” for all biofuels other than those produced from waste and residues (with certain exclusions), the biofuel or bioliquid must not have been made from raw materials obtained from the following areas of land:

- a. Land with **high biodiversity value**: Land that had the status on or after January 2008, whether or not it continues to have that status, of: primary forest and other

wooded land; areas designated for nature protection purposes or for the protection of endangered eco-systems or species; or highly biodiverse grassland.

b. Land with **high carbon stock**: Land that had the status on or after January 2007 and which no longer has the status of: wetlands; continuously forested areas; or land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10% and 30%

c. **Peatland**: Land that was peatland in January 2008, unless obtaining the raw material did not drain previously undrained soil.

It essentially means that if biofuels and bioliquids are to be considered for various targets, obligations and financial support under the Directive, it has to meet these sustainability criteria.

To reiterate, the conditions of the sustainability criteria are as follows:

1. The GHG emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall be at least 35 %.
2. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 of Article 17 shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status: primary forest and other wooded land, areas designated for nature protection purposes, highly diverse grasslands.
3. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land

with high carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status: wetlands, continuously forested areas, land spanning with certain conditions of tree growth.

4. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.

The first criterion specifies a minimum level of GHG emission savings from the usage of biofuels. It provides that the aggregate GHG emission savings from use of biofuels has to be at least 35% throughout the entire biofuel life-cycle.⁶⁸ The core sustainability criterion established under the Directive requires biofuels to achieve a minimum level of 35 per cent GHG savings. This figure is set to increase to 50 per cent in 2017. The Directive sets out a procedure for the calculation of *actual* GHG emission savings of biofuels and bioliquids. The prescribed methodology sets out that the GHG emissions from the production and use of transport fuels, biofuels and bioliquids should first be calculated as a value of grams of CO₂ per Mega Joules [MJ] of fuel. This figure is then subtracted from the value of total emissions of an equivalent fossil fuel comparator [EF]. The resulting sum is then divided by EF. For biofuels made from certain raw materials, however, the use of default values is permitted. The use of such values is subject to a studying obligation and the Commission is explicitly directed to review the impact of indirect land-use change on GHG emissions.

It also focuses on the protection of two types of land: lands with high biodiversity value and lands with high carbon stocks. Thus, it stipulates that biofuels made from raw materials obtained in areas that have high biodiversity value cannot partake in certain benefits since

⁶⁸ Daniel Gergely Szabo, "Compatibility of the EU biofuel sustainability criteria with WTO law," MSc. in EU Business and Law Master Thesis, 2010.

decreasing biodiversity is detrimental to environmental sustainability. Biofuel production involving land-use change may not only put environmental sustainability at disadvantage through decreasing biodiversity, but may also directly annul the environmental benefit reached through the compliance with the first criterion. If the cultivation of the agricultural inputs of biofuel production involves the conversion of land with high carbon stock or peatland, this land-use change might cause much higher GHG emissions than the GHG emission savings obtained from the usage of biofuels in general, thus the use of biofuels would not facilitate environmental sustainability.

Accordingly the EU Directive discourages obtaining the raw materials from lands with high carbon stocks and from peatlands. The directive also elaborates on which types of land are considered to fall within the above-mentioned categories and contains references on relevant international treaties. It also provides exception clauses for each land category, which, under certain circumstances, enable biofuels to partake in certain benefits even though their feedstocks have been cultivated in such protected lands. However the exceptions are only granted, if the cultivation of the biofuel inputs does not interfere with the environmental sustainability objective of the directive.

The land related criteria is detailed out in the Directive - the first of which is that raw materials used to produce biofuels should not be obtained from land with *high biodiversity* value. A number of indications are provided as to the areas which are likely to be considered as 'highly diverse' including primary forests and other wooded land where there is no indication of human activity as well as areas designated for nature protection purposes. As outlined in the Directive, raw materials taken from areas for the protection of rare, threatened or endangered eco-systems are also not permitted to be taken into account for the purposes of meeting the targets or receiving financial support. An exception is however provided for material taken from land in relation to which it can be shown that the production of biofuel feedstocks did not interfere with conservation efforts. Raw materials taken from highly diverse grassland are also prevented from being used to meet the targets

set out in the Directive. The sustainability standards established by the RE Directive also seek to discourage the use of ‘high-carbon-stock lands’ such as wetlands and continuously forested areas to produce biofuel feedstocks. Peatlands are additionally singled out as deserving of special attention due to their high carbon value and as such, raw materials derived from such areas will not be deemed to conform to the Directive's sustainability criteria unless it can be proved that production of the material did not result in the drainage of previously undrained areas. The sustainability criteria apply regardless of whether the raw material is imported or domestically produced. In the case of domestically produced feedstocks, however, producers are required additionally to adhere to a set of standards relating to good agricultural and environmental practices.⁶⁹

It needs to be laid down that the above described biofuel sustainability criteria does not prohibit the production, importation or sale of such biofuels, which do not comply with the criteria *per se*. Thus the directive does not pose a “*de jure*” legal barrier to the production, importation and sale of biofuels contrary to the sustainability criteria mentioned in the Directive. However, according to the Directive, only biofuels complying with the sustainability criteria may partake in certain benefits provided by the EU or its Member States. Only biofuels complying with the sustainability criteria may be counted towards the national targets and the RE obligations based on the directive. This means that although Member States are free to use biofuels not complying with the sustainability criteria, the usage of such biofuels shall not affect their obligation to reach a determined percentage of biofuels in compliance with the sustainability criteria in their transportation energy-mix. This may discourage Member States to use non-sustainable biofuels and may drive them to focus their efforts on using “sustainably produced” biofuels, in order to achieve their RE targets. In other words, it indirectly impacts the use of local and imported biofuels that do not satisfy the sustainability criteria.

⁶⁹ Stephanie Switzer, *supra* note 58.

Additionally, the directive stipulates that “unsustainably” (as defined by the Directive) produced biofuels shall also not be eligible to financial support for the consumption of such biofuels. In the EC transportation fuels containing biofuels may receive partial or total excise tax exemption in order to promote the use such fuels. And many Member States have chosen to give tax exemptions in accordance with the Energy Taxation Directive.

Ensuring compliance with the designated sustainability criteria is a matter for Member States who are tasked to require economic operators to show that the sustainability standards have been adhered to. To this end, Member States are mandated to ensure that economic operators submit reliable data setting out their adherence to the designated criteria. Member States are not permitted to require economic operators to adhere to additional criteria. In verifying compliance with the sustainability criteria, the Directive mandates economic operators to adopt a ‘mass balance’ system. Under this system biomass feedstocks are partly traceable to their source. Further to this, the Commission is tasked to monitor and study on the effectiveness of a mass balance system in maintaining the integrity of the verification system.

Does the “sustainability criteria provisions” violate Article I GATT?

Article I:1 GATT provides, with respect to measures falling within Art III:4, that any advantage, favour, privilege or immunity granted by any Member to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other Members.”

Article I:1 has three elements: (i) any *advantage* must be extended to (ii) the *like products* originating in any WTO Member (iii) *immediately and unconditionally*.

It may be argued that by setting the GHG emission savings criterion at 35%, by determining **different default values** for biofuels produced from different feedstocks and with different

production methods, and by providing the Commission with significant discretion in accepting agreements and voluntary schemes to prove the compliance with the sustainability criteria, the EU Directive might provide more favorable treatment for certain biofuel producer Members than for others. However, it has to be pointed out that, on basis of the typical and default values set forth by the Directive, the differential treatment is much more obvious between domestically produced and imported biodiesels, than between different imported biodiesels. The default value of the rapeseed biodiesel – which is the general biodiesel type produced in the EU – is set higher than the default value of both soybean and palm oil biodiesel – which are the most important biodiesel types produced outside of the EU. However, from the three above mentioned biodiesel types only the default value of rapeseed biodiesel exceeds the 35% minimum GHG emission savings limit, while the default value of both soybean and palm oil biodiesel remain under the GHG saving minimum, although with differing percentages. Thus, the EU Directive and the EU biofuel sustainability criteria seem to provide more favorable treatment for certain biofuels originating from certain Members, than for other biofuels originating from different Members, within particular biofuel-types.

Accordingly, it may be concluded that the EU Directive and the biofuel sustainability criteria is in violation of Article I of the GATT.

Does the “sustainability criteria” violate Article III GATT ?

According to the analysis set forth above the EU Directive and the biofuel sustainability criteria might be found to be in violation of the **Article III:1 and of Article III:4**, in respect of certain biofuel-types. Multiple requirements must be fulfilled and proven simultaneously in order to establish the violation of Article III:1 or Article III:4.

Article III:1 GATT states:

“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.”

Article 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 favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product.”

The relevance of Article III:4 to this study stems from the question of whether the operation of the sustainability criteria is such as to subject imported biofuels to ‘less favourable treatment’ than ‘like’ domestic products. Where treatment of an imported good is no ‘less favourable’ than that of domestic goods, there will be effective equality of opportunities for imported products. It therefore needs to be considered whether the introduction of sustainability criteria is such as to modify the conditions of competition between imported and domestic biofuels.⁷⁰

Biofuels that differ only on the basis of the land-related sustainability criteria are probably “like products”, because the land from which they are derived does not affect the physical characteristics of the final product. For example, a biofuel made from raw materials sourced from land with a high biodiversity level is no different physically from one made from raw

⁷⁰ Stephanie Switzer, *supra* note 58.

materials sourced from land without a high biodiversity level. In WTO literature, this scenario involves a distinction based purely on so-called non-product-related process or production methods (PPMs).

In approaching the question of ‘like products’ the AB in *European Communities – Measures Affecting Asbestos and Products Containing Asbestos*⁷¹ considered that likeness under Article III:4 turns upon a ‘determination about the nature and extent of a competitive relationship between and among products. Where two biofuels have indistinguishable physical characteristics, the same end use and a similar if not identical tariff classification, the only criterion upon which a distinction can be made on the grounds of sustainability would be consumer perceptions. While it is as yet unclear whether a distinction may be made between products based upon the way they are made, it is possible that consumer concerns as to the importance of promoting sustainably produced biofuels may permit a distinction to be made between otherwise ‘like’ biofuels. However, the more difficult question arises as to the use of a particular methodology for assessing sustainability which distinguishes between otherwise identical products. This methodology could well be used to bolster consumer perceptions that a product is or is not ‘sustainable.’ Where such methodology is questionable, the Panel in *European Communities – Trade Description of Sardines*⁷² made it clear that manipulated consumer perceptions will not be accepted as a permissible ground for a country to justify the imposition of trade restrictive measures.

Differential treatment is not per se WTO-inconsistent if it does not result in discrimination against other WTO Members. However, biofuels meeting the land-related sustainability criteria are **likely to come from certain countries**, and those not meeting the land-related sustainability criteria are likely to come from certain others. In practice, then, even if not explicitly in the Directive, the different treatment of like biofuels is likely to result in discrimination against certain WTO Members, contrary to the EU’s WTO obligations.⁷³ It

⁷¹ WT/DS 135

⁷² WT/DS 231

⁷³ Andrew Mitchell, *supra* note 60.

treats certain biofuels and bioliquids differently and unfavourably where they do not meet the land-related sustainability criteria. Tropical countries typically produce biofuels and bioliquids that do not meet the “land related sustainability” criteria, while the EC as a whole, or at the least particular EU Member states, are likely to produce biofuels that do. If this is correct, the Directive will treat less favourably that group of imported products in practice, and so result in “less favourable treatment” explained by the foreign origin of the goods, contrary to Article III:4 GATT. Thus, though no “de jure” discrimination exists in terms of an explicit discrimination, there is “de facto” less favourable treatment to biofuels coming from outside the EU. In other words, imported biofuels from certain countries would be treated “less favourably” than domestically produced biofuels since these biofuels will not satisfy the “sustainability” criteria and will not be preferred as compared to those that satisfy the criteria.

“Likeness” is not defined in the GATT. Two unadopted Panel studies have ruled that products are not unlike just because there are differences in production methods, which is what the EU has set out, when these differences do not affect the physical characteristics of the final product. Even if these studies were unadopted, they can, as later cases have shown, be a “useful guidance”, especially as they have not been opposed in subsequent cases. Essentially, biofuels produced with different land conditions will still be “like products” and have the same physical characteristics. The Biofuels that are imported into the EU and the locally produced biofuels, though may be produced with raw materials and land that differ substantially, are essentially the same product and are “like products”. Only the methods of their production differ (which are not product related) and in no way affect their physical characteristics.

It is also argued that the core sustainability criterion of a 35 per cent GHG savings may be problematic. It is possible that this figure could favour biofuel production from domestically produced rapeseed oil over imported products such as biodiesel derived from palm oil. Indeed, the ‘default’ GHG savings for biodiesel produced from rapeseed set out in the

Directive is listed as 38 per cent. While ‘actual’ savings may be higher than this, it is notable that this figure compares rather unfavourably with the default for biodiesel produced from palm oil which is listed as achieving GHG savings of only 19 per cent. Both these figures assume that there is no emissions associated with direct land-use change and do not specify the production method to be used. It is, however, clear that different modes of production will have an impact upon the GHG savings associated with particular biofuels, thereby potentially leading to a distinction being made between such fuels based upon the process and production methods used in their manufacture. While a more detailed examination is required of both the impact of these default values and reasons behind the introduction of the value of 35 per cent GHG savings, it is possible that their combined effect could result in less favourable treatment of imported biofuels as well as the raw materials used in their production. This is particularly so if the use of the 35 per cent GHG savings criterion is such as to ‘modify the conditions of competition’ between imported and domestic biofuels.

Thus, while there is no legal impediment to the use or indeed importation of biofuels that do not adhere to the strict sustainability criteria, there is an incentive against their use. As such, the establishment of these criteria is likely to alter significantly the conditions of competition between ‘sustainably’ produced and ‘unsustainably’ produced biofuels since that is the very *purpose* of the establishment of such rules.

The EU RE Directive clearly affects the sale or use of biofuels. It creates an incentive for Members to use and encourage the private consumption of those biofuels that do meet the criteria. It thus adversely modifies the conditions of competition between the domestic and imported products. Allowing certain biofuels to count towards a Member’s gross final consumption of energy from renewable sources is clearly an advantage. Member states will also inevitably introduce legislation to encourage consumers to purchase biofuels meeting the criteria over those that do not. The Directive itself recognises that biofuels “meeting those criteria [must] command a price premium compared to those that do not” if the

criteria are to achieve their environmental goals. Accordingly, biofuels different only in terms of the land from which they were produced are probably “like” products.

The Directive is principally inconsistent with Article III:4 GATT as it is based on discrimination of products that are “like”. Article III sets out the core principle of NT. Clearly, the RE Directive fails the test as it clearly affects sales of imported biofuels that do not satisfy the sustainability criteria. It should be noted that although adherence to the sustainability criteria is not mandatory, as outlined in article 17 (1) of the Directive, compliance with the sustainability criteria is *necessary* in order that a benefit be received. Thus, while biofuels which do not adhere to the sustainability criteria set out in the Renewables Directive may still make it on to European markets, they will not receive the ‘advantage’ of being able to be used to meet targets or receive other forms of financial support. Thus, biofuels that do not satisfy the sustainability criteria are treated “less favourably”. Since the biofuels that do not satisfy the criteria would predominantly be imported biofuels, it violates Article III:4 of the GATT and is in breach of EU’s obligations under the WTO. Hence, the sustainability criteria of the Directive could be challenged as being violative of EU’s obligations under Articles III GATT.⁷⁴

Does the sustainability criteria violate Article XI GATT?

GATT Article XI:1 provides that “[n]o prohibitions or restrictions other than duties, taxes or other charges” may be instituted by any Member on the importation or exportation of any product from or to another Member. GATT Art XI:1 has one element: is there a “restriction” on importation. There is also a preliminary question of the coverage of GATT Article XI:1.

⁷⁴ There is a view that the Directive is not violative of GATT obligations and even if there is a violation it is minor and subject to rectification. See Malorie Schaus & Andreas Lendle, “The EU’s Renewable Energy directive – consistent with WTO rules?”, Trade Law Clinic, 2010.

Due to the fact that the EU biofuel sustainability criteria are not mandatory and are not applied to imported biofuels on their importation, there is an opinion that Article XI does not seem to be applicable thereto. However, opinions differ in this regard.

It is argued that the Directive constitutes a *de facto* restriction by penalising biofuels that do not meet the land-related sustainability criteria. Whether this is a *de facto* restriction on *importation* requires evidence of whether or not such biofuels are typically penalised on importation. We have suggested above that they are likely to be imported products, and so the Directive is inconsistent with GATT Article XI:1. Since imported biofuels are one's that are likely to fall short of the "sustainability" criteria, in effect, they are penalized on importation. As the directive is a *de facto* restriction it could be challenged under Article XI GATT.

Is the defense of Article XX GATT available to the EU to defend their EU Directive?

Assuming the EU RE Directive is otherwise GATT-inconsistent, whether it would be saved by Article XX GATT depends on a two-tier test: first, whether the measure fits the language of paragraphs (b) or (g), and; second, whether it is applied in accordance with the "chapeau", which prohibits "arbitrary or unjustifiable discrimination between countries where the same conditions prevail" and "disguised restriction[s] on international trade".

It has been asserted that Article XX of the GATT, which gives countries the right to violate other GATT provisions if a measure has demonstrable good consequences for the environment, gives sufficient cover.⁷⁵ Whilst the EU may seek to defend such action using Article XX GATT, the chapeau of Article XX would prevent such measures having a discriminatory impact.

⁷⁵ Fredrik Erixon, "Green Protectionism in the EU – How Europe's Biofuels Policy and the RE Directive Violate WTO Commitments", ECIPE Occasional Paper no.1/2009.

Although the EU Directive and the EU biofuel sustainability criteria seem to qualify for justification under subparagraph (g) of Article XX, it is not likely that they satisfy the conditions of the chapeau, since the Directive and the sustainability criteria seem to cause “unjustifiable discrimination” and certain provisions thereof might be considered disguised restrictions on international trade. Accordingly it is not likely that the aforementioned violation of GATT and the biofuel sustainability criteria can be exempted under Article XX of the GATT.

Further, whether the Directive is otherwise consistent with GATT Article XX will depend on the extent of scientific evidence supporting the environmental effectiveness of the land-related sustainability criteria, and whether the EU’s environmental objective in excluding products that do not meet those criteria could be met in a less trade-restrictive manner.

There appears to be a less trade restrictive alternative. The Directive excludes biofuels made from raw materials obtained from land with high biodiversity in January 2008, “whether or not the land continues to have that status”. Most obviously, if the land were to lose that status for reasons unrelated to the production of biofuel (for example, the endangered species in that area became extinct for unrelated reasons), there seems to be no rational reason for excluding biofuels made from raw materials derived from that area.

The relevant question is whether the “design, architecture and revealing structure” of the measure reveals an intention to “conceal the pursuit of trade-restrictive objectives”. Whether the Directive meets these *chapeau* requirements requires information on the actual application of the Directive, because the primary focus of the *chapeau* is on how the measure is applied. Yet the most difficult part will be to square the Directive with the *chapeau* requirements of Article XX. The *chapeau* of Article XX disciplines the potential misuse of the Article – the use of the Article for other purposes than those stated in the particular paragraphs. This will be a difficult test for the RE Directive if it is implemented in a fashion that imposes trade restrictions of the kind envisioned in the directive. The Directive

is fairly straightforward in its intention to pursue trade-restrictive measures based on criteria that are somewhat arbitrarily chosen.

The problem is that it is difficult for the EU to justify violations of GATT provisions on the basis of effectiveness of the measure and scientific evidence in favour of the particular land-based sustainability criteria chosen by the EU. In the context of Article XX (b) GATT a measure is not “necessary” if there is a reasonably available less restrictive measure available. An alternative measure must also achieve the same environmental goal to the same extent as the measure at issue. Applying this approach, the emissions-related sustainability criteria appear to be more trade restrictive than necessary, because they create a bright-line 35% cut-off in GHG savings before a biofuel can be counted in calculating gross final consumption of energy from renewable sources. Thus, a biofuel that results in a 34% saving could not be counted. A less restrictive measure could allow a biofuel to be counted in an amount proportionate to the GHG savings of that biofuel.

From a legal point of view, the 35% criterion is chosen arbitrarily. There is no specific scientific consensus saying it should be 35% rather than 30% or 40%. The 35% threshold, however, ensures that domestic rapeseed oil will qualify with a small margin but that the default GHG saving of palm oil biodiesel and soybean biodiesel – the main foreign competitors to domestic rapeseed biodiesel – will not. This is one principal effect of the directive: it effectively closes future market expansion for the main biodiesel competitors.

How is the sustainability measure compliance verified? What is the process by which it is determined that biofuels satisfy the sustainability criteria as laid down. The verification procedure is laid down in Article 18 of the Directive. It mandates that “economic operators’ will have to ensure that sustainability criteria are met as per laid down procedure of a mass balance system of calculation. Further, member states must ensure that the economic operators provide reliable information.

As per Article 18 (4) there is a presumption of sustainability where bilateral or multilateral agreements are signed with other countries regarding the sustainability criteria. The Community shall endeavour to conclude bilateral or multilateral agreements with third countries containing provisions on sustainability criteria that correspond to those of this Directive. Where the Community has concluded agreements containing provisions relating to matters covered by the sustainability criteria set out in Article 17(2) to (5), the Commission may decide that those agreements demonstrate that biofuels and bioliquids produced from raw materials cultivated in those countries comply with the sustainability criteria in question.

Article 18 (7) states that when an economic operator provides proof or data obtained in accordance with an agreement or scheme that has been the subject of a decision pursuant to paragraph 4, to the extent covered by that decision, a Member State shall not require the supplier to provide further evidence of compliance with the sustainability criteria set out in Article 17(2) to (5) nor information on measures referred to in the second subparagraph of paragraph 3 of this Article.

The Directive is the latest contribution to the EU's biofuels policy. One of its main trade effects is that it will impose a new standard that will effectively restrict access to the EU market for foreign exporters. This is an illustration of the arbitrary and protective design of the biofuels standard: it targets foreign competitors more than domestic producers and, if unrestricted, it will effectively close the European market for the biofuels that really could compete with domestic produce. Palm oil is predominantly the imported biodiesel in Europe. It is also the biodiesel with greatest export potential. Biodiesel made of palm oil could become a serious competitor to domestically produced biodiesel based on rapeseed production. Subsidies and tariffs do not give sufficient protection to the domestic industry; it is also difficult to increase subsidies and tariffs. Hence, a standard could address the competitiveness problem for European biodiesel production that subsidies and tariffs cannot master. Furthermore, it particularly targets the biodiesel competitors that other

measures – subsidies and tariffs – do not protect to the same extent as other biofuels. It appears unlikely that GATT Article XX will give it legal cover.

By restricting the biofuels and bioliquids that can be taken into account in calculating gross final consumption of energy from renewable sources in EU Members to those that meet the sustainability criteria, the Directive is inconsistent with the EU's obligations under GATT. On the current state of the law, products are "like" where the only distinction between them is their method of production. In terms of the land-related sustainability criteria, such a distinction is drawn between certain biofuels and bioliquids. Thus, the less favourable treatment of biofuels not meeting those criteria is likely to result in inconsistency with the EU's obligations under GATT. It is unlikely that the sustainability criteria will pass muster with an Article XX defence.

ii. National level

While the EU Directive is at the regional level, RE support programmes are mainly at the national level and local level. A broad overview of some support schemes is attempted here. The nature and compatibility of the schemes will be analysed in the context of country specific programmes in a few countries.

The support schemes most frequently applied in the EU member countries are:

- FiTs and Feed-in premium system (Premium)
- Quota obligation
- Investment grants
- Tax incentives or exemptions
- Fiscal incentives (including soft or low- interest loans)

The most important support instrument found in the EU is the FIT scheme, ‘which is a fixed and guaranteed price paid to the eligible producers of electricity from renewable sources’. Also member states apply FiT premiums, which incurs ‘a guaranteed premium paid in addition to the income producers receive for the electricity from renewable sources sold on the electricity market’. Also quota obligations are used to stimulate RE, which implies that ‘the government creates demand through imposing an obligation on consumers or suppliers to source a certain percentage of their electricity from renewable sources’. The other support instruments have a more secondary nature. These are often combined with the main support instruments. Most of the countries use a combination of support schemes, instead of relying only on particular category.

A number of quota obligation support instruments are used. The most important quota system is the TGC system. ‘Countries with quota systems place an obligation on the market participants (producers, suppliers or consumers of electricity) to fulfill a certain percentage of their produced, purchased or consumed energy with RE’. In a quota obligation scheme RE is sold like conventional electricity at market prices. Main goal of the quota obligation scheme is to reach a certain target of RE by fixing the amount of energy supplied by the market participants.

In a TGC scheme producers of RE are compensated for the additional cost of producing RE by the sale of certificates on a separate market. The certificates are purchased for example by suppliers of electricity whom are obliged by the authorities to purchase a certain amount of certificates according to the quota. Goal of the TGC scheme is to create competition among the buyers and sellers of both RE and the certificates. This competition aims to reduce the costs and lower the price. In the TGC scheme the prices achieved by the producers of RE are composed of the market price for electricity and the price of the green certificates. The crucial component in the TGC scheme is the quota set by the government. To avoid uncertainty the ‘general quota for one period is unalterable and it has to be fulfilled

by every obligated party'. Since it is important to attract investment, the government needs to set the quota-obligation sufficiently high.

TGC schemes are considered a relatively new support scheme in the EU. In terms of effectiveness TGC schemes are especially suitable for mature RE technologies, like wind energy for example. Since TGC schemes are often designed technology neutral, the risk is that they mainly stimulate low cost RE technologies and not the expensive technologies. The low cost RE technologies are more attractive under a quota obligation system since the possible earnings are higher. A solution is to apply quota banded obligations which aim at specific RE technology. In principle, target achievement 'is given in the quota obligation system per definition, otherwise penalties must be paid'.

Other support measures:

The three remaining support instruments for RE are: investment grants, tax incentives or exemptions and fiscal incentives.

Investment grants are made available in various member states. The grants are often applied to stimulate the development of less mature technologies. Tax incentives or exemptions often complement the main support instruments. Nevertheless support via tax is considered powerful and flexible tool. This stems from the fact that this kind of support can be specifically aimed at a RE technology and can have strong impact for the selected producers. Some member states (the Netherlands for example) apply tax incentives for investment in the form of income tax deductions or credits for some fraction of the capital investment made in the RE projects. Fiscal incentives include soft loans which are loans with a lower rate than the market rate of interests. Another example of a fiscal incentive is to allow longer repayment periods. Soft loans are applied by several member states including Germany and the Netherlands. From the above mentioned, it can be concluded that the Member States in the EU apply a wide set of different support schemes to promote the use

of RE. The dominant forms are the FiT and premium systems followed by quota obligations. Where the former two stimulate RE using fixed prices the latter sets outcome obligations for the production of RE. However, the support schemes are often combined with other support instruments like tax exemptions or fiscal incentives.

In addition variants can be found where FIT schemes are combined with quota obligations. In the next paragraph criteria for determining the economic effectiveness of the different support schemes will be introduced.

FiT schemes have proven to be effective support schemes in stimulating the deployment of RE within the EU. The system is well known for its success in deploying large amounts of wind, biomass and solar energy in Germany, Denmark and Spain among others.

The effectiveness of FiT schemes is for a great part caused by the stability of the system. The fixed tariff, especially if set for a longer period, leads to a stable investment climate. If the price of RE is fixed, the risk for the investor is reduced. Particularly if the FIT scheme is combined with a purchase obligation investors are guaranteed of return on their investment. Hence, linking the FIT scheme with other support mechanism can be beneficial for the functioning of the scheme. The combination of effectiveness and investment certainty has led to a strong development of the RE industry in Germany, Spain and Denmark.

1. Germany

Germany is at the forefront of the use of RE support programmes. As per the EU Directive, it has a mandatory national target of 18% by 2020. It employs a number of programmes to achieve this, primary among them being the FiT, which is considered a model around the world and has been a successful RE support programme since the 1990s.

Though there may be other support programmes in Germany for RE, for the purposes of this study the FiT programme has been analysed in greater detail to determine its compatibility with WTO law. The German Energy blog⁷⁶ is an informative source on energy laws in Germany.

The German FiT has its basis in the EEG Act 2000⁷⁷. The WTO compatibility of the provisions of the EEG Act as well as the FiT programme will be analysed. The EEG Act (Erneuerbare Energien Gesetz – EEG) promotes RE mainly by stipulating a FiT that grid operators must pay for RE fed into the power grid.

According to Section 1.1 of the Act, the purpose of the law is stated to be to facilitate the sustainable development of energy supply, particularly for the sake of protecting the climate and the environment, to reduce the costs of energy supply to the national economy (also by incorporating external long-term effects), to conserve fossil fuels and to promote the further development of technologies for the generation of electricity from RE sources. To this end, the Act aims to increase the share of RE sources in the German electricity supply. According to Section 1.2 EEG 2012, RE shall account for 35% of the electricity production by 2020, for 50% by 2030, for 65% by 2040 and for 80% by 2050.

FiTs are paid for energy generated from the hydropower, landfill gas, sewage treatment plant gas and mine gas, biomass, geothermal energy, windpower and solar radiation sources. The tariffs vary with the generation capacity of the installations and the type of RE source. In principle, they drop annually by a pre-determined degression rate, so as to take account of cost decreases for installations and parts and to encourage technological advancements. EEG 2012 makes various adjustments with respect to the tariffs.

Pursuant to another Act pertaining to energy, the German Energy Industry Act (Energiewirtschaftsgesetz – EnWG), grid operators are legally obliged to provide access to

⁷⁶ The Blog discusses various aspects of energy law including RE at the national, state and local levels. It can be accessed at <http://www.germanenergyblog.de>.

⁷⁷ The [Renewable Energy Sources Act](#) (Erneuerbare Energien Gesetz – EEG)

the grid for all interested energy generators. The grid operators can pass the FiT costs on to the end consumer.

The EEG Act has detailed out the obligation of purchase of electricity from renewable sources by grid operators. It has also detailed out the tariff calculation structure and the various obligations of the parties concerned. The producer of RE is guaranteed a purchase at a predetermined cost for a fixed time period.

The compatibility of the German FIT programme and the EEG Act can be analysed in two contexts:

- a. Whether the mandate of the EEG Act which regulates only electricity “locally produced” from RE sources (produced in Germany) is violative of the NT principle enshrined under GATT and is a prohibited subsidy under the ASCM;
 - b. Whether the FIT scheme that guarantees a fixed tariff constitutes an “actionable subsidy” under the ASCM and hence violative of Germany’s WTO obligations.
-
- a. Whether the mandate of the EEG which regulates only electricity “locally produced” from RE sources (produced in Germany) is violative of the NT principle enshrined under GATT and a prohibited subsidy under the ASCM?

Section 2 of the EEG Act that outlines the scope of the application of the Act is as follows:

“This Act regulates:

1. *priority connection to the grid systems for general electricity supply of installations generating electricity from RE sources and from mine gas within the territory of the Federal Republic of Germany, including its exclusive economic zone (territorial application of this Act);*

2. the priority purchase, transmission, distribution of and payment for such electricity by the grid system operators, also in relation to electricity from combined heat and power (CHP) generation, and including premiums for integrating this electricity in the electricity supply system; and

a. the nationwide equalisation scheme for the quantity of electricity purchased for which a tariff or premium has been paid.”

Thus, the scope of the EEG Act is limited on a geographical basis. Article 2 of the EEG explicitly provides that the EEG regulates public grid connection (and payment of the FiT) for plant generating power from renewable energies and mine gas only on the territory of the Federal Republic of Germany, including its exclusive economic zone. This means that non-domestic generation cannot participate in the EEG.⁷⁸ The FiT tariffs are applicable to electricity generated from RE sources that is produced within the territory of Germany i.e. locally produced energy. Thus, electricity from RE sources produced outside Germany (even EU countries like France, Spain or Denmark) is not entitled for the guaranteed tariff under the EEG Act.

Article III:4 GATT prohibits discriminating against imported products. Since electricity is a “good”, restricting access to the FiT to domestically produced electricity amounts to providing “less favourable treatment” to electricity from RE sources produced outside Germany.⁷⁹

⁷⁸ Legal Opinion for RECS International on the Cross-border Trade and Redemption of RE under the Existing and Proposed EU Legal Framework.

⁷⁹ See Lenz Blog (<http://k.lenz.name/LB/>) for a discussion on this issue. See also these two links on a detailed discussion - <http://k.lenz.name/LB/?p=7123> and <http://k.lenz.name/LB/?p=7110>.

The ECJ in *PreussenElektra AG v. Schhleswag AG*⁸⁰ assumed as much. This restriction obviously restricts imports of RE to Germany from other EU member countries. However, the Court argued that these restrictions are justified by the environmental goals of the FIT.

As paragraph 73 of that decision states:

“The use of RE sources for producing electricity, which a statute such as the amended Stromeinspeisungsgesetz is intended to promote, is useful for protecting the environment in so far as it contributes to the reduction in emissions of greenhouse gases which are amongst the main causes of climate change which the European Community and its Member States have pledged to combat.”

Indeed, the FIT is designed to protect the environment by reducing GHG emissions, and the German system has been wildly successful in this goal. However, while that is true, this is not necessarily a legal justification for excluding RE from other countries (EU and outside). If anything, without that reduction, there would be even more GHG reductions. All things being equal, the system will stimulate more RE production if anybody in the EU can participate.

The mandate of Article III:4 of the GATT sets out the NT obligation with respect to non-fiscal laws, regulations and requirements. Such non-fiscal measures must accord no less favourable treatment to imports than to "like" domestic products.⁸¹ The scope for trade provided under the EEG Act would result in national schemes which would clearly include elements which systematically bias domestic renewable generation. This is incompatible with the obligations of Germany under WTO.

The way in which the level of renewable support is determined under the national schemes is also of significant importance. Further, it could be argued that minimum prices that are determined exclusively or largely based on domestic costs of RE could be suspect under

⁸⁰ [2001] EUECJ C-379/98.

⁸¹ Ibid.

Article III:4 on the basis that the very design and structure of the scheme discriminates against foreign producers of RE.

Specifically, a national scheme which intends to address not only environmental goals but also an industrial policy of promoting a domestic RE industry would fall foul of Article III:4. Where there are producers of electricity in other Member States willing to supply the needs of the regulating state at a lower price than the price required to make the electricity industry viable - which is the case for the majority of renewable support schemes in Europe - a scheme that is tailored to promote the development of generation within the domestic market would appear to breach WTO rules. Thus, the FiT provisions in Germany that restrict the applicability of the scheme to only locally produced electricity could be challenged on the basis of being violative of Article III:4 GATT.

FiT for “locally” produced electricity also indirectly encourages the local equipment manufacturers in Germany. Germany is considered one of the leaders in Solar PV manufacturing, though of late it is facing severe competition from China. The growth of the local German RE manufacturing industry is largely attributable to the assured FiT for RE from solar sources locally produced. Thus, the “local content” subsidy of buying only electricity produced in Germany is passed on to “local” RE products and thus violates Article III:4 of the GATT as well as constitutes a prohibited subsidy under the ASCM. Though there is no “explicit” local content requirement in terms of “using” only German or EU made products in power projects in Germany, the long term assured FiT has led to the inevitable growth of the German solar industry⁸² which can be attributable to the assured purchase of “locally” produced electricity. Thus, this could be considered as a violation of Germany’s obligations under the GATT and ASCM.

While the German FiT clearly **does not** have “local content” requirements that mandate purchase of locally made products to produce the electricity, the fact that the tariff or

⁸² For some references to the growth of the German industry see <http://www.spiegel.de/international/germany/german-solar-subsidies-to-remain-high-with-consumers-paying-the-price-a-842595.html>, <http://energy.korea.com/archives/26737>, http://www.unep.org/greeneconomy/Portals/88/documents/Case53_Solar_en.pdf.

“subsidy” is given only to “locally produced electricity” as against electricity from renewable sources from outside Germany raises the issue of compatibility with Article 3.1 (b) of the ASCM. Electricity as discussed earlier can be classified as a good under WTO law. The EEG Act by providing a guaranteed price only for electricity produced in the territory of Germany requires “100% local content” of the “good” subsidized. This is in violation of Article 3.1 (b) of the ASCM.

German FiT is a model throughout the world for the absence of local content requirement in purchase of goods for being eligible for the tariff. Though there is no overt preference to local content as seen in other FiT schemes, the applicability of the EEG to only “locally produced electricity” is violative of Article III:4 GATT and the FiT is a prohibited subsidy under the ASCM.

b. Whether the FiT scheme that guarantees a fixed tariff constitutes an “actionable subsidy” under the ASCM and hence violative of Germany’s WTO obligations?

Germany has issued a purchase obligation for all electricity network operators to purchase all electricity from RE sources at a minimum price. The costs for the programme are divided between electricity supply undertakings that purchase RE and private upstream electricity network operators. The network operators also manage the implementation of the programme on the basis of supplier-operator contracts. As a consequence, the German government only appears as a legislator/regulator issuing a purchasing obligation on the basis of specific requirements designed to meet the underlying public policy objective. Also the funding mechanism is ‘private’ as costs are divided among private actors with no involvement of public funds or public agents at any stage.⁸³

A FiT scheme could potentially qualify as a financial contribution in the form of ‘a governmental purchase of goods’ because, as established before, a FiT programme essentially is a purchasing guarantee for electricity.

⁸³ Marie Wilkie, *supra* note 18.

There are three different scenarios under which a FIT could be a ‘governmental purchase’. First, a public body could use public funds to execute the FIT programme itself. Second, a government could direct the programme’s execution to a private body but provide the necessary finances. Third, a government could direct a private body to execute the FIT programme, requiring the body to generate the resources directly through a reallocation of costs or other means.

As established before, the objective of a FIT programme is to provide incentives for RE power generation through the provision of fixed prices that are higher and more stable than those available under normal conditions. Eventually the measure can be construed as a purchasing guarantee. The guarantee as such, the prices above market standard and the unnaturally long duration of the contract all point to a “financial contribution” above market standard – that confers a benefit. Moreover, the FIT payment is on the basis of deemed rather than actual generation as well as the ‘right to connect’ – so the guarantee that one’s electricity gets fed into the system and will be transmitted – arguably confer a benefit.

Finally, as outlined above, a governmental support programme must also be specific in order to qualify as a subsidy within the meaning of WTO law. In all other cases specificity is deemed to exist if the support is not industry neutral, i.e. it favours certain enterprises or industries, by law or in effect, over others. For green energy subsidies it can be argued that, by nature, most of these subsidies will be available to selected enterprises and industries only, that is only those that engage in green energy generation or related manufacturing and services, which would exclude certain industries. On that basis most experts agree that FIT programmes and similar green energy support measures would qualify as specific support.

It can be argued that though the government is not actually making the guaranteed payment, the regulatory framework provides the *raison d’être* for the tariff. Thus, it can be

considered a “financial contribution” within Article 1 of the ASCM. As explained in the earlier chapter dealing with the ASCM and FiTs, it has been argued that FiTs can be considered as financial contributions.⁸⁴ In the German FiT, the government provides a regulatory framework and mandates a minimum guaranteed tariff. This is not paid “directly” by the government but by private electric utilities and the cost is passed on to the consumer. Nevertheless, it is arguable that the guaranteed tariff is a form of financial contribution under Article 1 of the ASCM.

The distinction between ‘delegation of function’ and ‘market regulation’ may not be relevant in the determination of a subsidy under the ASCM. In the common version of FiT schemes, price regulation is strictly combined with a purchase obligation. In the context of the legal analysis of subsidy, it is however the mandate to buy energy that comes into play as candidate for the financial contribution. What eventually determines whether this mandate is a subsidy is the possibility of classifying it as ‘normal governmental practice of government’. This is an uncertain criterion that seems however to simply depend on the assessment of what governments commonly do. It is this assessment which defines whether we have a ‘delegation of function’ covered by subsidy rules or rather ‘market regulation’ not covered by subsidy rules.⁸⁵

Merely because the measure is a “regulatory” measure as opposed to a direct transfer of funds, need not, *ipso facto*, exempt it from the characteristic of a financial contribution. The intent of the measure is of primary importance. The provision of a guaranteed price support in Germany is to encourage the RE sector as compared to the non-RE sector. The nature of the market in many countries is such that the government does not play an active role in the electricity market in terms of actually producing, transmitting and distributing electricity. Hence, the participation of private electricity utilities is a normal feature. If not for these private entities, the function of producing electricity and also providing price support directly to producers of RE would have vested with the government and would have

⁸⁴ See the earlier discussion in this study for a detailed analysis.

⁸⁵ See Daniel Peat, *supra* note 41.

normally been followed by governments. Thus, even though the price support mandate has the characteristic of a regulatory measure, it does delegate a function that is normally performed by government. In this sense, FITs that involve private electricity utilities paying “guaranteed prices” due to a government mandate should also be considered as financial contributions.

A “financial contribution” may well exist when the government entrusts or directs a private body to carry out one or more of the functions described under items (i)–(iii) of Article 1.1(a)(1) of the ASCM.

In the case of the German FIT, there is an explicit and affirmative action in terms of mandating a tariff and directing the electric utilities to provide it to the producers of RE electricity. ‘Entrustment or directment’ requires that the action of the government take a notion of delegation or command. According to the panel, the acts of entrusting and directing carry with them three elements: (i) an explicit and affirmative action, be it delegation or command, (ii) addressed to a particular party and (iii) and the object of which is a particular task or duty. Here, the government of Germany is “entrusting or directing” a private body (electric utilities) to “purchase goods” (electricity from renewable sources). This would have normally have been vested with the government (of mandating tariffs and providing price support) and does not differ from the government or a public utility (State electricity company) undertaking the same task (practices normally followed by governments). It is addressed specifically to electric utilities and it is a particular task to be performed. It is also clear that these measures are very similar to more traditional forms of subsidies and produce similar if not identical effects. In the *Canada — Measures Affecting the Export of Civilian Aircraft*⁸⁶ case, the AB observed that a financial contribution could include those situations where a private body has been directed by the government to engage in one of the actions defined in ASCM articles 1.1(a)(1)(i)–(iii), even if the government does not bear the cost of such delegated action.

⁸⁶ WT/DS 70, Para 160.

Thus, the German FiT under the EEG Act would constitute a “financial contribution” as per Article 1.1 (a) (1) (iv) and confers a “benefit” to the RE producer in Germany as per Article 1.1(a) (b). Hence, it would constitute a “subsidy” under the ASCM.⁸⁷

To be actionable, it needs to be established that adverse effects are caused as per the requirements of Article 5 of the ASCM. It could be argued that since the FiTs assure a guaranteed purchase of RE in Germany, it has led to the growth of the local RE equipment manufacturing industry, thus causing injury to the domestic industry of other members in terms of impacting their exports. Alternatively, “serious prejudice” would need to be shown based on evidence.

2. Spain

Spain is also considered a leader in RE production in the world. Spain’s FiT programme is amongst the leading support programmes in the world. Spain also has a biofuel directive which draws its inspiration from the EU Directive. While analyzing Spain’s support programmes, this study will dwell on its FiT programme, support for Wind Energy manufacturing at the state and local level as well as its biofuel policy.

a. Spain’s FIT Programme

Spain passed an Electric Power Act in 1997 that established an FIT programme, which was later modified in 2004 through Royal Decree 436/2004 to increase support for RE.⁸⁸ Spain’s

⁸⁷ For a contrary view, see Robert Howse, *supra* note 39 where he argues that it does not amount to a subsidy. “However, the German minimum price purchase requirements do not necessarily constitute a financial contribution within the meaning of the ASCM, because where the government entrusts or directs a private body, the ASCM also requires that the function entrusted or delegated to the private body be one that is normally performed by the government. The German minimum price purchase requirements do not represent the delegation of a governmental function to any private body; rather, they represent a regulation of the electricity market, and their directive character is in regulating market behaviour and transactions, not imposing a governmental function on a private body.”

early FIT policies were primarily motivated by energy diversification concerns. The 1997 Electric Power Act set a 12% renewable goal by 2010. These early policies established the legal basis of paying a premium above market rates for renewable power. Royal Decree 2818/1998 entitled owners of renewable systems to be paid a wholesale price plus a guaranteed premium. Although Spain's wind industry boomed under these initial policies, its solar industry did not experience a similar growth trajectory until 2007.

Royal Decree 661/2007 introduced a FIT programme in Spain. Administrators increased tariffs annually for inflation, but did not reduce the tariffs based on market response. The tariffs were established during a silicon shortage, which kept solar module prices high. When the shortage eased, module prices fell while tariffs remained at their original levels. This divergence created large profit margins for participants. No degression or periodic review was built into the tariff design in this version of Spain's FIT programme.

The price support measures in Spain offered renewable power generators two options: a premium on the market price or a fixed price, both of which have been adjusted annually since 1999. The Feed-in law was implemented in 1994, and subsequently revised and strengthened through the years. The Royal Decree 2818/1998 set an incentive of 39€cents/kWh for PV installations connected to the grid with a capacity lower than 5kW and 21€cents/kWh for PV installations more than 5kW.

The relevant law that governs FIT in Spain is the Royal Decree 2818/1998⁸⁹ which deals with the on production of electricity by facilities powered by RE resources or sources, waste or cogeneration. At the beginning of 2012, the new Spanish government showed its aversion to renewable energies very clearly. In Royal Decree Law 1/2012 from 27 January 2012, the government announced the complete suspension of all FIT for renewable electricity, whether the energy is produced by cogeneration, waste, photovoltaics or

⁸⁸ Issue Brief – FIT, Environmental and Energy Study Institute, May 2010.

⁸⁹ ROYAL DECREE 2818/1998, of December 23, 1998, on production of electricity by facilities powered by RE resources or sources, waste or cogeneration, Ministry of Industry and Energy.

concentrated solar power. However, the government assured that the new legislation does not affect systems that have already been in place or have already been approved for the FIT. Electricity producers having access to the support scheme can choose a fixed FIT or a premium on top of the conventional electricity price. No time limit is imposed on the schemes, but the fixed tariffs are reduced after 15, 20 or 25 years depending on the technology employed. In addition, soft loans, tax incentives and regional investment incentives are also available.

Article 2 of the Royal Decree 661/2007 sets out the *eligibility criteria* for the participation in the Support Scheme: in summary, the electricity producers contemplated under article 27.1 of Ley 54 of 27 November 1997 can participate in the Support Scheme if one of the following electricity sources and technologies is employed: cogeneration, solar energy, wind energy, geothermic energy, hydroelectric energy, biomass or waste.

Article 27.1, along with article 31 of the Royal Decree 661/2007, sets out an obligation for any production plant (thus including also those production plants contemplated under article 27.1) to be registered in the "Registro Administrativo de Instalaciones de Producción de Energía Eléctrica" (Administrative Register of the Electricity Production Plants) and this is done on a territorial basis.

As a result, the fact that an electricity production plant is located in the territory of Spain appears as a condition to obtain registration and consequently to participate in the Support Scheme. Thus the Spain's FIT like Germany's FIT provides a subsidy to locally generated electricity thus affording "less favourable treatment" to imported electricity. This violates Article III GATT and Article 3.1 (b) of the ASCM.

b. Support for Wind Energy Technology Manufacturing in Spain

While the FIT programme was instrumental at the national level in encouraging the growth of RE in Spain, support for wind turbine manufacturing in the various regions of Spain

triggered the growth of RE. Various support programmes for wind turbine manufacturing are implemented in various provinces of Spain. A study of some of the programmes and their impact on Spain's WTO obligation will be undertaken here. Spain's RE goals include the development of a domestic manufacturing base for renewable components, getting a piece of a growing market and creating jobs.⁹⁰

Though local content requirements have been a widely used tool in developing a manufacturing base for renewables, they may be slowly disappearing as a policy option due to the incompatibility with WTO law. However, at the local level (States and regions) Spain offers a number of support schemes which have a local content requirement. To constitute a violation of Spain's WTO obligations, the support scheme must be a "prohibited subsidy" as defined under the ASCM. Several provincial governments used local requirement - in terms of local assembly, manufacture of turbines and components - before granting development concessions to wind turbine manufacturers. By 2002, Spain ranked second in the world in terms of wind turbine operations.⁹¹

Local content requirements are currently being used in the wind markets of Spain. Spanish government agencies have long mandated the incorporation of local content in wind turbines installed in Spain. In Navarra alone, it is estimated that its 700MW of wind power has created 4000 jobs ([WPM, October 2004:45](#)). Other regions, including Castile and Leon, Galicia, and Valencia, insist on local assembly and manufacture of turbines and components before granting development concessions ([WPM, October 2004:6](#)). The Spanish government has clearly played a pro-active role in kick-starting a domestic wind industry, and the success of Gamesa and other manufacturers is very likely related to these policies.⁹² Spain represents a particularly aggressive use of such policies to support local wind turbine

⁹⁰ Paolo Cozzi, "Assessing reverse Auctions as a Policy Tool for RE Deployment", The Center for International Environment and Resource Policy, Tufts University, May 2012.

⁹¹ Muthukumara Mani, "Creating Incentives for clean technology trade, transfer, and diffusion: The role of non-distorting policies", The Graduate Institute, 2010.

⁹² Joanna I Lewis, "Fostering a RE technology industry: An international comparison of wind industry policy support mechanisms", *Energy Policy* 35 (2007) 1844-1857.

manufacturers, and the success of Gamesa and other manufacturers is very likely a result of such policy support.⁹³

Under this policy, manufacturers are required to either shift their foreign manufacturing bases to the host country or to procure a certain percentage of intermediate inputs from local parts manufacturers to meet the local content percentage set by the regulators. In some cases, local government stipulates to utility companies bidding for power projects in the country to prove their commitment to meet the local content requirement. Thus, such requirements turn out to be barriers to trade for wind turbine exporters, especially those who do not have local manufacturing facilities or networking.

The authorities in Galicia Province in Spain, for example, require utility companies applying for licenses to submit a 'strategic wind power plan'. The 'strategic wind power plan' plan must contain the applicant's commitments to support regional growth of the turbine manufacturing industry, either by establishing subsidiaries or purchasing equipment and parts from local manufacturers, in the region. In another province, Chubut, the local government has offered an incentive of \$0.005 kWh if local content requirements are fulfilled. The companies are also subject to progressive rates of local content. These increased from 30 percent in 2001, to 60 percent in 2003, and 80 percent in 2005. From 2007 onwards, 100 percent local content will be required to qualify for the incentive. Local firms that are registered in the province are Gamesa, Ecotecnia, Corporacion Energia Hidroelectrica de Navarra and MTorres. To overcome possible market entry barriers due to the local procurement policy, foreign companies such as Vestas, GE Wind, Enercon, Nordex, REpower, NEG Micon and Bonus moved to Spain to be directly involved in the production of parts and complete units of wind turbine.⁹⁴

⁹³ Joanna I Lewis, "A Comparison of Wind Power Industry Development Strategies in Spain, China and India", Center for Resource Solution, July 2007. A detailed account of how Gamesa succeeded in Spain has been given in this article partly due to the local content requirements of the Spanish authorities.

A relative latecomer to the wind power scene, Spain has been able to increase installed wind capacity and simultaneously develop a local wind industry by actively supporting local manufacturing with policies that encourage foreign companies to shift manufacturing bases to Spain in return for access to domestic markets.⁹⁵

There is no national support programme to use locally produced RE systems, but some regional governments have put these incentives in place. Wind project developers in the Galicia region, for example, must use at least 70 percent locally manufactured equipment. Navarra has a similar requirement that recently led the region to install 700 MW of locally produced wind energy systems, creating 4,000 local jobs. Altogether, three-quarters of Spain's installed wind energy systems come from domestic manufacturing facilities.⁹⁶

Spain's several years of aggressive policies to directly encourage local manufacturing, combined with a sizable and stable local market built on a FIT, have resulted in the establishment of several wind turbine manufacturers in Spain. The Spanish market has also attracted several international manufacturers to establish manufacturing facilities in Spain, including GE Wind. The success of the leading Spanish manufacturer, Gamesa, is certainly in part due to its strategic decision to form a joint-venture with Vestas and later purchase the rights to Vestas' technology and end Vestas' involvement in Gamesa's operations. Spain's wind industry combines a healthy mix of both leading international companies locally manufacturing foreign technology, and Spanish companies locally manufacturing Spanish-owned technology.

Direct policies implemented by Spain have certainly attracted local manufacturing, but indirect policies including a FIT have created a stable market for wind which in turn attracts manufacturers as well. Spanish efforts have been aided by the degree of legitimacy that has

⁹⁵ Joanna Lewis and Ryan Wider, "A Review of International Experience with Policies to Promote Wind Power Industry Development," Final Study, 2005.

⁹⁶ Kate Gordon, Julian L. Wong, and JT McLain, "Out of the Running? How Germany, Spain, and China Are Seizing the Energy Opportunity and Why the U.S. Risks Getting Left Behind", March 2010.

been brought to the industry by the commitment of all relevant actors including national, regional and municipal government, utilities keen to develop their own manufacturing and development arms, and local investors and farmers keen for a new source of income. The Spanish experience therefore demonstrates the results of an effective combination of direct and indirect wind manufacturing incentives that has attracted the interest of leading global turbine manufactures and benefited the Spanish economy.

Suppliers often must have local production facilities in order to meet the local content requirements established by regional governments.⁹⁷ Provinces that have used the local content requirement as a method of increasing economic growth include Galicia, Navarra, Castile and Leon, and Valencia. Specifically they have focused on local manufacturing of turbines and components as well as local assembly before granting eligibility for development concessions. Both Galicia and Navarra require a minimum of 70% local content, which has resulted in an estimated 4,000 local jobs for the Navarra region.⁹⁸

Spain is home to large RE companies like Iberdrola and Acciona. Both of them have a special focus on wind energy development. The presence of these large wind developers guarantees a market for wind turbine manufacturing, and two Spanish companies—Gamesa and Acciona—are among the top 10 global wind turbine manufacturers. Gamesa has 30 manufacturing facilities in Spain that make all aspects of turbines including towers, nacelles, and blades.

Violation of NT principle of GATT?

Article III GATT states that countries should not use laws or taxes to protect domestic production or to discriminate against imported products. Specifically, Article III:4 GATT

⁹⁷ Andrew S. David, *Wind Turbines – Industry and Trade Summary*, U.S. International Trade Commission, June 2009.

⁹⁸ May Hao, Matt Mackenzie, Alex Pomerant and Kate Strachan, “*Local Content Requirements in British Columbia’s Wind Power Industry*”, University of Victoria, 2010.

affirms that all imports “shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements.”

In addition, Article XI, which deals with quantitative restrictions, disallows states from using methods other than duties or taxation to restrict importation. States may not attempt to limit imports through “quotas, import or export licenses or other measures.” The aforementioned Articles are reinforced by Article I, which precludes the discrimination of a product based upon country of origin.

Thus, the Spanish success⁹⁹ in increasing the use of wind energy resulted from policies that explicitly include a requirement that “the nuts and bolts of the generation equipment be made domestically.” This is a clear violation of the NT principle under Article III GATT since imported like products are treated less favourably as compared to local products. The “local content requirement” is a clear violation of this provision and is in breach of Spain’s obligations under the WTO.

c. Spain’s Biofuel policy and directive

The EU Directive on RE lays down the broad framework for support schemes within countries. Spain has recently enacted a Biodiesel Directive in April 2012¹⁰⁰ that implements a **production quota** system for biodiesel.

The Preamble of the Ministerial Directive IET/822/2012 Order of 20 April, 2012 establishes that the purpose of the Directive is for regulating the allocation of production quantities of biodiesel for the calculation of compliance with mandatory targets for biofuels.

⁹⁹ Though there is literature on the local content requirement use by Spain’s provinces, there is a general lack of literature that analyses the law or programmes per se. The conclusion that there is a widespread use of local content requirements in provinces is based on secondary, albeit, reliable data.

The objective of the Directive is explained in Article 1 of the Directive.

“The object of this order is to regulate the procedure of allocation of production quantities of biodiesel suitable for the calculation of compliance with mandatory targets for biofuels for a period of two years, assignment may be extended for another two years.”

The nature and maximum amount of biodiesel suitable for the calculation of compliance with mandatory targets for biofuels is provided for in Article 2 of the Directive.

Article 3 lays down the condition under which request for assignments and maximum production quantities are permissible under the directive. It states:

“Holders of plants or biodiesel production units capable of being used as fuel or be incorporated into diesel fuel, which are located in Spain or in another Member State of the EU may request the allocation of an annual production biodiesel for the computation of the obligations of biofuels, if the plant has the operating license of the plant or equivalent certificate and a maximum amount equivalent to the annual production capacity licensed and accredited technical and operational, each of the plant ownership. cve: BOE-A-2012-5339”

Essentially, the biodiesel that would be eligible to be calculated for achieving the consumption targets under the EU Directive would have to be produced as per the conditions laid down in the Ministerial Order. The Ministerial Order restricts the allocation of biodiesel quotas only to biodiesel plants that produce biodiesel in EU states. Hence, biodiesel though can be imported from other countries would not be eligible to the quotas as well as consumption targets for the consumption of biodiesel as per the EU directive. Hence, defacto, there is a less favourable treatment for imported biodiesel as compared to locally produced biodiesel or EU produced biodiesel.

This is a quota system that only EU producers would be eligible to apply, and quotas would be granted to whichever EU producers chosen, and only fuel produced under this quota system would be eligible to meet Spain's consumption mandate. As per the system, EU biodiesel companies are invited to present their requests for production quota within a 30-day period. Five million tons will be distributed among producers from which at least 4 million tons should be requested by biodiesel companies to ensure fair competition.

The Spanish measure at issue is Ministerial Order IET/822/2012 (*'Orden IET/822/2012, de 20 de abril, por la que se regula la asignación de cantidades de producción de biodiésel para el cómputo del cumplimiento de los objetivos obligatorios de biocarburantes'*) (hereinafter, the Measure), which was published on 21 April 2012 and entered into force on 22 April 2012. The Measure implements a system for the allocation of biodiesel production volumes for the computing of compliance with the targets put forward by the 'RE Directive' (Directive 2009/28/CE of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC).

The provisions in Spain's Directive lay down the necessary conditions to be met by plants in order to participate in the procedure of allocation of biodiesel production volumes, for the computing of the mandatory objectives laid down by the EU regime. It provides that the holder of a plant willing to have its biodiesel computed for the purposes of the EU 'RE Directive' may request the allocation of an annual biodiesel production volume, provided that the plant is duly licensed. However, the wording of the Measure suggests that only plants located in Spain or in the EU are entitled to request the allocation of a biodiesel production volume.

The Order appears to have been promulgated under the powers delegated to EU Member States by Directive 2009/28/EC of the European Parliament and of the Council, "on the

promotion of the use of energy from renewable sources"; Directive 2003/30/EC, and the amendments thereto, establishing "annual targets for biofuels and other renewable fuels for transport purposes"; Royal Decree No. 459/2011, which establishes "mandatory targets for biofuels for the years 2011, 2012 and 2013"; and Ministerial Order ITC/2877/2008 "establishing a mechanism to promote the use of biofuels and other renewable fuels for transport purposes".

The operative part of Ministerial Order (OM) IET/822/2012 provides that computing for mandatory biofuel targets may only be conducted in relation to biodiesel produced entirely in plants located on the territory of Spain or of another EU Member State, and in line with previously allocated volumes, in accordance with the procedure established in the same Ministerial Order.

Violative of Article I and III of GATT ?

The Measure has prohibitive and trade distortive effects, in that it *de facto* prohibits the importation of biodiesel from outside the EU because it applies only to biodiesels from the EU, the Measure is discriminatory and effectively targeted at non-EU biodiesel products.

Biodiesel from non-EU countries derived from soybeans, that complies with EU "sustainability criteria" and is a 'like product' to Spanish and EU biodiesel will not be considered for the production quotas. As a result, the Measure violates the MFN treatment and NT principles under GATT.

This Ministerial Order lays down the rules to allocate biodiesel production quotas to EU based biodiesel producers whose production would be eligible to meet consumption mandates. The implementation of this quota system would ultimately restrict third countries' exports of biodiesel to Spain and result in increased domestic production of

biodiesel and a higher demand of raw materials versus finished product imports.¹⁰¹

Ministerial Order (OM) IET/822/2012 and the implementation thereof would create discrimination between the products of European origin and that of other origins, implying a de facto prohibition on imports of biodiesel from outside the Community, for purposes of computing compliance with mandatory biofuel targets. This would totally exclude the on-European products from the market. By treating EU products more favourably than other imported products, the obligations under Article I GAT are breached. Further by treating imported products “less favourably” than EU products, Article III: 4 GATT is also violated. Thus, the Spanish Ministerial Order and its implementation would in principle constitute an infringement of obligations of Spain and of the EU under Articles III:1, III:4 and XI:1 of the GATT 1994. This Ministerial Order is in breach of Spain and EU’s obligations under the WTO.¹⁰²

3. Italy

Italy is also one of the countries in the forefront of the use of RE. In Europe. Though a large number of RE support programmes are implemented in Italy, only the FiT implemented in Italy is analysed in this study in terms of compatibility with WTO law.

Legal framework

The support for energy produced from solar photovoltaic systems is contained in the Fourth Energy Bill (Conto Energia IV) in Italy. It provides a FiT to producers of RE produced from solar photovoltaic systems with provisions for an “additional tariff” in certain circumstances.

¹⁰¹ Marta Guerrero, “Spain Enacts Biodiesel Production Quota System”, USDA Foreign Agricultural Service Study No. SP1213, 2012.

¹⁰² Argentina has recently challenged the Directive at the WTO. Information about this challenge is available here - [http://www.worldtradelaw.net/cr/ds443-1\(cr\).pdf](http://www.worldtradelaw.net/cr/ds443-1(cr).pdf).

The Introduction of the Bill explains the rationale of the Bill:

“On May 12, 2011 was published in Official Gazette no. 109 Decree of the Minister of Economic Development May 5, 2011 "stimulating the production of electricity from solar photovoltaic systems. "This is the so-called fourth-in tariff for photovoltaic issued pursuant to Article 25, paragraph 10 of Legislative Decree 28/2010 ("Renewable 2020 "), which has decreed the end of the third-in tariff to 31 May 2011. This decree is applies to photovoltaic systems coming into operation after May 31 2011, until December 31, 2016, for an indicative target of installed capacity at National approximately 23,000 MW, corresponding to an approximate cost of annual aggregate incentives estimated 6 to 7 billion euros. In this new Energy Bill will set targets of temporal progression of installed capacity, which were established based on annual estimates of expenditure, the ensure the sustainability of the incentive scheme.”

The incentive mechanism is defined with reference to the following types of systems:

1. Photovoltaic systems, in turn divided into small plants and large plants;
2. Photovoltaic systems integrated with innovative features;
3. Concentration plants.

While there is a general tariff that is provided, the law provides for provisions of premiums for specific types and applications of PV systems. The incentive rate is as follows:

- a) 5% for PV systems on buildings where the same facilities are located in areas classified on the date of entry into force of this decree by the appropriate planning instrument as industrial, mines, quarries and landfills depleted area relevance of

landfills or contaminated sites;

b) 5% for small plants, made by municipalities with populations under 5000 inhabitants according to the last census ISTAT made before the date of entry into exercise of such plants, of which any such common subjects are responsible;

c) 5 cents / kWh for systems installed on buildings in lieu of coverage Eternit or containing asbestos;

d) 10% for installations where the cost of investment in the components other than labor, for not less than 60% due to a production made within the EU.(emphasis added)

Thus, the Italian government has enforced a law within the framework of its new Conto Energia IV that leads to an effect where local content is encouraged by providing an additional incentive: operators of solar power plants with at least 60 % of EU content are eligible for an additional bonus of 10 % on top of the FiTs. Italy has joined the bandwagon by giving additional 5-10% incentives for solar components manufactured in the EU.

This implies that the manufacturers must qualify their products for the incentive through an official testing and certification institute. The aim of the new regulation is to promote products made in the EU.¹⁰³ Nonetheless, the storm against Conto Energia IV might be less drastic – especially since the Japanese industry is not as affected. Companies such as Sharp and Kyocera already run production locations in Europe.¹⁰⁴

The provisions in the Italian law that provide for an additional incentive for use of locally manufactured products from the EU is a clear violation of the MFN principle under Article I GATT and NT principle under Article III:4 GATT. Like products made outside the EU are treated less favourably than like EU products by the Italian law and hence is in violation of

¹⁰³ It has been argued that Italy which is now also leading the arguments against Ontario's FiT is contradictory to its own policy. It would be rather contradictory if the EU were to file a complaint against Canada and pay no attention to what's happening in a member country.

¹⁰⁴ Sun and Wind Energy, Special Edition Italy 2011.

the obligations of Italy and the EU under GATT.

4. France

In case of France, the FiT programme has been analysed with respect to consistency with WTO law. In France, electricity from renewable sources is promoted through a price regulation system based on a FiT. Electricity suppliers and distribution grid operators are obligated to conclude agreements on the purchase of and payment for electricity, at a price fixed by an order, with the operators of systems that generate electricity from RE sources.

The FiT is a fixed FiT with premiums under certain circumstances. The tariffs are guaranteed minimum payments, which may be increased by a premium. The tariff rate depends on the costs of investment and operation, which arise for the system operators but are to be borne by the suppliers. In addition, system operators may receive a premium, which depends on the amount of electricity exported and is intended to reflect the degree to which this electricity helped achieve the national energy targets. The tariff levels are set by specific orders for each source of energy.

According to the orders on the FiT for the single technologies, eligibility for the tariff is limited in time. The duration of payment varies according to the source of energy.¹⁰⁵ In order to enforce their right to payment, system operators shall first apply to the competent prefect (regional directorate for industry, research and environment) for a certificate confirming entitlement to purchase and payment. On request, entitlement to the tariff received for a certain system may be conferred to a third party. The suppliers and the grid operators are obligated by law to enter into purchase

¹⁰⁵ Wind energy: onshore: 15 years, offshore: 20 years (Arrêté du 17 novembre 2008), Solar energy (photovoltaic energy): 20 years (Arrêté du 4 mars 2011 soleil), Geothermal energy: 15 years (Arrêté du 23 juillet 2010 géothermie), Biogas: 15 years (Arrêté du 19 mai 2011 biogaz), Biomass: 20 years (Arrêté du 27 janvier 2011 biomasse), Hydro-electricity: 20 years (Arrêté du 1er mars 2007)

agreements with the operators of RE systems (obligation to conclude agreements). Due to the agreement concluded, the system operator is contractually entitled to payment for the electricity he produces.

In France, like Germany, the end consumers bear the costs arising from the suppliers' obligation to pay for electricity from renewable sources exported to the grid.

The President of France recently¹⁰⁶ issued a Communique that indicated support for **local industry** in the case of increased tariff.

The Communique (this is based on a google translation of the original order which was in in French) stated:

The President was informed of the decision of the Commercial Court of Vienna to accept the tender submitted by EDF February 10, 2012, to resume business operations Photowatt.

He welcomes this decision which will perpetuate the French expertise in solar energy. Indeed, the industrial project of EDF for Photowatt is very ambitious, focusing both on the expertise of the only manufacturer of photovoltaic cells in France and on promising technology developed heterojunction with the CEA, as part of PV Alliance subsidiary.

This offer ensures the maintenance activity site Bourgoin thanks to the redemption of all of the panels produced by EDF-Energies nouvelles. All jobs are preserved: Photowatt directly to 345 employees and redeployment within EDF in Rhône-Alpes for others. Finally, this associate back later SMEs have shown their interest in Photowatt and who had also filed recovery projects.

¹⁰⁶ This was made in 2012.

Beyond the rescue of Photowatt, the government is very committed to the establishment of an industrial solar French. Thus, from April, a 10% premium on the redemption price of solar electricity will be established when 60% of the value of the installation panels are European. Finally, the State supports research and development in solar thermal and photovoltaics as part of Investments for the Future.

As President Chirac has said employees of Photowatt: "France is committed very strongly in favor of solar energy and strengthening the industrial sector associated with it. In this context, the resumption of Photowatt was more than a duty, a necessity."

The 10% premium on the tariff in case 60% of the value of solar installation panels are European is clearly in violation of the domestic content obligations under GATT and ASCM of France. It also violates the MFN treatment since it treats products from the EU favourably. The local content requirement is a clear violation of the MFN principle under Article I GATT since it treats European goods more favourably than other imported goods. Further, it is in violation of Article III GATT as imported goods are treated "less favourably" than local goods since their use does not lead to the additional premium of 10% on the tariff. The French FiT would also constitute a "subsidy" under the ASCM on similar principles discussed in relation to the German FiT. Further, the additional 10% premium for "locally produced" ("EU produced" goods) contravenes the provisions of Article 3.1 (b) of the ASCM and hence would constitute a prohibited subsidy.

b. Japan

Japan has embarked on a new legislation for FiT in RE. In an effort to diversify the country's energy base, the Japanese Diet has taken an aggressive measure to encourage the

development of RE resources.¹⁰⁷ The *Act on Purchase of RE Sourced Electricity by Electric Utilities (Act)*, which became effective on 1 July 2012, establishes a FIT regime for RE. Under the Act, electric utility operators are required to purchase electricity generated from renewable electricity from suppliers for prices and durations fixed by the Minister of Economy, Trade and Industry. This regime guarantees a market with fixed, and relatively high, prices for electricity generated from renewable resources, and is widely expected to spur investment in Japan's RE supply industry.

The renewable electricity targeted by the Act includes electricity generated by (i) solar, (ii) geothermal, (iii) wind (iv) hydroelectric, (v) biomass and (vi) other renewable means to be stipulated by ministry ordinances under the Act, such as ocean thermal energy, wave power and tidal current power.

After a supplier has received accreditation, it may then apply to enter into an agreement with an electric utility operator. The electric utility operator must enter into an agreement with the renewable electricity supplier to purchase the renewable electricity. The terms of the agreement are determined by METI. The electric utility operators are also obligated to connect the suppliers to their power network if the suppliers apply for such connection. The utilities will be required to enter contracts with providers of five renewable types of energy: solar, wind, geothermal, mini hydro and biomass. The providers must first gain METI's approval.

The Japan FIT, like the German FIT does not seem to have any domestic content requirement either for participation or an added incentive. Since, there is a lack of “local content” requirement in the Japanese FIT legal framework the issue of violation of the NT or MFN under GATT does not arise. Nevertheless, it would be open to challenge on the grounds that only locally produced electricity is eligible for the tariff. However, the Japanese FIT could satisfy the condition of a subsidy under the ASCM and would need to be analysed in terms of being an “actionable” subsidy.

c. U.S.

a. Federal level

This is not an exhaustive study of all federal level support programmes in the U.S.¹⁰⁸ At the federal level there are a plethora of support measures that the U.S. Government implements in the RE sector ranging from PTCs, ITCs to loans and grants¹⁰⁹. This study touches only upon the PTCs for wind energy and the ARRA¹¹⁰ provisions relating to “Buy American” provisions and RE projects.

PTCs

At the federal level, the PTCs are the most common support scheme for RE in the U.S. It has its legal basis in Section 45 of the IRC of the U.S.

“§ 45. Electricity produced from certain renewable resources**(a) General rule**

For purposes of section 38, the renewable electricity production credit for any taxable year is an amount equal to the product of—

(1) 1.5 cents, multiplied by (2) the kilowatt hours of electricity—

(A) produced by the taxpayer (i) from qualified energy resources, and (ii) at a qualified facility during the 10-year period beginning on the date the facility was originally placed in service, and

¹⁰⁸ For a summary of programs see Lynn J. Cunningham and Beth A. Roberts, “Renewable Energy and Energy Efficiency Incentives: A Summary of Federal Programs”, Congressional Research Service Report, March 22, 2011.

¹⁰⁹ In the U.S. the Loan Guarantee Scheme is also widely used to support RE. Details about the Loan Guarantee Scheme are found in this website - https://lpo.energy.gov/?page_id=45. However, it is not a subject of this study and would require a separate analysis. It would be worthwhile to study the various loans and grants in the light of the provisions under the ASCM.

¹¹⁰ Popularly called the Stimulus Package it refers to The American Recovery and Reinvestment Act, 2009.

(B) sold by the taxpayer to an unrelated person during the taxable year.”

Section 45 of the IRC outlines PTC incentives for wind, biomass, geothermal, landfill gas, trash, qualified hydropower, and marine and hydrokinetic projects that generate electricity. Under current law, the PTC for new wind projects will no longer be available as of January 1, 2013. For all other eligible RE projects, the PTC is available to projects placed in service before January 1, 2014. PTC policies provide incentives for electricity projects by providing a tax credit for each kwh of electricity produced by a qualified project during the first 10 years of operation. Currently, the tax credit for wind projects is 2.2 cents (\$0.022) per kilowatt-hour.

The PTC reduces the federal income tax of qualified tax-paying owners of RE projects based on electricity (measured in kwh) sold to third parties. A tax credit is a sum deducted from the total amount a taxpayer owes to the state. It is generally available for projects producing and selling energy from specified types of renewable technologies—most notably wind, biomass, and geothermal. The generating assets must be located in the U. S. and placed in service by statutory deadlines (currently December 31, 2012, for wind facilities and December 31, 2013, for other eligible facilities). Originally established under the Energy Policy Act of 1992, the PTC has been renewed and expanded numerous times.¹¹¹ Most recently re-implemented in 2009 under Section 1101 of the ARRA, the PTC was extended through December of 2012. By reducing the cost of wind power by approximately one third, the PTC has proven instrumental in integrating wind turbines into the American energy infrastructure.

The historical importance of the PTC especially to the U.S. wind power industry is illustrated by the pronounced lulls in wind power capacity additions in the three years (2000, 2002, and

¹¹¹ The website of the Department of Energy has a succinct explanation of the PTCs at http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F.

2004) in which the PTC lapsed, as well as the increased development activity often seen during the year in which the PTC is otherwise scheduled to expire.

Cash grant in lieu of PTC

Acknowledging the conspicuous absence of tax equity investors in the market following the financial crisis of late 2008, Section 1603 of ARRA enables qualifying RE projects to elect a 30% cash grant in lieu of the PTC or ITC. Relative to the PTC and ITC, the 30% cash grant can provide a significant amount of value to RE projects, especially given a tight financing environment in which finding investors to take advantage of federal tax incentives has been challenging. Not surprisingly, then, the programme has been heavily subscribed, with roughly \$5 billion in Section 1603 cash grants awarded since the programme's implementation in late-July 2009. As one example, more than 6,400 MW – i.e., more than 64% – of all new wind power capacity installed in the U.S. in 2009 chose the grant. Eligible projects must begin construction by the end of 2010 to be eligible for the grant, however, at which point incentives will revert back to the PTC and ITC, absent a change in federal law extending the programme. In the meantime, it is clear that this programme has played a large role in supporting the continued expansion of RE use in the U.S. despite the challenging economic climate of the last two years.

To date, the wind industry has been the largest beneficiary of federal PTCs. The industry has experienced substantial growth over the last several years, with annual capacity installations generally increasing since 2005. As of the end of March 2012, cumulative U.S. wind power capacity was 48,611 megawatts, equal to approximately 4% of total U.S. generation capacity. In 2011 wind was the largest source of non-hydro renewable electricity generation, providing approximately 120 million megawatt-hours, roughly 3% of total U.S. generation.¹¹²

¹¹² Phillip Brown, “U.S. Renewable Electricity: How Does the Production Tax Credit (PTC) Impact Wind Markets?”, Congressional Research Service Study, June 20, 2012.

The PTC has been a major federal government incentive in the RE sector. The importance of the PTC to the industry is evident as installations of wind power have consistently fallen in the year following the lapse of the tax credit. The ARRA extended the Section 45 PTC “placed in service” date for wind to the end of 2012, and allowed PTC-eligible facilities placed in service from 2009 and 2012 to choose a 30% ITC in place of the PTC, or to receive a 30% grant.¹¹³ It should be emphasized that none of these programmes – PTC, ITC, or Treasury Grant – impose any requirements on or provide any encouragement for the local sourcing or manufacturing of the equipment used in RE projects. In his sense, there are no local content requirements that are violative of GATT provisions.

U.S. and non-U.S. companies, and equipment manufacturing within and outside of the U.S., are all eligible under these programmes. The only “location” requirement is that the projects themselves must be within the border of the U.S. (i.e., projects cannot be located in Canada and Mexico, even if the renewable electricity is delivered to the U.S.¹¹⁴

In each of the years during which the PTC lapsed (2000, 2002, and 2004), meaning that it expired prior to being renewed, the level of additional deployed wind capacity slowed or collapsed when compared to the previous year’s total: 93% in 2000, 73% in 2002, and 77% in 2004. Yet, when the PTC incentive was extended in 2004, 2007, and 2009, the industry responded positively, increasing wind power capacity compared to the previous year. 2010 was an exception to this trend with a drop in wind capacity of nearly 50% from 2009, even with the PTC in place.¹¹⁵

ARRA and PTC

¹¹³ Richard J. Campbell, “China and the U.S.—A Comparison of Green Energy Programmes and Policies”, Congressional Research study, June 14, 2010.

¹¹⁴ The bare text of the Bill is found here: <http://www.gpo.gov/fdsys/pkg/BILLS-111hr1enr/pdf/BILLS-111hr1enr.pdf>
<http://www.efchina.org/csepupfiles/study/2010123042835311.72262888309933.pdf/A%20Brief%20Survey%20on%20the%20Fiscal%20Policies%20Supporting%20RE%20in%20the%20US.pdf>

¹¹⁵ Michaela D Platzer, “U.S. Wind Turbine Manufacturing: Federal Support for an Emerging Industry”, Congressional Research Service Study, September 23rd, 2011.

On February 13, 2009, U.S. Congress passed a stimulus package known as ARRA 2009 to promote employment and investment.

The preamble of the ARRA¹¹⁶ states:

“Making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending September 30,2009, and for other purposes.”

The purpose of the Act is stated as follows:

- (1) To preserve and create jobs and promote economic recovery.*
- (2) To assist those most impacted by the recession.*
- (3) To provide investments needed to increase economic efficiency by spurring technological advances in science and health.*
- (4) To invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits.*
- (5) To stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive state and local tax increases.”*

As a whole, ARRA 2009 focuses in two areas: 1) appropriations for government programmes, and 2) tax-based incentives. Of the \$787 billion package, more than \$40 billion in spending is appropriated for clean energy initiatives. New and modified tax incentives targeting clean energy are estimated to cost an additional \$20 billion.

¹¹⁶ The American Recovery and Reinvestment Act, 2009.

The Table below summarizes a select group of provisions contained in ARRA 2009 that could directly impact how renewable power projects are financed in the U.S. Specifically, ARRA 2009 provides a multi-year extension of the PTC and allows PTC-eligible technologies to elect the ITC instead. It also allows projects to forego the ITC and instead elect a cash grant of equivalent value. Finally, for projects that take either the ITC or equivalent cash grant, ARRA 2009 removes the double-dipping penalty formerly triggered by the use of “subsidized energy financing.”

Summary of Select Project-Finance-Related Provisions in ARRA 2009 ¹¹⁷

Provision	Details from The American Recovery and Reinvestment Act of 2009
Extends the PTC In-Service Deadline	Extends the PTC through 2012 for wind, and through 2013 for closed- and open-loop biomass, geothermal, landfill gas, municipal solid waste, qualified hydroelectric, and marine and hydrokinetic facilities. In 2008, the inflated PTC stood at \$21/MWh for wind, geothermal, and closed-loop biomass, and \$10/MWh for other eligible technologies.
Provides Option to Elect the ITC in Lieu of the PTC	Allows PTC-qualified facilities installed in 2009-13 (2009-12 in the case of wind) to elect a 30% ITC in lieu of the PTC. If the ITC is chosen, the election is irrevocable and requires the depreciable basis of the property to be reduced by one-half the

¹¹⁷ Mark Bolinger, Ryan Weiser, Karlynn Cory and Ted James, “PTC, ITC, or Cash Grant? An Analysis of the Choice Facing Renewable Power Projects in the United States,” NREL/TP-6A2-45359, March 2009.

	amount of the ITC.
Provides Option to Elect a Cash Grant in Lieu of the ITC	Creates a new programme, administered by the Treasury, to provide grants covering up to 30% of the cost basis of qualified RE projects that are placed in service in 2009-10, or that commence construction during 2009-10 and are placed in service prior to 2013 for wind, 2017 for solar, and 2014 for other qualified technologies.
Removes ITC Subsidized Energy Financing Penalty	Allows projects that elect the ITC to also utilize “subsidized energy financing” (e.g., tax-exempt bonds or low-interest loan programmes) without suffering a corresponding tax credit basis reduction. This provision also applies to the new grant option described above.
Extends 50% Bonus Depreciation	Extends 50% bonus depreciation (i.e., the ability to write off 50% of the depreciable basis in the first year, with the remaining basis depreciated as normal according to the applicable schedules) to qualified RE projects acquired and placed in service in 2009.

The ARRA extends the RE PTC, so that initiation of this credit will be available for facilities put in place through 2013. Facilities that generate power from wind, closed-loop biomass, and geothermal resources are eligible for a tax credit of 2.1 cents per kWh for the first ten years of a RE facility's operation. Facilities that generate power from open-loop biomass,

landfill gas, municipal solid waste resources, qualified hydropower, and marine and hydrokinetic resources are eligible for a tax credit of 1.0 cents/kWh. This credit is an alternative to taking a tax credit to cover the cost of purchasing and installing the property that generates the energy. This credit will be based, as stated above, on the amount of energy generated.

PTC and the ASCM

The provision of PTCs in ARRA raises the issue of subsidies under the ASCM. Are PTCs subsidies that are prohibited or actionable under the ASCM? Since they are not dependent on export performance or local content, they would not be prohibited subsidies.

To be an actionable subsidy, it has to be first established that the PTC is a “subsidy” under Article 1 of the ASCM. Further, to be actionable, the subsidy must cause an adverse effect as per Article 5 of the ASCM.

As per Article 1 of the ASCM, subsidy is deemed to exist where there is a financial contribution by a government or any public body within the territory of a Member. As per Article 1.1 (1) (a) (iii) of the ASCM a financial contribution exists where government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits).

It is abundantly clear that PTCs are tax credits where revenue (tax) that was otherwise due has been foregone to encourage RE. Thus, PTCs would satisfy the condition of a financial contribution and thus deemed to be a subsidy under the ASCM.

A subsidy to be actionable under the ASCM must cause adverse effects to the interests of other members as per Article 5 of the ASCM. Adverse effects are caused if the use of the subsidy causes injury to the domestic industry of another member, nullifies or impairs benefits accruing directly or indirectly to other Members under GATT 1994 in

particular the benefits of concessions bound under Article II of GATT 1994 or causes serious prejudice to the interests of another member.

It is an established fact that incentives to wind projects have benefited the local wind manufacturing industry of turbines, inverters, blades etc. Though no domestic content requirements are included in the PTC, the PTC has indirectly favoured the local wind industry to establish itself since an assured demand of products exists.¹¹⁸ Thus, the correlation between the growth of the local wind turbine industry in the U.S. and PTC can be construed as causing injury to the wind turbine manufacturing industry outside the U.S.

Public statements by major wind turbine assemblers appear to support the view that U.S. made turbines will have increasing domestic content. For example, Gamesa reports that its domestic content on U.S. made wind turbines is nearly 60%. Vestas has stated that it expects that 80% to 90% of the content of its turbines will be manufactured domestically, including components from suppliers. Analysts have concluded that because of the increase in U.S. based wind turbine and component manufacturing, among other reasons, “the share of domestically manufactured wind turbines and components has grown in recent years, while the import share has witnessed a corresponding drop.” These researchers found that the overall import fraction declined from 65% in 2005-2006 to 40% in 2009-2010. They state that the size and stability of the U.S. wind power market in the future will determine whether this trend continues.¹¹⁹ The growth of the U.S. wind industry has been repeatedly recognized in these references.¹²⁰

¹¹⁸ Ryan Wiser, Mark Bolinger, and Galen Barbose, “Using the Federal Production tax Credit to Build a Durable Market for Wind Power in the United States,” November 2007 argue in their article ‘Using federal Production tax Credit ...’ that a longer term PTC encourages local manufacturing of wind turbines.

¹¹⁹ Michaela D. Platzer, “U.S. Wind Turbine manufacturing: Federal Support for an Emerging Industry”, Congressional Research Service Report, 2011.

¹²⁰ http://www.usitc.gov/publications/332/working_papers/ID-25.pdf,

<http://www.whitehouse.gov/the-press-office/fact-sheet-23-billion-new-clean-energy-manufacturing-tax-credits>

<http://governorswindenergycoalition.org/wp-content/uploads/2011/03/GWC-PTC-Letter-Final2-11-15-11.pdf>,

<http://www.governorswindenergycoalition.org/assets/files/President%20Obama%20Wind%20Energy%20Letter%2>

Thus, it is clear that PTCs in the U.S. constitute “subsidies” that causes adverse effects on the interests of other members. The interests of other members are affected since their wind manufacturing industry exports are impacted because of the growth of the industry in the U.S. due to the PTCs. It is thus an actionable subsidy and violates the U.S.’s obligations under the ASCM.

“Buy American” provision in ARRA – Violative of GATT and ASCM?

The “Buy American” provision is perhaps the most controversial in relation to the compatibility with WTO law. It clearly mandates the use of goods manufactured in the U.S. under certain circumstances. Section 1605 of the ARRA deals with the “Buy American” principle.

Section 1605 of the ARRA states the following:

“USE OF AMERICAN IRON, STEEL, AND MANUFACTURED GOODS.

(a) None of the funds appropriated or otherwise made available by this Act may be used for a project for the construction, alteration, maintenance, or repair of a public building or public work unless all of the iron, steel, and manufactured goods used in the project are produced in the U.S.

(b) Subsection (a) shall not apply in any case or category of cases in which the head of the Federal department or agency involved finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron, steel, and the relevant manufactured goods are not produced in the U.S. in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron, steel, and manufactured goods produced in the U.S. will increase the cost of the overall project by more than 25 percent.

[o%28July%2024,%202011%29.pdf,](#)

http://upcommons.upc.edu/pfc/bitstream/2099.1/14136/1/Master%20Thesis_Oriol%20Batlle.pdf

(c) *If the head of a Federal department or agency determines that it is necessary to waive the application of subsection (a) based on a finding under subsection (b), the head of the department or agency shall publish in the Federal Register a detailed written justification as to why the provision is being waived.*

(d) *This section shall be applied in a manner consistent with U.S. obligations under international agreements.”*

The provision deals with projects for the construction, alteration, maintenance, or repair of a public building or public work and the use of all of the Iron, Steel and manufactured goods in that project produced in the U.S. Though the “Buy American” provision is defended as a “government procurement” measure, there is ambiguity about the applicability of this provision to RE projects that are funded under the ARRA¹²¹. What is mandated is that none of the “funds appropriated or made available under this Act” be used for a public building or public work unless all of the iron, steel, and manufactured goods used in the project are produced in the U.S. The scope of a “public work” is unclear. It is clear that PTCs would be funds appropriated or made available under this Act. However, whether RE projects supported by the PTCs could be categorized as “public works” needs to be analysed. Thus, if the “Buy American” provisions extend to RE projects that receive funding from PTCs, then there is a possibility of a violation of WTO obligations. Thus, the applicability of the “Buy American” provision in the context of RE projects that are funded by ARRA funds would have to be closely scrutinized to establish violation of WTO obligations.

A proposed legislation¹²² titled the **“Manufacture Renewable Energy Systems: Make it in America Act of 2011”** however seeks to make the local content requirement mandatory for PTCs and ITCs. Though this has not been enacted yet, it indicates that the trend towards ‘local content’ requirements at the federal level in the U.S.

¹²¹ Discussion on the ambiguity is found here - <http://www.lexology.com/library/detail.aspx?g=420a8379-631f-4f19-89a9-dc003f40cfb5>, http://www1.eere.energy.gov/recovery/buy_american_provision.html.

¹²² <http://www.govtrack.us/congress/bills/112/hr487/text>

The preamble of the proposed legislation states:

“To require 100 percent domestic content in green technologies purchased by Federal agencies or by States with Federal funds and in property eligible for the renewable energy production or investment tax credits.”

The provisions, seeking to amend Section 45 of the IRC of 1986, essentially mandate that to be eligible for a PTC a facility shall not be treated as a qualified facility unless it “is 100 percent manufactured in the United States, from articles, materials, or supplies 100 percent of which are grown, produced, or manufactured in the United States.”

If enacted, this statute would be a clear violation of both the GATT and ASCM provisions relating to local content. The status of this proposed statute needs to be closely tracked.

b. State level

Apart from federal level policies, a number of State led initiatives/programmes support RE in the U.S. While this study does not purport to cover the entire ambit of RE support programmes at the State level, a few programmes are studied across certain States in terms of their WTO compatibility. **Dsire**¹²³, a U.S. Department of Energy website dedicated to RE support programmes of the different states of the U.S., is a comprehensive guide to the various programmes that are run to support RE. It has details of the programmes including project implementation manuals and is a storehouse of information on State level programmes. Since a large proportion of support programmes are implemented at the sub-national level in the federal structure of the U.S., the study of state-specific programmes becomes both relevant and critical.

¹²³ <http://www.dsireusa.org/>

China has recently¹²⁴ challenged some of the RE support programmes in a few States as violating WTO obligations of the U.S. This would, of course depend on the specific provisions of the programme as well as the impact they have on obligations under the GATT and ASCM.

This study focuses on some RE support programmes in the States of Massachusetts, New Jersey, Washington, Montana and California.

The following programmes have been analysed:

1. State of Massachusetts: Commonwealth Solar II
2. State of New Jersey: RE Manufacturer's Incentive Programme
3. State of Washington: RE Cost Recovery Incentive Programme
4. State of Montana: Montana Tax Incentive for Ethanol production
5. State of California: Self-Generation Incentive Programme

1. State of Massachusetts – Commonwealth Solar II Programme

The State of Massachusetts provides financial rebates to consumers who install RE technology through a programme called the Commonwealth Solar II Programme. The programme provides rebates for homeowners and businesses in Massachusetts who install solar PVs. A tax rebate is a refund on taxes when the tax liability is less than the taxes paid. Rebates are granted through a non-competitive application process for the installation of photovoltaic (PV) projects by professional, licensed contractors at residential, commercial,

¹²⁴ The official Ministry of Commerce website of China made an announcement in this regard which is found here - <http://english.mofcom.gov.cn/aarticle/policyrelease/domesticpolicy/201206/20120608161120.html>. It stated: "The investigating authority considers that the investigated measures of the U.S. including Washington Funds Project to Encourage Renewable Fuel Production, Wind Generation and Manufacturing Projects of Ohio, State Energy Programme of New Jersey, State Rebate Programme of Massachusetts, and California's Self-Generated Incentive Programme constitute prohibited subsidies as stated in Article 3 of the WTO ASCM (ASCM), violate provisions of Article 3 of ASCM and Article 3 of the GATT 1994, distort normal international trade, and constitute trade barriers by "violating or failing to fulfill the obligations stated in the trade treaty or agreement signed or jointed agreed by the country (region) and China" as stated in Article 3 of the Rule of Investigation."

industrial, institutional and public facilities. In addition to the base incentive, further incentives (“adders”) are available for installations using components manufactured in Massachusetts, for individuals with moderate income or home values, and for those who are rebuilding in the wake of a natural disaster.

This Programme helps finance the installation of solar PV systems for residential, non-profit, public, and commercial projects up to 15kW in capacity.¹²⁵ Commercial projects are eligible for rebates for PV projects less than or equal to 15 kilowatts (kW) in capacity and the rebate will be based on the first 5 kW only. Funding is released in “blocks” every quarter.¹²⁶

Rebate amounts are based on the total PV system size per building, regardless of the number of electric meters in use and certain other characteristics of the project. The proposed Commonwealth Solar II rebate levels for residential and commercial PV systems are:

- Base incentive: \$0.40/watt
- **Adder for Massachusetts company components: \$0.05/watt**¹²⁷
- Adder for moderate home value: \$0.40/watt (applicable to residential projects only), or
- Adder for moderate income: \$0.40/watt (applicable to residential projects only)
- Natural Disaster Relief Adder (see programme manual for detailed eligibility requirements): \$1.00/watt

There is a Programme Manual¹²⁸ for the implementation of the project. The Programme Manual details out¹²⁹ the conditions under which the added incentive for the rebate would be given:

“Residential Rebate Adder Requirements:

¹²⁵http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MA71F&re=1&ee=1

¹²⁶ http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MA71F&re=1&ee=1

¹²⁷ There is an added incentive/rebate of \$0.05/watt for Massachusetts company components. Thus an added incentive for domestic content requirements is part of the programme.

¹²⁸ http://www.masscec.com/masscec/file/CSII_Programme_Manual_V11_Final.pdf

¹²⁹ Ibid at page 8.

Massachusetts Company Components Adder

To qualify for this adder, the System Owner must provide evidence that the modules, the inverter(s), and any other significant component which is important to the electricity production of the project are manufactured by a company with a significant Massachusetts presence, as determined at the sole discretion of MassCEC. Current companies and products on this list are:

- *Evergreen Solar: modules¹³⁰*
- *Schott Solar: modules¹³¹*
- *Satcon: inverters*
- *Solectria Renewables: inverters*
- *Beacon Power: inverters*
- *Panel Claw: mounting systems*
- *GreenRay panel/integrated micro inverter”*

Whether the provision of the added incentive for products produced in Massachusetts is in conformity with U.S. obligations under GATT and ASCM would have to be reviewed. This added rebate is based on a requirement of goods being procured that are manufactured locally in Massachusetts. The added rebate, which would constitute a “financial contribution” (since it is a “revenue foregone”) under the ASCM, is contingent on a local content requirement. This would constitute a “prohibited subsidy” under Article 3.1 (b) of the ASCM and thus is violative of U.S. obligations under the ASCM. It also violates the NT principle under Article III GATT by providing a “less favourable” treatment to imported products compared to products manufactured in Massachusetts (local products) since the added incentive is not applicable to products not manufactured in Massachusetts.

¹³⁰ Only Evergreen Solar modules that were purchased on or before March 31, 2011 are eligible for the Massachusetts Company Components Adder. In order to verify this, Primary Installers/Integrators will need to submit purchase order documentation demonstrating the purchase date of the modules at project completion.

¹³¹ Only the Schott Solar ASE 300 series modules manufactured in Billerica, MA are eligible for the MA Adder.

2. New Jersey –New Jersey RE Manufacturing Incentive

The NJ REMI is an incentive to consumers who purchase solar panels and inverters manufactured in New Jersey with a rebate for panels starting at 25 cents per kW, and for inverters starting at 15 cents per kW. This incentive is available for projects up to 500kW. The NJREMI will offer rebates to residential and non-residential market segments that purchase solar panels or inverters manufactured in New Jersey.

The incentive is designed to support the growth of RE products manufactured in New Jersey. The programme seems to have a clear intention of encouraging local production of solar panels.

To qualify for incentives under this programme, applicants must demonstrate that they propose to use products which are manufactured in New Jersey. Specifically, products manufactured with 50% of manufactured product cost including the cost of labor, overhead, components, and raw materials must be sourced from facilities located in New Jersey or alternatively products manufactured by a facility provided incentives under the BPU/EDA Clean Energy Manufacturing Programme.

In addition to the 50% test, criteria for considering new eligible products for the NJREMI incentive include: the degree to which the product is specifically tailored to support RE generation, the absolute and relative cost of the product, and how other states may consider the product in their manufacturing incentive programmes.¹³² The programme provides rebates to New Jersey residents, businesses, local governments, and non-profit organizations that purchased and installed solar panels, inverters, and racking systems manufactured in New Jersey.¹³³

¹³² New Jersey's Renewable Energy Manufacturer's Incentive Proposal

¹³³ <http://www.njcleanenergy.com/renewable-energy/programmes/renewable-energy-manufacturing-incentive>

The program details are found here¹³⁴. The eligibility of products manufactured in New Jersey is evident:

“New Jersey manufacturers under the NJREMI Program must supply products manufactured with at least 50 percent of the product cost – including the labor, overhead, components, and raw materials – from facilities located in New Jersey. Products must also comply with applicable Underwriters Laboratory standards and be commercially available to the public. The chart below lists the NJREMI approved companies and products.

NJREMI Approved Companies/Products as of 5/18/11

Company	Product	Product Approval Date	Website
Petra Solar	Inverters	7/8/09	petrasolar.com
Princeton Power Systems	Inverters	12/16/09	princetonpower.com
Cadmus Solar	Panels & integrated racking system	8/24/10	cadmussolar.com
Advanced Solar Products	Racking system	2/2/11	advancedsolarproducts.com
Fiore Solar Products	Racking system	3/10/11	pepcosheetmetal.com
Renewable Energy Holdings	Racking system	3/14/11	genmounts.com
MX Solar USA	Panels	5/18/11	mxsolarusa.com

The provision of the rebate being contingent on supply of “products manufactured with at least 50 percent of the product cost – including the labor, overhead, components, and raw materials – from facilities located in New Jersey” is clearly a violation of the NT principle under Article III:4 of GATT since it treats like imported products less favourably than like local products. It also amounts to being a prohibited subsidy under Article 3 ASCM since the rebate (subsidy) is contingent on the use of local products and is therefore in breach of U.S. obligations under the WTO.

¹³⁴ <http://www.njcleanenergy.com/renewable-energy/programs/renewable-energy-manufacturing-incentive/for-customers/approved-companies-products>.

3. Washington - RE Cost Recovery Incentive Programme

The State of Washington implements RE support schemes that confer incentives to producers of RE. Production incentives are given to producers of RE by power utilities. However, added incentives are given to those projects that use locally produced products (manufactured in Washington).

In May 2005, Washington enacted Senate Bill 5101, establishing production incentives for individuals, businesses, and local governments that generate electricity from solar power, wind power or anaerobic digesters.¹³⁵ The incentives apply to power generated as of July 1, 2005, and remain in effect through June 30, 2020. A utility may not claim any tax credits for incentive payments after June 30, 2021. The incentive amount paid to the producer starts at a base rate of \$0.15 per kilowatt-hour (kWh) and is adjusted by multiplying the incentive by the following factors:

- For electricity produced using solar modules manufactured in Washington state: 2.4
- For electricity produced using a solar or wind generator equipped with an inverter manufactured in Washington state: 1.2
- For electricity produced using an anaerobic digester, by other solar equipment, or using a wind generator equipped with blades manufactured in Washington state: 1.0
- For all other electricity produced by wind: 0.8

The intent¹³⁶ of the legislation is clear about encouraging local production in Washington:

"The legislature finds that the use of renewable energy resources generated from local sources such as solar and wind power benefit our state by reducing the load on the state's electric energy grid, by providing nonpolluting sources of electricity generation,

¹³⁵ Details of the project are found here -

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=WA27F&re=1&ee=1

¹³⁶ The intent of the legislation is found here - <http://apps.leg.wa.gov/RCW/default.aspx?cite=82.16.110>.

and by the creation of jobs for local industries that develop and sell renewable energy products and technologies.

The legislature finds that Washington state has become a national and international leader in the technologies related to the solar electric markets. The state can support these industries by providing incentives for the purchase of locally made renewable energy products. Locally made renewable technologies benefit and protect the state's environment. The legislature also finds that the state's economy can be enhanced through the creation of incentives to develop additional renewable energy industries in the state.

The legislature intends to provide incentives for the greater use of locally created renewable energy technologies, support and retain existing local industries, and create new opportunities for renewable energy industries to develop in Washington state."

These multipliers result in production incentives ranging from \$0.12 to \$0.54/kWh, capped at \$5,000 per year. The Certification system¹³⁷ required for availing the incentive clearly seeks information of locally produced equipment and those that are produced outside.¹³⁸ It states, inter alia:

“(e) Requirements of the certification request. *This certification request must contain, but is not limited to, the following information:*

...

(iii) Confirmation that the electricity produced by the applicant meets the definition of "customer-generated electricity" and that the renewable energy system produces electricity with:

(A) Any solar inverters and solar modules manufactured in Washington state;

(B) A wind generator powered by blades manufactured in Washington state;

¹³⁷ <http://apps.leg.wa.gov/wac/default.aspx?cite=458-20-273>

¹³⁸ <http://dor.wa.gov/docs/forms/misc/renewenersystcertinvcstrecincprgm.pdf>

- (C) A wind generator with an inverter manufactured in Washington state;
- (D) A solar inverter manufactured in Washington state;
- (E) A solar module manufactured in Washington state;
- (F) Solar or wind equipment manufactured outside of Washington state;”

The application form seeking payment of incentive for production of RE indicates that an added incentive is provided for RE produced by products manufactured in Washington State.¹³⁹ There are different categories of locally produced goods, which are listed in the application:

1. Solar modules manufactured in Washington
2. Stirling converter manufactured in Washington
3. Solar or wind generating equipment with an inverter manufactured in Washington
4. Both solar modules and inverter manufactured in Washington
5. Anaerobic digester or other solar equipment or wind generator equipped with blades manufactured in Washington
6. Wind generator equipped with both blades and inverter manufactured in Washington
7. All other electricity produced by wind

The payment of added incentive contingent on purchase of locally manufactured products has the characteristic of a “domestic content” requirement. It is violative of Article III:4 of the GATT in light of the NT principle as well as Article 3.1 (b) of the ASCM relating to prohibited subsidies.

4. Montana Tax Incentive for Ethanol production

In Montana, ethanol producers receive a tax credit only if their ethanol is produced from Montana agricultural products, or is produced from non-Montana agricultural products only when Montana products were unavailable. Montana has enacted the “Ethanol Tax Incentive

¹³⁹ <http://dor.wa.gov/Docs/forms/Misc/RenewEnerSystCustCstReIncPmtAppl.pdf>

and Administration Act of 1983” which essentially makes incentives contingent on use of locally produced ethanol.¹⁴⁰

The purpose¹⁴¹ of the legislation is clear:

“The purpose of this part is to establish schedules for the tax incentive for the production of ethanol to be blended for ethanol-blended gasoline and to provide for the proper administration and enforcement of the tax incentive. The schedules for the tax incentive are designed to stimulate the development of ethanol production in Montana while limiting the cost to the state of the tax incentive to amounts that are reasonable in relation to the highway revenue needs of Montana.”

Montana-based ethanol producers are eligible for a tax incentive of \$0.20 per gallon of ethanol produced solely from Montana agricultural products, or ethanol produced from non-Montana agricultural products when Montana products are unavailable. If the producer uses non-Montana based agricultural products, the amount of the tax incentive for each gallon is reduced proportionately, based on the percentage of non-Montana based agricultural or wood products used in production. The tax incentive is available to a facility for the first six years from the date production begins. Ethanol eligible for the incentive must be blended with gasoline for sale as ethanol-blended gasoline in Montana, exported from Montana for sale as ethanol-blended gasoline, or used in the production of ethyl tertiary butyl ether for use in reformulated gasoline. An ethanol producer is not eligible to receive the tax incentive unless the entity uses at least 20% Montana products to produce the ethanol in the first year of production and 25% Montana products in the second year, and the producer must increase the amount of Montana product used each year thereafter by 10%¹⁴².

¹⁴⁰ <http://codes.lp.findlaw.com/mtcode/15/70/5>

¹⁴¹ <http://codes.lp.findlaw.com/mtcode/15/70/5/15-70-502>

¹⁴² See [Montana Code Annotated](#) 15-70-522

Tax Incentive on Ethanol produced from local products as against imported agricultural products. The provision dealing with the incentive is as below:

“Montana Code - Section 15-70-52 – Rules 2: Tax Incentive for Production of Ethanol¹⁴³

“(1) (a) If the ethanol was produced in Montana from Montana agricultural products, including Montana wood or wood products, or if the ethanol was produced from non-Montana agricultural products when Montana products are not available, there is a tax incentive payable to ethanol distributors for distilling ethanol that:
(i) is to be blended with gasoline for sale as ethanol-blended gasoline in Montana;
(ii) was exported from Montana to be blended with gasoline for sale as ethanol-blended gasoline; or
(iii) is to be used in the production of ethyl butyl ether for use in reformulated gasoline.
(b) Payment must be made by the department out of the amount collected under 15-70-204.

(2) Except as provided in subsections (3) and (4), the tax incentive on each gallon of ethanol distilled in accordance with subsection (1) is 20 cents a gallon for each gallon that is 100% produced from Montana products, with the amount of the tax incentive for each gallon reduced proportionately, based upon the amount of agricultural or wood products not produced in Montana that is used in the production of the ethanol. The tax incentive is available to a facility for the first 6 years from the date that the facility begins production. The facility shall file a business plan with the department at least 2 years before the estimated beginning date of production. After the initial business plan is filed, the facility shall provide the department with quarterly updates regarding any changes to the business plan.

(3) Regardless of the ethanol tax incentive provided in subsection (2):

(a) the total payments made for the incentive under this part may not exceed \$6 million in any consecutive 12-month period;

¹⁴³ <http://codes.lp.findlaw.com/mtcode/15/70/5/15-70-522>

- (b) a plant or facility is not eligible to receive the tax incentive unless the facility paid the standard prevailing rate of wages for heavy construction, as provided in 18-2-401(13)(a), during the construction phase; and
- (c) an ethanol distributor is not eligible to receive the tax incentive unless at least:
- (i) 20% Montana product is used to produce ethanol at the facility in the first year of production;
 - (ii) 25% Montana product is used to produce ethanol at the facility in the second year of production;
 - (iii) 35% Montana product is used to produce ethanol at the facility in the third year of production;
 - (iv) 45% Montana product is used to produce ethanol at the facility in the fourth year of production;
 - (v) 55% Montana product is used to produce ethanol at the facility in the fifth year of production; and
 - (vi) 65% Montana product is used to produce ethanol at the facility in the sixth year of production.”

Thus, it is evident that the “tax incentive” which is a financial contribution under the ASCM is contingent on the use of locally produced ethanol, which is a “local content” regulation. This violates Article 3.1 (b) of the ASCM and is in breach of U.S. obligations under the ASCM. It is also incompatible with Article III:4 GATT since the programme provides “less favourable” treatment to products not produced in Montana as compared to local products (Montana products).

5. State of California: Self-Generation Incentive Programme (SGIP)

The State of California has been at the forefront of the use of RE in the U.S. It has a production incentive programme, SGIP, wherein an incentive is given to producers of RE. The SGIP provides for financial incentives for the installation of new, qualifying self-

generation equipment installed to meet all or a portion of the electric energy needs of a facility.

The SGIP - with 1,507 completed projects for a total capacity of 412 megawatts - is one of the longest-running and most successful distributed generation incentive programmes in the country. In 2010 alone, these facilities provided over 680,000 MWh of electricity to the California, enough electricity to meet the needs of over 100,000 homes. With another 111 projects under development for an additional 79 megawatts of capacity, the Programme continues to make strides in California.

As per the legislation¹⁴⁴, a clear mandate to provide an additional incentive of 20% for projects that source their products from local (Californian) suppliers is present. As per the amendment¹⁴⁵ to Section 379.6 (g) of the Public Utilities Code, the following provisions have been added:

“(g) (1) In administering the self-generation incentive programme, the commission shall provide an additional incentive of 20 percent from existing programme funds for the installation of eligible distributed generation resources from a California supplier.

(2) “California supplier” as used in this subdivision means any sole proprietorship, partnership, joint venture, corporation, or other business entity that manufactures eligible distributed generation resources in California and that meets either of the following criteria:

(A) The owners or policymaking officers are domiciled in California and the permanent principal office, or place of business from which the supplier’s trade is directed or managed, is located in California.

(B) A business or corporation, including those owned by, or under common control of, a corporation, that meets all of the following criteria continuously during the five years

¹⁴⁴ http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_0401-0450/sb_412_bill_20091011_chaptered.pdf

¹⁴⁵ http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_0401-0450/sb_412_bill_20091011_chaptered.pdf

prior to providing eligible distributed generation resources to a self-generation incentive programme recipient:

- (i) Owns and operates a manufacturing facility located in California that builds or manufactures eligible distributed generation resources.
- (ii) Is licensed by the state to conduct business within the state.
- (iii) Employs California residents for work within the state.”

The Manual of the SGIP also reiterates the added incentive for RE electricity produced using locally produced products. As per Section 6 of the Handbook that deals with Incentives, it states:

“6.8 Incentives for Technologies from a California Supplier

An additional incentive of 20 percent will be provided for the installation of eligible distributed generation or Advanced Energy Storage technologies from a California Supplier. “California Supplier” means any sole proprietorship, partnership, joint venture, corporation, or other business entity that manufactures eligible distributed generation technologies in California and that meets either of the following criteria:

A) The owners or policymaking officers are domiciled in California and the permanent principal office, or place of business from which the supplier’s trade is directed or managed, is located in California.

Or

B) A business or corporation, including those owned by, or under common control of, a corporation, that meets all of the following criteria continuously during the five years prior to providing eligible distributed generation technologies to an SGIP recipient:

- i) Owns and operates a manufacturing facility located in California that builds or manufactures eligible distributed generation technologies.*
- ii) Is licensed by the state to conduct business within the state.*
- iii) Employs California residents for work within the state.*

For purposes of qualifying as a California Supplier, a distribution or sales management office or facility does not qualify as a manufacturer.”

The provision of the added incentive contingent on use of locally produced products (Californian products) is violative of U.S. obligations under ASCM and GATT. It is in violation of Article III:4 of the GATT as imported products are treated “less favourably” than local products by not being eligible for the incentive. The self-generation incentive is a “financial contribution” which amounts to a subsidy under the ASCM. Since the added incentive is contingent on the use of local products, to that extent, it is incompatible with U.S. obligations under the ASCM as it amounts to a “prohibited subsidy”.

Chapter V- Lessons for India

This study is not an account of the most efficient or effective RE support programmes. It is limited to studying a few RE support programmes implemented in the EU, Japan and the U.S. Nevertheless, can India draw some lessons from support programmes implemented in other countries especially in the context of their compatibility with WTO law? Can it be a guide on what should be done and more importantly, what should not be done? It is also noticed that state support to RE is leading to friction between trading partners since they view forms of state support by other states as adversely affecting their local industry. The worlds of trade and environment protection have to be delicately balanced within the context of trade rules.

A brief summation of a few lessons India can adopt from this study are mentioned below:

1. “Local content requirements” though followed by many countries as a strategy to promote domestic industry, is a clear violation of WTO rules. It exposes a country’s programme to an easy assault by trading partners at the WTO DSM¹⁴⁶. A violation of Article III GATT and Article 3.1 (b) of the ASCM is normally easier to establish and the General Exception in Article XX GATT too would be a weak defence due to the discriminatory nature of the programme.
2. Support programmes for RE can be a diverse set of incentives and policies. Not all support programmes would be in contravention of GATT or the ASCM. While drafting an RE support programme, it should be a prerequisite to ensure that “prima facie” there is no violation of these Agreements. Careful consideration and innovative interpretations may help in designing policies that achieve both the purpose of encouraging RE as well as not violating WTO obligations.

¹⁴⁶ The case of Ontario’s FiT at the WTO is an example wherein for the first time a FiT programme has been called into question though FiTs have been implemented for years now. The existence of “local content” requirements is one of the major reasons for this challenge.

3. Countries across the developed and developing worlds implement a wide array of programmes to encourage RE. As a policy it would be better to assess strategic national interest when challenging particular programmes that have the maximum impact.
4. The knowledge about possible violations of WTO law by RE support programmes of other countries should be a part of a nation's strategy at the WTO.
5. The WTO law demands a high degree of transparency in terms of notifying subsidies and measures undertaken at the national level. The example of the U.S. Dsire website¹⁴⁷ is a classic example of how transparency standards can be implemented. This website has the details of all the RE support programmes implemented in the U.S. and at the state level including the project implementation manuals. It is rare to find such a storehouse of information in the public domain for any other country. This enhanced transparency is a positive step for awareness within the country too about the programmes supported by government. However, it also opens the country to challenges if the provisions are blatantly in violation of WTO norms.
6. A multidisciplinary team of energy experts, including renewable energy experts, economists, trade law experts and trade policy officials should be constituted to analyse the plethora of prominent RE programs in the context of their WTO compatibility. The mechanism must be institutionalized to ensure that this analysis is not a one time effort but is an ongoing process feeding into policy analysis and strategy of India at the WTO.
7. Thus, lessons learnt from this study of the compatibility of RE programmes with WTO law must be incorporated in shaping a national strategy for RE growth which is innovative yet compatible with world trade rules.

Chapter VI – Conclusion

¹⁴⁷ <http://www.dsireusa.org/incentives/index.cfm?state=us>.

The study of a few RE support programmes implemented in the E.U., Japan and the U.S. indicate that some of the provisions of the programmes are not compatible with various WTO Agreements and are in breach of their obligations under trade rules.

A summarization of the issues relating to compatibility of RE support programmes in the EU, Japan and the U.S. is found below:

1. At the EU level, the provisions dealing with the “sustainability criteria” of biofuels in the RE Directive treats imported products “less favourably” than local products and is in violation of Article III:4 GATT.
2. The provisions of the German FiT that mandate the purchase of only locally produced electricity at a guaranteed tariff treats imported products (electricity produced outside Germany) less favourably than locally produced electricity and hence is violative of Article III:4 GATT.
3. The German FiT amounts to a “prohibited subsidy” under Article 3 ASCM since the guaranteed tariff is a “financial contribution” conferring a benefit on the producer of RE and is contingent on purchase of “locally produced” electricity only.
4. The German FiT can also be challenged as an “actionable subsidy” since it is a “financial contribution” that confers a benefit and causes adverse effects as per Article 5 ASCM.
5. The Spanish FiT provision that imposes a condition that an electricity production plant be located in the territory of Spain to obtain registration and consequently to participate in the support scheme amounts to a subsidy to “locally generated” electricity thus affording “less favourable treatment” to imported electricity. This violates Article III GATT and Article 3 of the ASCM.
6. The local content requirement in a number of support schemes of local governments in Spain relating to wind turbine manufacturing is a violation of Article III GATT provisions since imported products are treated “less favourably” compared to locally produced products.

7. The Ministerial Order in Spain relating to biodiesel quota obligations is violative of Article I and III GATT as it favours locally produced biodiesel over imported biodiesel.
8. Both France and Italy have local content requirements in their FiT schemes that are incompatible with Article III GATT and Article 3 ASCM.
9. Japan's FiT too does not have any local content rules but can be challenged on the same grounds as Germany's FiT.
10. The PTC provided by the federal government in the U.S. would amount to a subsidy under the ASCM which can be challenged as an "actionable" subsidy. Further, the "Buy American" Provision in ARRA raises serious questions on the compatibility of the ARRA with GATT and ASCM.
11. State level programmes in the U.S. in Massachusetts, New Jersey, Washington, Montana and California all provide for local content requirements in varying forms and thus violate Article III:4 GATT and Article 3 ASCM.

It is evident that while RE support programmes are part of the larger issue of environmental protection policy, trade rules are not tuned to this paradigm. Experts have argued that existing rules do not address the realities of climate change completely and that there is a need for a comprehensive "Energy Agreement" within the WTO to address various issues that the present law is unable to address.¹⁴⁸ However, whether there is a need for law reform and what kind of reform is beyond the scope of this study. The aim of this study is not to suggest law reform but to analyse existing renewable support programmes in light of present international trade rules.

¹⁴⁸ Thomas Cottier, Olga Nartova, Luca Rubini, Sadeq Z. Bigdeli, Sofya Matteotti, Yulia Selivanova, "Towards a WTO Framework Agreement on Trade in Energy", Background Note for the Second Biennial Global Conference of the Society of International Economic Law (SIEL), 8.07-10.07.2010. They essentially argue that "Existing WTO rules do not appropriately address all the needs of energy trade today. Ensuring security of supply and addressing climate change mitigation, creating an effective incentives mechanism to reduce CO₂ emissions are the first priorities. Therefore, we recommend a move towards a comprehensive sectoral agreement on energy, which would encompass subsidies reform, introducing a temporary exemption similar to the former greenlight category of the ASCM; creation of a check-list of core and related energy services that would facilitate making additional commitments; and redrafting of Article X:6 of the revised GPA 2007 to include a more explicit recognition of climate-related measures."

It is pertinent to note that though other sectors have been sufficiently represented in the DSM, perhaps the small size of the RE industry and the minimal impact it has on domestic business interests compared to other sectors is a reason for the lack of trade disputes. There is no doubt that we can expect to see more disputes as these markets grow. The recent U.S. Solar Manufacturers requests that the U.S. take antidumping measures against China, as well as the Japan-EU-US complaints against Ontario FiT, and a December 2010 U.S. Trade Representative's accusation against China's Special Fund for Wind Power Manufacturing indicates that trade disputes in this sector will gradually increase. Further, China has just completed a preliminary investigation against state level RE support programmes in the U.S.

Irrespective of the legal question of whether some measures of support of RE amount to a subsidy objectionable under WTO rules, another issue is whether any country will initiate a dispute. Who is going to challenge these measures if, as has been seen, they are so widespread and followed across countries? Who is going to throw stones which could eventually damage the flinger too? Countries provide subsidies in support of energy in varying degrees. It is seen that subsidization of energy is tolerated, the only exceptions being those cases where we have more obvious breaches (like export subsidies or subsidy measures with local content requirements). The tacit agreement has probably been that public support to energy be allowed provided that the most overt protectionist tendencies be kept at bay. We may be having a typical 'glasshouse' situation here.

No country, perhaps, has an interest in raising a claim and risk a probable counter-claim. Strong national business interests or loss of markets could perhaps provoke an initiation of a trade dispute. The existence of real or expected substantial trade interests is the main catalyzer of trade litigation. As we have seen, RE production and trade are increasingly becoming significant. The magnitude of the economic and political interests is rising. Technology (for example wind, solar) is developing fast and, far from merely limited to satisfying domestic needs, is beginning to be exported. There are several examples. It has, for instance, been recently noted that German RE industry's turnover amounts to €30

billions of which a large part is due to technology exports. Brazil is the second biggest producer of ethanol biofuel (the first being the US) and the world's largest exporter. This technological and commercial success owes significantly to various forms of sustained public support and this would also prompt initiation of disputes against RE support programmes that favour local products.

When the stakes of international intra-industry competition become high, however, policies that interfere too defiantly with the trade process may not be accepted. That is when local RE support programmes will be gradually challenged at the international fora. The larger question is whether, in a few years, with hindsight, these few disputes on local content will just be viewed as wise or unwise skirmishes which served to reinstate the international 'rules of engagement' of public support for RE or whether they will pave the way to a dramatic readjustment of these rules with a substantial lowering of the tolerance level. The obstacles to RE and market failures may disappear or in any event diminish. At the same time, if the trend is confirmed, production and trade in RE will increase. The markets will become larger, competition unleashed and the distortions of subsidies more evident. Complaints from aggrieved industries to act and action by governments, in the form of trade remedies and WTO litigation, will thus increase.

Thus, to conclude, where a RE programme requires the use of local products instead of like foreign products, they may be pursued as a violation of Article III GATT concerning NT. Where the programme provides a subsidy, as defined in Articles I and II of the ASCM, which causes an adverse effect to a fellow WTO member, the programme may be contested as an actionable subsidy under Article 5 of the ASCM. Where the programme conditions receipt of a subsidy on the use of local content, it may be considered prohibited under Article 3.1(b) of the ASCM. Evidently however, the current WTO rules potential disciplining and limiting of RE support mechanisms conflicts with the general practice of countries to further the goals of environmental protection and encourage the RE sector. The balance perhaps is to be

achieved through law reform or a more creative interpretation of existing trade rules. Both these propositions seem to be challenging tasks.

Bibliography

I. Articles

1. Aaron Cosbey, “Renewable energy subsidies and the WTO: The wrong law and the wrong venue”, *Subsidy Watch*, Issue 44, June 2011.
2. Alan O. Sykes, “The Questionable Case for Subsidies Regulation – A Comparative Perspective”, *Journal of Legal Analysis*, Volume 2, Number 2, Fall 2010.
3. Andreas Lendle and Malorie Schaus, “Sustainability Criteria in the EU Renewable Energy Directive: Consistent with WTO Rules?”, *ICTSD Information Note No.2*, September 2010.
4. Andrew D.Mitchell and Christopher Tan, “The Consistency of the EU Renewable Energy Directive with the WTO Agreements”, *Georgetown Business, Economics and Regulatory Law Research Paper No.1485549*, October 2009.
5. Anuradha R.V. and Sumiti Yadava, “India: Implementing incentives focused on energy”, *Working Paper, IDDRI*, No. 06/12 April 2012.
6. Carol Ni Ghiollarnath, “Renewable Energy Tax Incentives and WTO law: Irreconcilably Incompatible? An Examination of the WTO-Consistency of Direct Corporate tax Incentives for the Development of Renewable Energy”, *Ph.D. Dissertation*, January 2011.
7. Christine Rosch and Johannes Skarka, “The European Biofuels Policy and Sustainability”, *International Association*.
8. Christopher Beaton and Tom Moernhout, “A literature on subsidies to electricity from RE sources”, *NCCR Trade Working Paper No.2011/63/June 2011*.
9. Christopher Dann, Sartaz Ahmed, Owen Ward, “Renewables at a Crossroads”, *Booz & co.*, 2011.
10. Daniel Gergely Szabo, “Compatibility of the EU biofuel sustainability criteria with WTO law”, *MSc. In EU Business and Law Master Thesis*, 2010.

11. Daniel Peat, “The Wrong rules for the Right Energy: The WTO ASCM and Subsidies for Renewable Energy”.
12. Elizabeth Doris, Sarah Busche, Stephen Hockett and Joyce McLaren, “The Role of State Policy in Renewable Energy Development”, Conference Paper NREL/CP-6A2-45971, July 2009.
13. Eric Lantz, Frank Oteri, Suzanne Tegen and Elizabeth Doris, “State Clean Energy Policies Analysis (SCEPA): State Policy and the Pursuit of Renewable Energy Manufacturing”, Technical report NREL/TP -6A2-46672, February 2010.
14. Frank.A.Seminario, “A Tale of Two Subsidies: How federal Support Programmes for Ethanol and Biodiesel can be treated in order to circumvent Fair Trade challenges under World Trade Organisation Rulings”, 26 Penn St. Int'l L. Rev. 963 2007-2008.
15. Fredrik Erixon, “Green Protectionism in the EU – How Europe’s Biofuels Policy and the Renewable Energy Directive Violate WTO Commitments”, ECIPE Occasional Paper no.1/2009.
16. Gary Clyde Hufbauer, Jacob Funk Kirkegaard, Woan Foong Wong and Jared Woollacott, “US Protectionist Impulses in the Wake of the Great Recession”, Peterson Institute for International Economics, March 2010.
17. Gary Clyde Hufbauer and Jisun Kim, “Climate Change and Trade: Searching for ways to avoid a train wreck”, Centre for Trade and Economic Integration, The Graduate Institute, 2010.
18. Janet L.Sawin, “National Policy Instruments – Policy Lessons for the Advancement and Diffusion of Renewable Energy Technologies Around the World”, Thematic Background Paper, March 2004.
19. Jeffery Logan and Ted L. James, “A Comparative Review of a Dozen National Energy Plans: Focus on Renewable Energy and Efficient Energy”, Technical report NREL/TP-6A2-45046, March 2009.
20. Jeffry S. Hilman, “The Green Economic Recovery: Wind Energy Tax Policy After Financial Crisis and the American recovery and reinvestment Tax Act of 2009”, 24 J.Env'tl. Law and Litigation 35.

21. Jip Engels, “The promotion of electricity from Renewable Energy sources in the EU”, LL.M. Law and Economics, Utrecht, August 2011.
22. Joanna I Lewis, “Fostering a Renewable Energy technology industry: An international comparison of wind industry policy support mechanisms”, *Energy Policy* 35 (2007) 1844-1857.
23. Joanna I Lewis, “A Comparison of Wind Power Industry Development Strategies in Spain, China and India”, Center for Resource Solution, July 2007.
24. John R. Luckey, “Domestic Content Legislation: The Buy American Act and Complementary Little Buy American Provisions”, Congressional Research Service Report, 2012.
25. Jonathan Pershing and Jim Mackenzie, “Removing Subsidies – Levelling the Playing Field for Renewable Energy Technologies”, Thematic Background Paper, March 2004.
26. Legal Analysis: Sustainability Criteria Compliance Review for *Jatropha curcas* Biofuels from the Dakatcha Woodland in Kenya”, Client Earth.
27. Leslie Alejandro, “Renewable Energy Services in the GATS”, United States International Trade Commission.
28. Leslie Alejandro, “Renewable Energy Services in the GATS”, Yale School of Forestry and Environmental Studies, 67.
29. Luca Rubini, “The Subsidization of Renewable Energy in the WTO: issues and Perspectives”, NCCR Trade Working paper No. 2011/32| June 2011.
30. Ludivine Tamiotti and Vesile Kulacoglu, “National Climate Change Mitigation measures and their implications for the Multilateral Trading System: Key Findings of the WTO/UNEP report on Trade and Climate Change”, *Journal of World Trade* 43, no.5 (2009): 1115-1144.
31. Lynn J. Cunningham and Beth A. Roberts, “Renewable Energy and Energy Efficiency Incentives: A Summary of Federal Programs”, Congressional Research Service Report, March 22, 2011.
32. Magnus Lodefalk and Mark Storey, “Climate Measures and WTO Rules on Subsidies”, *Journal of World Trade* 39 (1): 23-44, 2005.

33. Malorie Schaus and Andreas Lendle, “The EU’s Renewable Energy directive – consistent with WTO rules?”, Trade Law Clinic, 2010.
34. Malorie Schaus & Andreas Lendle, “Sustainability Criteria in the EU Renewable Energy Directive: Consistent with WTO Rules”, ICTSD Information Note No.2, September 2010.
35. Marco M. Slotboom, “Subsidies in WTO Law and in EC Law- Broad and Narrow Definitions:”, *Journal of World Trade* 36(3): 517-542, 2002.
36. Marie Wilkie, “Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal View”, Issue paper No.4, International Centre for Trade and Sustainable Development, 2011.
37. Mark Bolinger, Ryan Weiser, Karlynn Cory and Ted James, “PTC, ITC, or Cash Grant? An Analysis of the Choice Facing Renewable Power Projects in the United States”, NREL/TP-6A2-45359, March 2009.
38. Marta Guerrero, “Spain Enacts Biodiesel Production Quota System”, USDA Foreign Agricultural Service Study No. SP1213, 2012.
39. May Hao, Matt Mackenzie, Alex Pomerant and Kate Strachan, “Local Content Requirements in British Columbia’s Wind Power Industry”, University of Victoria, 2010.
40. Michael E. Streich, “Green Energy and Green Economy Act, 2009 ; A ‘FIT’-ing Policy for North America?”, 33:2 *Houston Journal of International Law* 419.
41. Michaela D Platzer, “U.S. Wind Turbine Manufacturing: Federal Support for an Emerging Industry”, Congressional Research Service Report, September 23rd 2011.
42. Michaela D. Platzer, “U.S. Solar Photovoltaic Manufacturing: industry Trends, Global Competition, Federal Support,” Congressional Research Service Report, May 2012.
43. Muthukumara Mani, “Creating Incentives for clean technology trade, transfer, and diffusion: The role of non-distorting policies”, The Graduate Institute, 2010.
44. Nele Bunner, “EU Energy Policy and Sustainability of Biofuels: The Case of Jathropa in Central and South America”, Institute for European Environmental Policy, 2010.

45. Panagiotis Delimatsis, “GATS, Financial Services and Trade in Renewable Energy Certificates (RECs) – Just another Market-Based Solution to cope with the Tragedy of the Commons?”, NCCR Trade Working Paper No.2006/31, 2007.
46. Paolo Cozzi, “Assessing reverse Auctions as a Policy Tool for RE Deployment”, The Center for International Environment and Resource Policy, Tufts University, May 2012.
47. Richard J. Campbell, “China and the United States – A Comparison of Green Energy Programmes and Policies”, Congressional Research Service Report, 2010.
48. Robert Baugh and William Robson, “Buy American/Buy Canadian – The New Protectionism”, Woodrow Wilson International Center for Scholars, Issue 12 April 10.
49. Robert Howse, “Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis”, International Institute for Sustainable Development, May 2010.
50. Robert Howse, “World Trade Law and Renewable Energy: The case of Non-Tariff Barriers”, UNCTAD, 2009.
51. Ryan Wiser, Mark Bolinger, and Galen Barbose, “Using the Federal Production tax Credit to Build a Durable Market for Wind Power in the United States”, November 2007.
52. Stephanie Switzer and Joseph A. McMahon, “EU biofuels policy – raising the question of WTO compatibility”, International and Comparative Law Quarterly, 2011.
53. Thomas Cottier, Garba Malumfashi, Sofya Matteotti-Berkutova, Olga Nartova, Joelle De Sepibus and Sadeq Z.Bigdeli, “Energy in WTO Law”, Individual Project No.6, “Energy in WTO law and policy’.
54. Thomas Cottier, Olga Nartova, Luca Rubini, Sadeq Z.Bigdeli, Sofya Matteotti, Yulia Selivanova, “Towards a WTO Framework Agreement on Trade in Energy”, Background Note for the Second Biennial Global Conference of the Society of International Economic Law (SIEL), 2010.
55. Tony Harmer, “Biofuels Subsidies and the law of the WTO”, Issue Paper No.20, ICTSD, 2009.
56. Wang Mingyuan, “Government Incentives to Promote Renewable Energy in the United States”, XXIV Temple Journal of Sci.Tech.& Env'tl. Law 355.

II. Books

1. Clarisse Frass-Ehrfeld, *Renewable Energy Sources – A Chance to Combat Climate Change*, Kluwer Law International, 2009.
2. Joost Pauwelyn (Ed.), *Global Challenges at the Intersection of Trade, Energy and the Environment*, Centre for Trade and Economic Integration, The Graduate Institute, 2010.
3. Luca Rubini, *The Definition of Subsidy and State Aid: WTO and EC Law in Comparative Perspective*, Oxford University Press, 2009.
4. Patrick F.J. Macrory, Arthur E. Appleton and Michael G. Plummer (Eds.), *The World Trade Organization: Legal, Economic and Political Analysis*, Springer, 2005.
5. Pietro Poretti, *The Regulation of Subsidies within the General Agreement on Trade in Services of the WTO – Problems and Prospects*, Kluwer Law International, 2009.

III. Cases

1. *European Communities – Measures Affecting Asbestos and Products Containing Asbestos*, WT/DS 135
2. *Korea, Republic of — Measures Affecting the Importation of Bovine Meat and Meat Products from Canada*, WT/DS 391
3. *Canada- Measures related to Feed-In Tariff*, WT/DS 426
4. *United States –Tax Treatment for “Foreign Sales Corporations”*, WT/DS 108
5. *Canada — Measures Affecting the Export of Civilian Aircraft*, WT/DS 70
6. *Indonesia- Certain Measures Affecting the Automobile Industry*, WT/DS 54
7. *China — Measures Related to the Exportation of Various Raw Materials*, WT/DS 395
8. *European Communities – Trade Description of Sardines*, WT/DS 231
9. *PreussenElektra AG v. Schleswag AG*, [2001] EUECJ C-379/98

IV. Directives/Statutes

1. Act on granting priority to Renewable Energy sources - The Renewable Energy Sources Act, 2012 ("Erneuerbare-Energien-Gesetz" – EEG), Germany.
2. Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.
3. Royal Decree 2818/1998, of December 23, 1998, on production of electricity by facilities powered by RE resources or sources, waste or cogeneration, Ministry of Industry and Energy, Spain

IV. Reports/Submissions

1. Amicus Curiae Submission, *Canada – Certain Measures Affecting the Renewable Energy generation Sector (WTO/DS412)*, Before the World Trade Organization Panel, 10 May 2012.
2. Financing Renewable Energy in the European Energy Market, Final Study, Ecofys, 2011.
3. Green power 2012 – The KPMG Renewable M&A study
4. IPCC Special Study on Renewable Energy Sources
5. Ren21.2011.Renewables 2011 – *Global Status Study* (Paris REN21 Secretariat)
6. Trade and Climate Change, UNEP/WTO Study, 2009

Annexure I

Relevant parts of the Terms of Reference

Study on Support provided by developed countries to RE sector

Terms of Reference

The RE sector including wind, solar and geo-thermal is fast growing and efforts to encourage this sector forms an integral part of the domestic energy policy of many countries. Concerns about sustainable development, climate change as well as overdependence on traditional, exhaustible sources of energy have propelled RE as a priority for many countries. Governments have crafted RE policies to encourage this sector including providing various types of subsidies. Developing countries like India and China have also embarked on ambitious RE programmes to incentivise the production and use of RE. However, concerns have been expressed by developed countries about conformity of the schemes of the developing countries with their WTO obligations. On the other hand, questions about WTO compatibility of many schemes being implemented by developed countries for encouraging RE sector could also be raised.

In this background, the Centre for WTO Studies (CWS) proposes to get a study undertaken for identifying specific schemes being implemented by developed countries for encouraging the development of RE sector in their countries and examining whether the schemes are in conformity with WTO obligations under GATT, TRIMS, ASCM and GATS.

Following are the specific terms of reference for the study:

(i) To identify specific schemes being implemented by the EU, Japan and the U.S. for encouraging the growth of RE sector. The schemes could include tax concessions, local content requirement, preferential procurement by government at prices that are higher than otherwise applicable commercial prices, cross-subsidisation, differential pricing for energy produced from renewable sources, conditions on foreign investments etc.

(ii) To assess whether the schemes being implemented by the EU, Japan and the U.S. for encouraging the growth of RE sector are in conformity with their WTO obligations under GATT, TRIMS, ASCM and GATS.

(iii) To highlight specific aspects of the schemes being implemented by the EU, Japan and the U.S. for encouraging the growth of RE sector that are not conformity with WTO obligations.

Annexure II

Profile of the Author



M.S.Srikar belongs to the Indian Administrative Service (IAS), 1999 batch of the Karnataka cadre. An alumnus (B.A. LL.B (Hons.) of the National Law School of India University, he has served in many capacities in the Central, State and Local Governments in India. The Civil Service in India has offered him, in his over 13 years as a career bureaucrat, varied experience in working in diverse areas like rural development, urban management, decentralized development, law and order management, conduct of national elections, natural disaster management, tax collection, land records management and implementation of various social sector programs. In his various tenures he interacted closely with the local population, elected representatives, non-governmental organisations and various other stakeholders in governance being constantly exposed to the realities of both rural and urban India.

As a sub-divisional magistrate in a remote district in India in 2001, he was involved in implementing land reform legislation that assured land to the landless. He was also exposed to the realities of caste conflict and management. In 2003 as officer of the Intelligence wing responsible for tax fraud detection in the Commercial Taxes Department he was involved in investigating commercial tax evasion and frauds of large companies as well as small traders. His next assignment in 2004 was as a Chief Executive Officer of a rural, local, decentralized political body which exposed him to the trials and tribulations of local governance and the dynamics of grassroots democracy and governance. He also served as a District Magistrate (Collector) of a district in 2005 where he had to deal with issues ranging from conducting elections, organizing cultural festivals, food grain procurement to law and order preservation and rehabilitation of flood affected populations. He has also responsible for the rural infrastructure department of the State of Karnataka as well as urban management in the largest City Corporation of India's IT capital, Bangalore. In his various tenures he worked and interacted closely with the local population, elected representatives, non-governmental organisations and various other stakeholders/interest groups in governance, being constantly exposed to the realities of both rural and urban India.

In his present assignment he works in the office of Mr.Nandan Nilekani, Chairman, Unique Identification Authority of India (UIDAI) as his Private Secretary since 2009. He has been involved in co-ordinating the activities of the Chairman's office with regard to conceptualisation and implementation of the world's most complex biometric ID projects (UID project) in India. The UID project has exposed him from close quarters to complex public policy formulation, implementational paradigms and myriad challenges in translating theory into practice in a short time with scale, speed and accuracy.

He has special interest in international economic law and policy, especially the law of the World Trade Organisation (WTO). He has undergone the one week specialized training conducted by the India Institute of Foreign Trade on WTO. His blog Tread the Middle Path (<http://treadthemiddlepath.blogspot.in>) deals exclusively with issues related to international economic law and policy. He focuses on issues related to the impact of multilateral trade rules on domestic policy space.