Manchester Journal of International Economic Law

Volume 12 Issue 2 2015
ISSN 1742-3945

Printed and bound by Antony Rowe Ltd. Eastbourne UK
ElectronicPublications.Org

Manchester Journal of International Economic Law

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Manchester Journal of International Economic Law

Volume 12 2015 Issue 2

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Manchester Journal of International Economic Law
Volume 12, Issue 2: 117-139, 2015

Governments under Cross-fire?
Renewable Energy and International Economic Tribunals

Daniel Behn* & Ole Kristian Fauchald**

ABSTRACT: *States have sought to promote renewable energy generation as a means of meeting international and regional climate change objectives. These very policy initiatives are coming under attack when they might conflict with a state's other international and regional obligations in the areas of international trade and foreign investment protection. Conflicts over how states can promote and incentivize renewable energy are increasingly brought before international courts and tribunals. The focus of this article is on the international disputes that have arisen out of feed-in tariff programmes being used for as a means for incentivizing photovoltaic solar electricity generation. The article examines the measures taken by states, the subsequent revocation or severe modification of such measures, how these policy shifts are dealt with by international courts and tribunals, and the implications of the cases for future initiatives to promote renewable energy.*

1. INTRODUCTION

States have sought to promote renewable energy generation as a means of meeting international and regional obligations to mitigate climate change; and it is now these very policy initiatives that are coming under attack when they might conflict with a state's other international and regional obligations, such as in the areas of international trade and foreign investment protection. These conflicts over how states can promote and incentivize renewable energy are increasingly challenged before international courts and tribunals (ICTs), as well as through other states' use of trade remedies.[1] International disputes have arisen in the sectors of wind, geothermal, solar, biofuels, and hydro-electricity. As an example and as our focus in this contribution, a number of disputes have arisen in relation to feed-in tariff (FIT) programmes as a means of incentivizing renewable energy. As will be explored below, disputes have occurred before the World Trade Organization (WTO), the Court of Justice of the European Union

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[1] As to cases before ICTs, see below. As to trade remedies, see Jonas Kasteng, 'Trade Remedies on Clean Energy: A New Trend in Need of Multilateral Initiatives', E15 Expert Group on Clean Energy (2013). Trade remedies will not be explored in this contribution.

(CJEU), and arbitral tribunals constituted under the *Energy Charter Treaty* (ECT),[2] the *North American Free Trade Agreement* (NAFTA),[3] and bilateral investment treaties (BITs).

There are two instances of 'crossfire' that arise: governments are trying to implement obligations to promote renewable energy while at the same time being scrutinized by ICTs applying rules restricting use of subsidies; and governments are trying to adjust or limit the payment of subsidies while at the same time being sued before ICTs applying rules that protect the rights of investors. One main purpose of this article is to analyse the frictions that emerge in the case law of the ICTs. The article focuses on the generation of electricity from photovoltaic solar technology (PV solar), which has been chosen for several reasons: (1) a number of states with programmes to incentivize PV solar (especially in the context of the European Union (EU)) are subject to a significant number of ongoing international legal disputes that highlights tensions between the EU, its member states, and the international climate change, trade, and foreign investment regimes; (2) the PV solar sector has experienced technological developments in recent years that have resulted in a drop in the cost of PV solar by approximately 80 percent in the past eight years, a development that has necessitated significant adjustment of incentive programmes;[4] and (3) recent reports from the International Energy Agency (IEA) indicate that PV solar will continue to be an important renewable energy source and that PV solar will actually contribute to a larger share of global renewable energy generation than was originally projected.[5]

The article commences with case studies of FIT schemes from Spain, the Czech Republic, and Italy, which have been chosen due to the international investment arbitration cases that have been brought against them (section 2). The analyses of case law shall deal with two main issues and how these issues affect a state's obligations under various international, regional, or bilateral legal regimes (EU, climate change, trade, and investment): the measures taken by states to incentivize PV solar (section 3), and the revocation or severe modification of such measures (section 4). The existence of ICTs that supervise states' use of incentives and protect rights of investors, taken together with the lack of ICTs that supervise states' fulfilment of obligations to mitigate climate change, provides for an interesting case to study the effects of ICTs for the effective implementation of international law – how do states respond to being under the 'crossfire' of such regimes (section 5)?

[2] *Energy Charter Treaty and its Protocol on Energy Efficiency and Related Environmental Aspects*, 2080 UNTS 95; 34 ILM 360 (1995).
[3] *North American Free Trade Agreement*, 32 ILM 289, 605 (1993).
[4] Prices for PV solar modules have dropped from approximately five Euro/watt in 2006 to about 50 Eurocents/watt in mid-2014. See 'Solar PV Module Prices Have Fallen 80% Since 2008, Wind Turbines 29%,' *Clean Technica*, 6 May 2013.
[5] Cédric Philibert, 'Technology Roadmap, Solar Photovoltaic Energy: 2014 Edition', IEA, www.iea.org (accessed 15 September 2015).

2. CASE STUDIES

2.1. Introduction

European FIT programmes generally date to the early 2000 to mid-2000s (although Germany's FIT programme dates back to the 1990s): a period when the EU's focus on the promotion of renewable energy first began to gain real momentum. A FIT programme aims at offsetting the higher cost of renewables technologies in relation to more conventional sources of energy (i.e. fossil fuels). While each of these programmes is specific to the EU member state, they have a number of similar design features. First, they provide an additional price (i.e. above the market price for electricity) paid for electricity produced from renewable energy sources. Second, this additional price is only paid on electricity actually produced (electricity that is 'fed-in' to the grid). Third, tariffs are often differentiated according to the size of the installed facility, the type of renewable energy source, and the geographic location where the renewable energy source is installed. Fourth, the tariff is guaranteed for approximately 15 to 25 years through long-term contracts. Fifth, the additional tariff price is set to digress over time so as to reflect technological advances that reduce the price of a given renewable energy source.

Finally, FIT programmes are increasingly using local content requirements for the equipment used in the production of electricity from renewable energy sources. Among EU member states, these programmes will give a bonus payment per kilowatt/hour (kWh) to those PV solar facilities that source a certain percentage of their equipment from within the EU. Member states with these programmes include France, Italy, Greece, and Croatia. It is important to note that these local content requirements deal with the bonus payments for the technical equipment used to produce electricity (e.g. PV solar panels or wind turbines) and not on locally generated electricity. However, a major feature in almost all FIT programmes is to guarantee that all electricity produced from a particular renewable source is purchased by the electricity distributor. This type of purchase requirement can possibly be seen as a *de facto* local content requirement on the generation of renewable energy.

While there are a number of similarities among different FIT programmes in the EU, there is one key difference among different FIT programmes that appears to be a key determinant in whether a particular programme has been considered a success or not: the regulatory structure established to implement these programmes. Some of programmes over-incentivized[6] certain types of renewable technologies (especially PV solar) and under-estimated the amount of new investment that the programme would produce. Many EU member states were ill-prepared to handle the influx of new investment, which meant that much more renewable energy was installed than the electricity system (in terms of both regulatory capacity and grid capacity) could absorb. Many FIT programmes have had to respond through significant measures aimed at scaling back incentives. While different types of such measures have been recently implemented in a number of EU member states,[7] the measures of Spain, Italy and the

[6] For example, early Spanish FIT rates amounted to 10 times the wholesale market price for electricity. See 'Spain's Solar Deals on Edge of Bankruptcy as Subsidies Founder', *Bloomberg,* 19 October 2010.

[7] Bulgaria recently applied a 'temporary' 39 percent grid access tax on all PV solar producers benefiting from the state's FIT scheme. 'Bulgarian PV industry protests limits on renewable energy production,' *PV Magazine*, 4 July

Czech Republic have been so severe as to trigger the constitution of a number of international investment tribunals where foreign investors are complaining that retrospective changes to particular FIT programmes have violated their legitimate expectations by diminishing or exhausting the commercial viability of their projects.

2.2. Spain

The development of the legal regime for the support of renewable energy in Spain dates back to the 1990s,[8] but it was not until 2004 that specific measures to promote renewable energy were introduced.[9] These measures offered investors either a fixed price FIT or a feed-in premium (FIP).[10] The FIT amounted to approximately 32 Eurocents/kWh for electricity produced from PV solar,[11] and it was guaranteed for a period of 25 years after which it would be reduced by approximately 20 percent (for years 26 through 40). Under the legislation, the distribution service operator (DSO) was required to bear the cost of the FIT, which – in theory – would be passed on to the consumer. However, these additional costs exceed the regulated price that could be charged to consumers,[12] which has created an 'electricity deficit,' resulting in a multi-billion Euro debt held by the state.[13]

In 2005, Spain enacted a renewable energy plan in accordance with the first EU directive on the promotion of renewable energy.[14] According to this plan, Spain set a target of achieving 12 percent of its total energy consumed from renewable sources by 2010. Spain's share of electricity consumed from renewable sources was 8.3 percent in 2005 and reached 13.8 percent by 2010.

In May of 2007, Spain updated its FIT programme by increasing the tariff that would be available for PV solar installations to approximately 46 Eurocents/kWh.[15] This amendment

2013, www.pv-magazine.com/news (accessed 15 September 2015). Greece, Belgium, Slovakia, France, and the UK have also recently applied retrospective taxes or access fees onto existing and future PV solar producers benefiting under previous FIT schemes. 'Retrospective measures at the national level and their impact on the photovoltaic sector', EPIA, 10 December 2013. For issues relating to changes in renewable energy support in the UK, see Angus Johnston, 'Recent renewables litigation in the UK: some interesting cases', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3).

[8] Renewable energy was governed under the electricity act, royal decree law 54/1997 of 27 November 1997.

[9] Royal decree 436/2004 of 29 March 2004.

[10] A FIP (also called a green bonus) is a premium that is paid in addition to the market price. A FIP is considered to be more market-friendly than the FIT because the producer is exposed to market price risk. Both the FIT and FIP schemes are to be distinguished from green certificate schemes, which require producers to sell or trade (in a competitive market) the certificates that they receive for generating certain amounts of electricity from renewable sources.

[11] The FIP for PV amounted to about 10 percent less than the FIT.

[12] Regulators knew that the tariff could not be directly recouped from consumers. Under the original plan, the amount of PV solar installed would be small enough that the additional costs could largely be absorbed by the DSO. However, the surge in the installation of PV solar in Spain made it impossible for the DSO to absorb the additional costs and it was at this point that the electricity deficit expanded significantly.

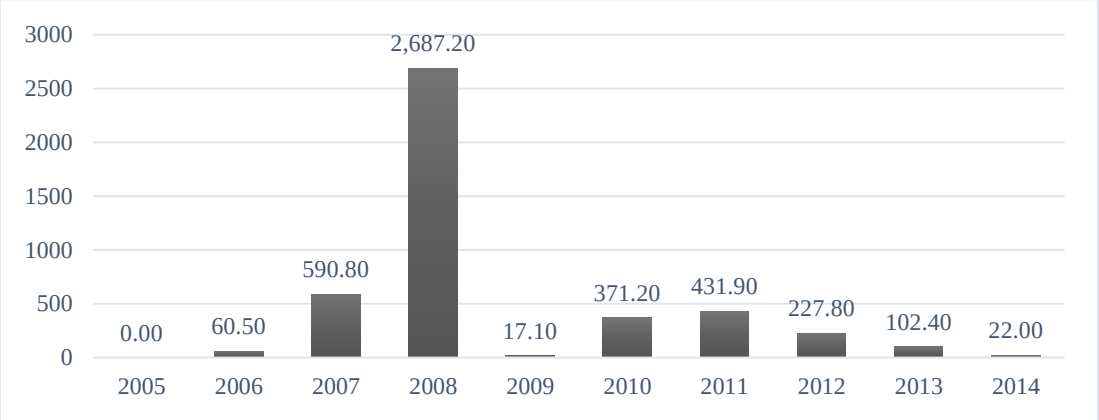
[13] In Spain, the additional costs for electricity (subsidies and other regulated costs such as grid access fees) are bundled together as an 'access' tariff that is added onto the wholesale cost of the electricity. Currently, access tariffs account for about 55 percent of the consumer price for electricity. The amount of the regulated access tariffs does not capture the full cost of electricity purchased by the DSO, however. In Spain, the electricity deficit is in excess of 30 billion Euro (and continues to grow). David Robinson, 'Pulling the Plug on Renewable Power in Spain,' Oxford Energy Comment (2013), www.oxfordenergy.org/2013/12/pulling-the-plug-on-renewable-power-in-spain (accessed 15 September 2015).

[14] *Directive 2001/77/EC of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market* (Renewables Directive 2001), OJ L 283, 27/10/2001, pp. 33-40.

[15] Royal decree 661/2007 of 26 May 2007.

created a cap on the amount of PV solar that could be installed. Once the cap was reached, regulators could adjust the price of the FIT. While Spain had set a goal of installing 400 megawatts (MW) of PV by 2010, this was reached in early 2007; and by 2010, nearly 4000 MW had been installed.

Table 1: Annual Installed PV Solar in Spain (in megawatt/hours (MWh))



By late 2007, Spanish regulators knew that the deployment of PV solar installations was occurring so rapidly as to reach its targets three years ahead of schedule; and yet it took the legislature 18 months to respond. When the Spanish legislature did respond in September 2008, there had already been a dramatic surge in the amount of PV solar installed – Spain alone accounted for over 50 percent of the installed PV solar in the world that year. The unanticipated growth in the PV solar sector led to changes: legislation modified the method for allocating FIT contracts and reduced the FIT in 2008.[16] While these changes provided significant disincentive for future PV solar installations,[17] Spain would continue to modify the support scheme over the next few years. The first of these changes occurred in 2010 with a 45 percent reduction in the FIT and a modification of the duration under which the FIT would be guaranteed: the FIT after 25 years was withdrawn.[18] Also in 2010, legislation was passed to curb the increasing electricity deficit generally, which had effects on the PV solar sector specifically.[19] FIT contracts were modified by limiting the number of hours that PV solar installations could operate, and a grid access fee of approximately two Eurocents/kWh on electricity from PV solar installations was introduced. These changes reduced expected revenue from PV solar projects by about 30 percent.[20] Unlike most of the earlier 2010 reforms to the support scheme, these changes were retrospective in that they applied to all existing PV solar contracts.

[16] Royal decree 1578/2008 of 26 September 2008.
[17] The changes reduced the net amount of installed PV solar in 2009 to about zero, before the installation picked up again in 2010.
[18] Royal decree law 1565/2010 of 23 November 2010.
[19] Royal decree law 14/2010 of 23 December 2010. While the increasing electricity deficit has been exasperated by the generous FIT programme for PV solar, the electricity deficit in Spain has been a general problem for a long time and is tied to all sources of electricity.
[20] Pablo del Rio and Pere Mir-Artiques, 'A Cautionary Tale: Spain's Solar PV Investment Bubble', Global Subsidies Initiative (2014), p. 22, available at www.iisd.org/gsi/sites/default/files/rens_ct_spain.pdf (accessed 15 September 2015).

In 2011, Spain submitted another renewable energy plan as mandated by the second EU Renewables Directive.[21] Unlike the Renewables Directive 2001, the targets agreed to under the Renewables Directive 2009 are binding. Spain agreed to achieving 20 percent of its total energy consumption from renewable sources by 2020.[22] While PV solar continues to be a part of the renewable energy mix that will assist in Spain's achievement of its renewable energy targets, it remains only a small percentage of Spain's overall electricity consumption (3.2 percent in 2012).

The 2008 and 2010 changes to the support schemes for PV solar had the effect of halting the growth of installations in Spain, but did not sufficiently curb the growth in the 'electricity deficit.' To address this problem, legislation was passed in 2012 that placed a moratorium on the registration of new PV solar projects for an indefinite period, and that imposed an open-ended seven percent tax on all electricity generators from 2013. [23] In early 2013, the changes continued with legislation that terminated the FIT support scheme for all new renewable energy installations from 2014.[24]

Lastly, in 2013 and 2014 new legislation overhauled the regime governing the production of electricity.[25] While this legislation is not specific to PV solar, it does require that such projects be limited to an internal rate of return (IRR) of between five and 5.5 percent after taxes. This change means that any projects that were financed at a rate higher than five percent are likely to be unprofitable. The government originally envisioned support to PV solar projects to provide an IRR of approximately seven percent, which would permit a 'reasonable rentability' on projects.[26] However, the IRR on many projects – prior to the series of legislative changes between 2008 and 2012 – were enjoying IRRs of between 10 and 15 percent.

The PV solar sector in Spain has obviously experienced what can be considered a boom followed by a bust; and this bust has resulted in a number of lawsuits. At the national level, there have been at least 50 cases decided before the Spanish Supreme Court challenging the modifications and changes to the support schemes as violations of constitutionally protected rights. All of these cases have been rejected.[27] However, this is only the tip of the iceberg in that as many as 630,000 appeals could be brought in the Spanish courts as a result of the modifications made to legislation.[28] At the European level, complaints have been brought to the European Commission (Commission) by those who have invested in the PV sector in Spain. The most recent of these complaints was brought by a group of 1500 investors requesting an investigation into the changes made by Spain and their consistency with EU law.[29] At the

[21] *Directive 2009/28/EC 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* (Renewables Directive 2009), OJ L 140, 05/06/2009, pp. 16-62.
[22] 'Spain's National Renewable Energy Action Plan, 2011-2020', Ministry of Industry and Tourism, 30 June 2010, http://ec.europa.eu/energy/renewables/action_plan_en.htm (accessed 15 September 2015), p. 43.
[23] Royal decree law 1/2012 of 27 January 2012.
[24] Royal decree law 2/2013 of 1 February 2013.
[25] Royal decree law 9/2013 of 12 July 2013; royal decree 413/2014 of 6 June 2014.
[26] For a definition of 'reasonable rentability' as defined in article 19 of royal decree 413/2014, 'Electricity Promotion in Spain', SRES Legal, 7 July 2014.
[27] See www.poderjudicial.es/search/index.jsp, search terms: ley 14/2010, ley 1565/2010 (accessed 15 September 2015).
[28] 'Spanish Congress Approves Royal Decree Described as "The Photovoltaic Sector's Ruin"', *Renewable Energy Magazine*, 28 February 2011.
[29] 'Fight against Spain's Solar Cuts taken to Brussels', *PV Tech*, 23 June 2014.

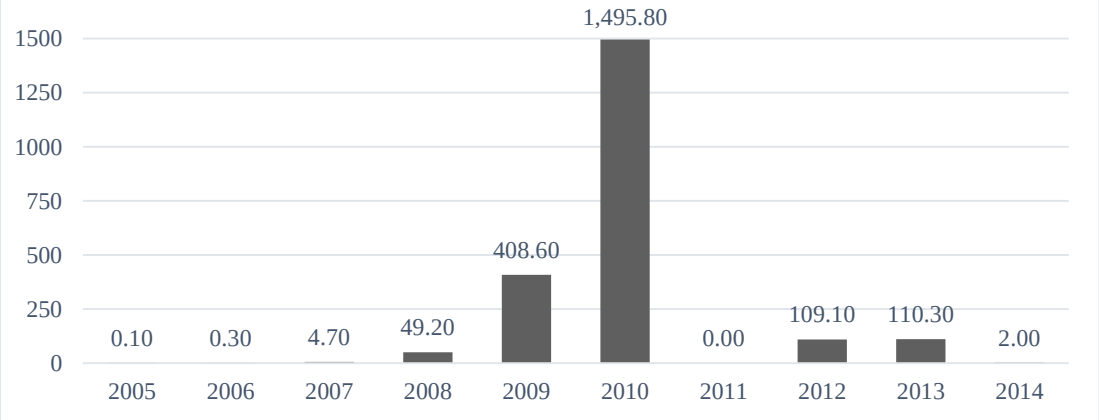
international level, there are currently a number of investment treaty arbitration claims that have been lodged against Spain by foreign investors (see section 4).

2.3. Czech Republic

A FIT programme for different types of renewable energy installations was established in the Czech Republic in 2002,[30] but only resulted in a few renewable energy projects as the FITs were too low. In 2005, the Renewable Energy Support (RES) Act[31] introduced a guarantee requiring DSOs to purchase all electricity generated from renewable sources for a period of 15 years, and set up a mechanism whereby producers can choose between a FIT and a FIP. The RES Act also authorized a regulator to set FIT rates for each year that: (1) cannot be reduced by more than five percent of the previous years' rates; and (2) are to be differentiated by type of renewable source and by year of commissioning. This legislation significantly increased the tariff available for PV solar installations, reduced the discretion of the energy regulator in adjusting prices, and offered long-term contracts guaranteeing the payment of all electricity produced from PV solar.

While it took time for the RES Act to take effect, there was a drastic increase in PV installations after 2008.[32] The increase in installed PV solar in 2009 and 2010 indicated that the renewable support scheme was working, but it also met with a number of problems: the unanticipated drop in the cost of PV solar,[33] the potential costs of the support scheme over the long-term, and a high risk of instability to the electricity grid.[34]

Table 2: Annual Installed PV Solar in the Czech Republic (in MWh)



This led to a number of reforms and amendments to the RES Act aimed at reducing the FIT and to claw-back some of the extraordinary profits that were being generated by those PV solar installations that came online before 2011. The first reform came in early 2010 with the

[30] Ministry of industry and trade notice 252/2001 coll. See also 'Renewable Energy Policy Review: Czech Republic', EREC (2009), www.erec.org (accessed 15 September 2015).
[31] Act 180/2005 coll. of 31 March 2005.
[32] See table 2 below.
[33] See *supra* note 4.
[34] 'Photovoltaic in the Czech Republic: Status Update', *Solar Plaza*, 29 March 2011.

introduction of a moratorium on connecting new PV solar installations to the grid in 2011.[35] At the end of 2010, the legislature approved a number of amendments: (1) FIT support for large PV solar installations would be terminated from 1 March 2011;[36] (2) a tax holiday granted to producers of electricity from renewable sources was removed;[37] (3) a gift tax was placed on carbon credits for 2011 and 2012;[38] and (4) a tax of 28 percent on PV solar installations built in 2009 and 2010 that receive the FIT (26 percent on the FIP) was to apply from 2011 through 2013.[39] On 1 March 2011, a new regulation entered into force that permitted the regulator to reduce the annual FIT and FIP for PV solar installations by more than the previously limited five percent;[40] and in mid-2013 legislation was passed to terminate all renewable energy support schemes for new installations from 2014.[41] This law extended the PV solar tax with an open-ended 10 percent tax on all electricity generated.

As of mid-2014, the regime governing the PV solar sector has become somewhat fragmented with different support schemes governing projects brought online at different times. Like the Spanish situation, this fragmentation and uncertainty has led to a number of lawsuits. At the national level, a case was filed at the Czech Constitutional Court claiming that the PV solar tax was discriminatory and violated the Constitution. In a decision rendered on 15 May 2012, the court upheld the solar tax and determined that legal certainty was not an absolute right immune from socio-economic changes.[42] At the international level, there are currently a number of investment treaty arbitration claims that have been lodged against Czech Republic by foreign investors (see section 4).

2.4. Italy

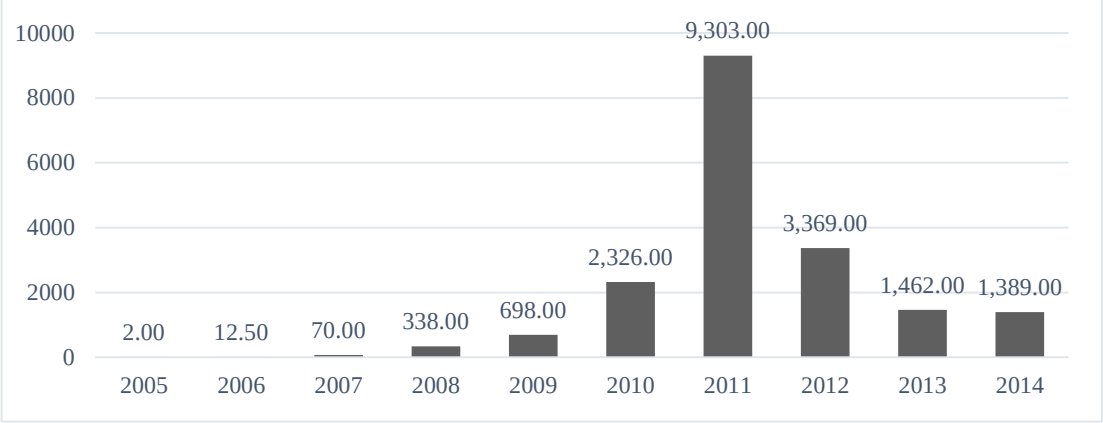
In Italy, the promotion of PV solar began in 2005 (the first 'conto energia') through green certificates with a monetary value in excess of the market price for electricity.[43] As a green certificate programme, the initial incentive programme for PV solar in Italy was not a FIT programme. Green certificates are rights that are collected by producers that can then be sold or traded. For PV solar installations, the green certificates amounted to approximately 45 Eurocent/kWh and were granted under 20 year contracts. In 2007, the Italian legislature passed the second conto energia which reduced many of the administrative hurdles to obtain a 20 year contract for green certificates[44] and placed a cap on the amount of PV solar that could receive support.[45] However, this cap appears to have been fairly soft. When the 1,200 MW cap was reached ahead of schedule in 2009, it was simply extended. The third conto energia of 2010

[35] Act 180/2005 coll. amendment of 1 April 2010. On 16 February 2010, the Czech Republic transmission service operator (TSO) banned the connection of all new PV solar plants to the grid until the end of 2011.
[36] Act 180/2005 coll. amendment of 3 November 2010.
[37] Act 586/1992 coll. amendment of 12 November 2010.
[38] Act 180/2005 coll. amendment of 14 November 2010.
[39] *Ibid*.
[40] Regulation 2/2010 of 18 November 2010. The FIT rates were 47 to 55 Eurocents/kWh for the years between 2007 and 2010, and fell to between eight and 21 Eurocents/kWh for 2011 through 2013.
[41] Act 180/2005 coll. amendment of 25 July 2013.
[42] Czech Republic Constitutional Court Judgment, *Photovoltaic Power Plants*, Pl. US 17/11, 2012/05/15.
[43] Ministerial decree of 28 July 2005.
[44] This meant that the regulator no longer had to pre-approve the contracts, and that facilities would be automatically granted a green certificate contract after connecting to the grid.
[45] Ministerial decree of 19 February 2007.

differentiated the rate available for green certificates according to the size of the PV solar installation.[46] It also reduced the value of green certificates by approximately 14 percent in order to reflect the global drop in the cost of solar panels. However, this third conto only lasted five months and was replaced by the fourth conto energia in 2011.[47]

The fourth conto energia significantly changed the structure of renewable support schemes in Italy by switching from the green certificate programme to a fixed price FIT or FIP. By the time the fourth conto energia came into force, Italy had installed over 10,000 MW of PV solar.[48] The dramatic increase in 2010 and 2011 put significant strain on the system.[49] The fourth conto energia aimed at phasing out the green certificate programme by 2015 and to implement FIT rates that could be 'progressively reduced over time, in order to balance the level of public support with the costs of technologies, giving stability and certainty to the market.'[50] By the end of 2011, the support offered under the fourth conto energia had declined by 31 percent compared to the rates offered under the second conto energia.[51]

Table 3: Annual Installed PV Solar in Italy (in MWh)



In 2012, the fifth and most recent conto energia was approved by the Italian legislature. This decree modified the support scheme for PV for the fourth time in six years.[52] The purpose was essentially to terminate the support scheme for utility scale PV solar installations and to put a new cap on annual spending.[53] Interestingly, the support scheme for PV solar in Italy comes directly out of the state coffers. This is distinct from the approach taken in Spain and the Czech Republic where PV solar support is not paid directly by the state, but is paid by the DSO and the additional cost is passed onto the customer. In the Italian case, the fifth conto energia

[46] Ministerial decree of 6 August 2010.
[47] Ministerial decree of 5 May 2011.
[48] Installed PV solar in 2011 was nearly 10,000 MW. This was three times the total amount of PV solar that had been installed in Italy through 2010.
[49] See table 3 below.
[50] 'Fourth feed-in-scheme', GSE, www.gse.it/en/feedintariff/Photovoltaic/Fourth%20feed-in%20tariff/Pages/default.aspx (accessed 15 September 2015).
[51] del Rio and Mir-Artiques, *supra* note 20, at 58.
[52] Ministerial decree of 5 July 2012.
[53] 'Fifth feed-in-scheme', GSE, www.gse.it/en/feedintariff/Photovoltaic/FifthFeed-inScheme/Pages/ default.aspx (accessed 15 September 2015).

sets a cap at 6.7 billion Euro per year. Once this cap is met, which is based on cumulative totals, no new installations will be registered for that year. In 2013, the cap was reached in June.[54] Given that the majority of 20 year support contracts (for green certificates) date from about 2010, the hard cap (6.7 billion Euro) on the amount of yearly budgetary contributions (as based on cumulative totals) to PV solar support means that this yearly total of 6.7 billion Euro has already been spent through approximately 2030. The result of such a cap is that very few new PV solar installations will receive any support. Finally, the fifth conto adds a controversial local content bonus of two Eurocents/kWh that is available to PV solar producers if a certain percentage of the solar panels are sourced from within the EU.[55]

It is important to note that although there have been a number of changes to the FIT programme in Italy through its various conto energias, none of these modifications directly affected the support that was guaranteed to the PV solar producer at the time the facility was connected to the grid. In other words, all of the changes under the first five conto energias only applied prospectively. However, this situation recently changed. In mid-2014, the Italian legislature intervened on an emergency basis. This emergency legislation was converted into permanent changes in October 2014.[56] This latest intervention modifies all previous support price guarantees for PV solar by 17 to 25 percent with effect from 1 January 2015. While there has only been one investment arbitration case that has been filed against Italy, these most recent changes are likely to lead to a significant number of claims being filed in the next year.[57]

Furthermore, and as in the cases of Spain and the Czech Republic, PV solar investors have sought remedies for changes to PV solar support schemes in Italian courts. However, none of these claims have been successful to date. In an early case based on changes made to the third conto energia, the administrative court of Italy rendered a judgment holding that the early termination of the third conto energia had not generated retroactive effects.[58] However, in a more recent – and still pending case – the administrative court of Italy is considering a claim brought by a number of PV solar investors challenging the legality of the most recent changes to renewable energy support schemes in Italy (i.e. based on the emergency measures in law decree 91/2014, and as amended in decree law 116/2014).[59] The hearings in this case were scheduled for March 2015.[60]

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[54] 'Italy: Euro 6.7 Billion Cap for Photovoltaic Incentives Reached', *Energy Business Law*, 7 June 2013, www.energybusinesslaw.com/2013/06/articles/eu-developments/italy-euro-6-7-billion-cap-for-photovoltaic-incentives-reached (accessed 15 September 2015).

[55] This local content requirement is being challenged by China before the WTO Dispute Settlement Mechanism (DSM) in: *European Union and Certain Member States — Certain Measures Affecting the Renewable Energy Generation Sector (Complainant: China),* DS452. For a discussion of the case, see Chien-Huei Wu and Kuei-Chih Yang, 'Aggressive Legalism: China's Proactive Role in Renewable Energy Trade Disputes?', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3), at 24-30.

[56] Law decree 91/2014 of 24 June 2014 (as subsequently amended by Law decree 116/2014 of 11 August 2014). This law came into effect on 24 October 2014.

[57] 'Italy risks claims over solar subsidies', *GAR*, 8 December 2014, http://globalarbitrationreview.com/news/article/33231/italy-risks-claims-solar-subsidies (accessed 15 September 2015).

[58] Zuzanna Brocka-Balbi, 'The Rise and Fall of the Italian Scheme of Support for Renewable Energy from Photovoltaic Plants', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3), at 11-12.

[59] See *supra* note 56.

[60] See *supra* note 58, at 12.

2.5. Concluding remarks

These case studies were chosen because of the problems that occurred in implementing support schemes for the promotion of renewable energy. These states are not alone however. In the European context, Greece, Bulgaria, France, Slovakia, Romania, Belgium and the UK have all experienced recent explosions in the amount of installed PV solar and are now dealing with how to control such growth.[61] There are two major sets of conditions that all three states failed to anticipate: one is external and one is internal. The external conditions are the global financial recession and the unanticipated decline in the cost of solar panels. These changes restricted the amount of financial support that could be allocated for the promotion of renewable technologies when approaching 2010, and the decline in the price of solar panels meant that there would be a surge of investment in the sector due to the windfall profits that high tariffs and low production costs would generate.

While the external conditions were unanticipated, the internal condition was highly predictable and could have largely been avoided. In all three of the case studies, but to varying degrees, the regulatory structure established to implement the support schemes for PV solar were inflexible and unable to quickly respond to changing market conditions. In all three cases, PV solar was over-incentivized initially. What is surprising is that these states severely under-estimated the amount of new investment that the FIT and FIP programmes would produce and were ill-prepared (in terms of both regulatory and grid capacity) to absorb such rapid growth in the sector. By the time that regulators and legislators realized that the FITs and FIPs were unsustainable, it was too late and drastic emergency-type measures were required to halt new investment in the sector. Such measures have resulted in a short boom followed by a major bust in the PV solar sector.[62]

One important difference between the cases concerns the funding of the FIT and FIP programmes. Italy's programme is distinct from that of Spain and the Czech Republic in that the support given to facilities is paid out of the state budget. In some states, the guaranteed FIT or FIP is paid to producers by the DSO and these additional costs are passed onto the consumer in theory. However, as seen in the case of Spain, the generous payments originally offered to PV solar exceeded the regulatory limit that could be charged to consumers. This led to a high level of debt being carried by the DSO and (ultimately) the state.

3. SUBSIDIES

The case studies demonstrate the significance of FITs and FIPs for the level of PV solar investment. Working Group III of the Intergovernmental Panel on Climate Change (IPCC WGIII) considers price-based mechanisms such as FITs to be among the most common renewable energy deployment policies in the power sector and it states that 'some feed in tariffs

[61] See *supra* note 7.

[62] The retrospective measures taken by EU member states have also drawn criticism from the Commission. See 'Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Renewable energy progress report', European Commission (2013).

have been effective and efficient at promoting' renewable energy electricity.[63] It also makes clear that significantly increased investment and government involvement should be expected in renewable energy production.[64] The IPCC WGIII is concerned that the 'application of WTO subsidy rules could slow the development and diffusion of climate friendly technologies', but simultaneously acknowledge that 'it is not yet clear whether this has or will have an effect'.[65]

FITs and FIPs are subject to disciplines regarding subsidies both within the WTO and the EU.[66] In the WTO, the relevant rules are contained in article XVI of the *General Agreement on Tariffs and Trade 1994* (GATT 1994)[67] and the *Subsidies and Countervailing Measures Agreement* (SCM Agreement)[68] regarding prohibited and actionable subsidies. In addition, non-discrimination rules apply according to article III of GATT and article 2 of the *Trade-Related Investment Measures Agreement* (TRIMs Agreement).[69] The EU sets out rules that discipline the use of subsidies, subject them to the decision-making authority of the Commission, and prohibits the use of subsidies in a manner that is equivalent to import restrictions.[70] While we cannot enter into detailed analyses of all these issues here, our aim is to provide a general framework for assessing the roles of trade tribunals in disciplining the use of support schemes to promote renewable energy production and consumption. The core issues to decide for both the WTO dispute settlement mechanism (DSM) and the CJEU are whether FITs are to be regarded as subsidies (sections 3.1 and 3.2) and the legal consequences of the existence of subsidies (section 3.3). Subsidies are frequently linked to local content requirements regarding production equipment. We shall not explore disputes that have arisen concerning such measures.[71]

3.1. The Scope of the WTO Subsidies Rules

According to article 1 of the SCM Agreement, a FIT or FIP can either qualify as 'financial contribution by a government' or 'income or price support'. FIT and FIP programmes may regulate the rights and duties of the market actors and not require direct financial contributions from the government,[72] or they may involve indirect financial contributions such as arguably

[63] IPCC, *Climate Change 2014: Mitigation of Climate Change – Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, CUP (2014) (IPCC WGIII AR5), ch. 7, p. 72; see also ch. 16, pp. 29, 38. These references are to the report that was accepted but not approved in detail by the 12th Session of WG III and the 39th Session of the IPCC on 12 April 2014.
[64] *Ibid*., at ch. 16, pp. 3-4.
[65] *Ibid*., at ch. 13, pp. 44-45.
[66] For a recent overview of renewable energy issues in the WTO and the EU, see Rafael Leal-Arcas, *et al*, *International Energy Governance*, Elgar (2014), ch. 8, 9.
[67] *General Agreement on Tariffs and Trade 1994* (GATT 1994), 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, 1867 UNTS 187 (1999).
[68] *Agreement on Subsidies and Countervailing Measures* (SCM Agreement), 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, 1869 UNTS 14 (1999).
[69] *Agreement on Trade-Related Investment Measures* (TRIMs Agreement), 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, 1868 UNTS 186 (1999).
[70] *Consolidated Version of the Treaty on the Functioning of the European Union* (TFEU), arts. 34, 107, 108, 2008 OJ C 115/47. See also Renewables Directive 2009 *supra* note 21. The Commission has recently adopted new guidelines on state aid for environmental protection and energy on 9 April 2014. 'Communication from the Commission — Guidelines on State aid for environmental protection and energy 2014-2020 (Guidelines 2014)', OJ C 200, 28 June 2014, pp. 1–55.
[71] Such disputes have been predominant in the PV solar and wind power sectors, and they generally involve China, see Wu and Yang, *supra* note 55.
[72] See *supra* notes 53-54.

is the case concerning the electricity deficit in Spain.[73] The case studies and the *Canada — FIT* case[74] clearly show the complexity in determining whether there is a financial contribution in the sense of article 1.1(a)(1) of the SCM Agreement in the case of FITs and FIPs.

In the *Canada — FIT* case all parties agreed that the FIT scheme could be classified as a 'financial contribution by a government (the European Union argued primarily that the appropriate legal characterization was 'income or price support'), but they disagreed on whether the scheme involved 'direct transfer of funds' (article 1.1(a)(1)(i), SCM Agreement), as argued by Japan and the European Union, or government 'purchases [of] goods' (article 1.1(a)(1)(iii), SCM Agreement), as argued by Canada. The panel and the Appellate Body concluded that the FIT programme was to be regarded as government purchase of goods. The Panel's findings were based on four factors: (1) that the Ontario Power Authority paid for electricity in accordance with contracts; (2) that payments were made only if electricity was delivered; (3) that the Government of Ontario took possession over the electricity; and (4) that the structure and wording of the rules and contracts confirmed the perception that the FIT constituted procurement or purchase of electricity.[75]

Despite the fact that FITs or FIPs may be designed so that governments are involved through financial contributions, in particular where the main actors involved in purchase and transfer of electricity are government entities, the case studies indicate that in many cases such programmes could be classified as 'income or price support in the sense of article XVI of GATT 1994' (see article 1.1(a)(2), SCM Agreement).[76] It has been argued that in order to qualify under this alternative, the complaining state must also demonstrate that the FIT or FIP operates 'directly or indirectly to increase exports of any product from, or to reduce imports of any product into, its territory' (see article XVI, GATT 1994), but the applicability of this limitation remains contested.[77] Hence, in order to determine the extent to which FITs and FIPs which are implemented to increase domestic production of renewable energy are covered by this alternative, there is need for further clarification of its scope.[78]

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[73] See *supra* notes 12-13.

[74] See panel report, *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* (*Canada — FIT*), DS412, DS426, paras. 7.168 ff. Other renewable energy cases of the WTO deals with measures to support domestic producers of energy production equipment, and not production of renewable energy as such, see Debra P. Steger, 'Green Energy Programs and the WTO Agreement on Subsidies and Countervailing Measures: A Good FIT?' *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3), at 9-12.

[75] See panel report, *Canada — FIT* , paras. 7.169-7.185 and 7.222-7.248, confirmed by the Appellate Body (AB) report, paras. 5.116-5.128.

[76] The panel in *Canada — FIT*, supported by the AB, refrained from considering these issues due to judicial economy. See panel report, *Canada — FIT*, para. 7.249 and AB report, *Canada — FIT* , paras. 5.133-5.139. For discussions of the applicability of this alternative to FITs, see Andrew Jerjian, 'The Feed-in Tariff Controversy: Renewable Energy Challenges in WTO Law', paper posted at the Society of International Environmental Law (2012), at pp. 9-10; Luca Rubini, 'The Subsidization of Renewable Energy in the WTO: Issues and Perspectives', *NCCR Trade Working Paper* (2011), at 22; Sadeq Bigdeli, 'Incentive Schemes to Promote Renewables and the WTO Law of Subsidies', in Thomas Cottier *et al* (eds), *International Trade Regulation and the Mitigation of Climate Change* (Cambridge: Cambridge University Press, 2009), at pp. 169-172 with further references.

[77] Gustavo E. Luengo Hernández de Madrid, *Regulation of Subsidies and State Aids in WTO and EC Law* (Alphen aan den Rijn: Kluwer Law International, 2007), at 121-123.

[78] There has so far been little relevant case law regarding article 1.1(a)(2) of the SCM Agreement. In *US — Final Countervailing Duty Determination with respect to certain Softwood Lumber from Canada*, DS257, the AB stated that the range of government measures capable of providing subsidies in article 1.1(a)(1) 'is broadened still further by the concept of "income or price support" in paragraph (2) of Article 1.1(a)' (para. 52). Moreover, the panel argued

The purpose of FITs and FIPs is obviously to improve the competitive position of producers of renewable energy. The starting point is therefore that such programmes confer benefits as required under article 1.1(b) of the SCM Agreement. According to case law, the existence of a benefit depends on the effects of the programme for the recipient's competitive position.[79] For this purpose, panels will have to define the relevant market and determine benchmarks for assessing whether FITs and FIPs have in fact conferred benefits.[80] In addition, it has been argued that the purpose of such programmes may be restricted to compensate for competitive disadvantages of certain sources of renewable energy as compared to other energy sources, and that therefore no benefits are conferred in these cases.[81] The extent to which such arguments convince panels or the AB to conclude that no benefit exists remains to be seen.

The question of whether the FIT conferred a benefit became an essential issue in the *Canada — FIT* case. The panellists were unable to agree on the issue, with the majority stating that there was not enough evidence and the minority finding that there was a 'benefit'.[82] The Appellate Body found that the panel had erred in not taking appropriately into account demand-side and supply-side factors when determining the relevant market, and concluded that the relevant market was wind- and solar PV-generated electricity that result from the energy supply-mix as defined by the government.[83] While the Appellate Body consequently reversed the panel's finding that the Japan and the EU had failed to establish that a benefit existed, it concluded that the evidence seemed to suggest that a benefit may exist, but that the evidence was not sufficient to back up a final conclusion.[84] A key element in the reasoning of the Appellate Body is the power of public authorities to define the relevant market and that this definition of the market does not in and of itself qualify as a subsidy. The approach of the Appellate Body in this regard has been criticized for providing governments too broad opportunities for avoiding the application of the SCM Agreement, but it has also received support.[85]

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for a narrow interpretation of the alternative in *China — Countervailing and Anti-Dumping Duties on Grain Oriented Flat-rolled Electrical Steel from the United States*, DS414, paras. 7.84-7.87.

[79] See AB report, *Canada — Measures Affecting the Export of Civilian Aircraft*, DS70, paras. 157-158.

[80] See AB report, *Canada — FIT*, *supra* note 74, paras. 5.140-5.246.

[81] See Jerjian, *supra* note 76, at 8; Rubini, *supra* note 76, at 24; Bigdeli, *supra* note 76, at 162; Robert Howse, 'Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis', IISD (2010), pp. 5-7.

[82] See panel report, *Canada — FIT supra* note 74, paras. 7.320-7.327 and 9.1-9.23. While the majority rejected the competitive wholesale electricity market as the relevant focus of the benefit analysis and suggested that the focus could be upon the rate of return associated with the FIT compared to the average cost of capital for projects having a comparable risk profiles, the dissenting panelist argued that the benefit analysis should focus on the competitive wholesale market for electricity that could have existed.

[83] See AB report, *Canada — FIT*, *supra* note 74, paras. 5.170-5.191.

[84] *Ibid*., paras. 5.219 and 5.245-5.246.

[85] See Aaron Cosbey and Petros C. Mavroidis, 'Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO', *Journal of International Economic Law*, 2014, 14(1): 25-29; Luca Rubini, 'The good, the bad, and the ugly'. Lessons on methodology in legal analysis from the recent WTO litigation on renewable energy subsidies', *Journal of World Trade*, 2014, 48(5): 895-938; and Rajib Pal, 'Has the Appellate Body's Decision in Canada – Renewable Energy/Canada – Feed-in Tariff Program Opened the Door for Production Subsidies?', *Journal of International Economic Law*, 2014, 14(1): 125-136. On the other hand, Thomas Cottier, 'Renewable Energy and WTO Law: More Policy Space or Enhanced Disciplines?', *Renewable Energy Law and Policy Review*, 2014, 5(1), at 45-46 and Steger, *supra* note 74, at 12-14 are supportive of the broad policy space. See also Kati Kulovesi, 'International Trade Disputes on Renewable Energy: Testing Ground for the Mutual Supportiveness of WTO Law and Climate Change Law', *Review of European Community & International Environmental Law*, 2014, 23(3), at 344-348.

The fact that FITs and FIPs aim at promoting (certain categories of) renewable energy is likely to ensure that such measures fulfil the requirement of specificity in article 2 of the SCM Agreement.[86] It has been argued that the broader the applicability of the FIT or FIP, the more likely it is that it could be excluded from the scope of the SCM Agreement due to lack of specificity.[87] However, broadening its applicability is likely to undermine its effectiveness in achieving wider distribution of specific renewable energy technologies.[88]

In sum, the definition of subsidies in the SCM Agreement is rather broad and would most likely extend to FIT and FIP programmes. The main obstacle would be to prove that the programmes confer benefits beyond those enjoyed by other relevant market actors. There remain significant opportunities for states to design FITs and FIPs so that they fall outside the scope of the SCM Agreement, in particular where the electricity sector has been privatized, government intervention assumes the form of price regulations, the programme is limited to emerging products or technologies, and the programme is claimed to be needed to correct market failures.

3.2. The Scope of State Aid in the EU

'State aid' has not been defined in detail in articles 107 and 108 of the TFEU.[89] Consequently, the EU has to a large extent relied on case law to define the scope of the subsidy concept. As has been emphasized by others, this case law has until recently outlined a narrower concept of subsidy than what is the case under the WTO, with a main focus on whether the resources come from the state or not.[90] In the much discussed *PreussenElektra* case,[91] the CJEU concluded that Germany's FIT programme did not constitute state aid since requiring an undertaking to purchase renewable energy at a fixed price set by the state did not amount to paying for the electricity from state resources.[92]

Recent case law of the CJEU concerning renewable energy confirms the importance of the source of the advantage, that it must be granted directly or indirectly through state resources, but it can be argued that the CJEU has moved towards a broader concept of state aid. One case where a similar scheme more clearly than in the *PreussenElektra* case involved public authorities – the undertaking to which the charge was being paid was wholly owned by public authorities, it had been appointed by the state to manage the receipts and it was only entitled to use the receipts for purposes provided for by law – the CJEU came to the conclusion that there was a subsidy. The CJEU found that 'as long as that designated company did not appropriate to itself the amount of NLG 400 million, at the time when it was freely able to do so, that amount remained under public control and therefore available to the national authorities, which

[86] See Jerjian, *supra* note 76, at 11; Bigdeli, *supra* note 76, at 179-180.
[87] Sadeq Bigdeli, 'Resurrecting the Dead? The Expired Non-Actionable Subsidies and the Lingering Question of "Green Space"', *Manchester Journal of International Economic Law*, 2012, 8(2), at 20-21, 26-27. See also Rubini, *supra* note 76, at 26-27 with further references.
[88] Rubini, *supra* note 76, at 8.
[89] See also 'Communication from the Commission, Draft Commission Notice on the notion of State aid pursuant to Article 107(1) TFEU,' European Commission (2014).
[90] Luengo, *supra* note 77, at 443-450. On the issue of FITs, see Rubini, *supra* note 76, at 25-26; Bigdeli, *supra* note 87, at 16; Bigdeli, *supra* note 76, at 172.
[91] Case C-279/98, *PreussenElektra* [2001], paras. 56-66.
[92] *Ibid*. See also Jerjian, *supra* note 76, at 14; Rubini, *supra* note 76, at 21.

is sufficient for it to be categorised as State resources'.[93] In a subsequent case, the CJEU concluded that a mechanism for offsetting in full the additional costs imposed on undertakings because of an obligation to purchase wind-generated electricity at a higher than market price, which was financed by compulsory charges imposed by legislation on final consumers of electricity, constituted a subsidy in violation of article 107 of the TFEU. The arrangement also involved a guarantee that the government would cover any additional costs that would fail to be covered by the charges on consumers.[94]

The CJEU has identified three more conditions that must be fulfilled to conclude that there is state aid; the measure must be 'liable to affect trade between Member States', it 'must confer an advantage on the recipient', and 'it must distort or threaten to distort competition'.[95] When applying these criteria, the CJEU does not focus on the definition of markets in the sense that the WTO Appellate Body did in the *Canada – FIT* case. The CJEU rather focuses on the characteristics of the recipient of the advantage and the extent to which the advantage influences the recipient's competitiveness.[96]

Early case law under the TFEU and the WTO seemed to indicate that FIT programmes which could be regarded as subsidies under the SCM Agreement would not be regarded as state aid under the TFEU. However, even if the legal bases and the reasoning of the tribunals differ significantly – the WTO case law being focused on the concept of 'benefits' and the definition of a relevant market while the CJEU being focused on the source of the benefit – and the tribunals do not refer to each other,[97] the results in recent cases seem to indicate that the WTO is applying a narrower subsidies concept while the TFEU state aid concept seems to be broadening. However, as demonstrated by recently adopted EU Guidelines, there is still considerable uncertainty regarding the classification of FITs in terms of state aid.[98]

3.3. Comparing Substantive Rules of the WTO and the EU on Subsidies

A point of significant controversy is the extent to which non-discrimination rules restrict the use of subsidies. One issue concerns the possibility of achieving national targets regarding production of renewable energy by providing subsidies exclusively to domestic producers of renewable energy or related production equipment or technology (*de jure* discrimination). Another issue concerns the need to target measures at specific sectors and technologies in order to ensure a high level of effectiveness (*de facto* discrimination).[99] Article 3.1(b) of the SCM Agreement prohibits the use of subsidies that are contingent 'upon the use of domestic over

[93] Case C-206/06, *Essent Netwerk Noord* [2008], paras. 58-75, at para. 70. See also *Commission Decision on State Aid no. SA33384 – Austria Ökostromgesetz 2012* [Green Electricity Act 2012], paras. 65-70.
[94] Case C-262/12, *Association Vent de Colère! Fédération Nationale* [2013], paras. 14-37.
[95] Case C-206/06, *Essent Netwerk Noord* [2008], para. 64.
[96] *Ibid*. paras. 76-87.
[97] Case T-55/99, *Confederación Española de Transporte de Mercancías* [2001], para. 50: 'The reference to the concept of subsidy within the meaning of the WTO Agreement on Subsidies and Countervailing Measures has, as the Commission submits, no relevance whatsoever to the classification of the measure in question as State aid within the meaning of Community law.'
[98] See Guidelines 2014, *supra* note 70, para. 21, which define 'operating benefit' as including 'benefits accruing from other support measures whether or not they constitute State aid, including operating aid granted for the same eligible costs, feed-in tariffs or other support measures.'
[99] Rubini, *supra* note 76, at 8.

imported goods.' Moreover, article III:4 of GATT 1994 prohibits *de jure* and *de facto* discriminatory subsidies with the exception of 'the payment of subsidies exclusively to domestic producers' and 'subsidies effected through governmental purchases of domestic products' (article III:8, GATT 1994). These rules extend to cases concerning investments (article 2.1, TRIMs Agreement). While the general exception in article XX of GATT 1994 applies to the latter, it is highly questionable whether it extends to the SCM Agreement.[100] There is also the possibility of challenging FIT or FIP programmes as being discriminatory or unnecessary restrictions on international trade under article 2 of the TBT Agreement or as being in violation of a range of provisions under the GATS, depending on the coverage of members' schedules of concession. The WTO DSM is thus faced with extensive challenges when defining governments' policy space with regard to renewable energy subsidies, and many issues remain unresolved.

In contrast, the CJEU seems to enjoy significant flexibility when applying the corresponding rules of the EU. In addition to the rules on state aid, cases have come up regarding measures having equivalent effects to quantitative restrictions under article 34 of the TFEU. The Court has been faced with the challenge of sorting out the tension between national support schemes, which are promoted in secondary legislation, and the rules that aim to ensure free movement of goods.[101] In the *Ålands Vindkraft* case, the CJEU found that the Renewables Directive 2009 does not rule out the application of article 34 of the TFEU to subsidies in this sector.[102] The CJEU's findings in this case demonstrate the flexibilities EU member states enjoy when designing FIT schemes to promote domestic production of renewable energy by applying the principle of proportionality to a FIT scheme that was available only to domestic energy producers, even in a situation in which the EU has adopted several 'legislative instruments whose purpose was gradually to dismantle … barriers so as to enable a fully operational internal market in electricity to be established'.[103] The main reasons why the CJEU accepted the nationality requirement was the need to focus measures on producers in order to ensure increased production on green electricity, mandatory national targets formulated in terms of quotas for the production of green electricity, the problem of tracing green electricity in the grid, and the lack of harmonization of national support schemes for green electricity.[104]

In sum, there seems to be few clear points of direct friction between case law in the WTO and the EU with regard to the definition of subsidies, despite the important statutory and interpretative differences between the regimes. One main concern, however, is the potential for different standards of non-discrimination combined with the broader scope of the definition of subsidies within the WTO. There seems to be a real risk that FITs allowed by the CJEU could be regarded as unlawful or actionable by the WTO DSM. One difference of interest between

[100] Howse, *supra* note 83, at 17-18; Cosbey and Mavroidis, *supra* note 87, at pp. 34-35.
[101] Sirja-Leena Penttinen, 'Ålands Vindkraft AB v Energimyndigheten – The Free Movement Law Perspective', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3), at 3.
[102] Case C-573/12, *Ålands Vindkraft* [2014], paras. 56-63.
[103] *Ibid*., para. 86.
[104] *Ibid*., paras. 87-100. See also Joined Cases C-204/12 to C-208/12 *Essent Belgium* [2014] and Henrik Bjørnebye, 'Joined Cases C-204/12 to C-208/12, Essent Belgium', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3).

the cases that have arisen within the WTO and the EU is that the former are initiated by interests that are worse off in terms of competitiveness due to the FITs, while the latter essentially have been initiated by those who have been forced to pay for the FITs, the *Ålands Vindkraft* case being a significant exception. Such divergence may have contributed to the different approaches pursued by these ICTs.

4. SCALING BACK OF INCENTIVES

While the subsidization of renewable energy may be challengeable under the EU state aid rules and the WTO agreements, the withdrawal or modification of such subsidies may be challengeable under international investment agreements (IIAs). Investors that are unhappy with the plans to scale back support schemes can resort to dispute settlement under IIAs. Rules that discourage subsidies on the one hand, and rules that provide remedies if they are withdrawn or modified, on the other, could cause significant tensions between the regimes. While the practice to date indicates that there has been little overlap, a recent influx of investment cases may change this perception.

As was seen in the case studies, the subsidization of renewable energy production through FIT programmes resulted in rapid and unsustainable growth. To respond to this growth, all three states have had to scale back the incentives; and it is this process of modifying and withdrawing certain benefits that has led to a significant number of international legal disputes. Foreign investors are challenging measures that have the effect of reducing the profitability of certain renewable energy projects. Since the attempts to seek recourse in the domestic courts of the Czech Republic, Spain, Italy and Bulgaria by aggrieved PV solar investors have not been fruitful so far, foreign investors have initiated at least 35 international investment treaty arbitrations essentially based on the Energy Charter Treaty (ECT).[105] There are currently 23 cases against Spain, seven cases against the Czech Republic, three cases against Italy and two cases against Bulgaria.[106] There are also two NAFTA cases that have been initiated against Canada by US investors claiming that measures taken in relation to the FIT programme in the province of Ontario have detrimentally affected their wind energy investments.[107]

Similar to other IIAs, the ECT provides a standing offer to foreign investors to initiate arbitration against host states claiming that they have violated the ECT. Investors can bring claims in three ways: (1) International Centre for the Settlement of Investment Disputes (ICSID) arbitration, (2) *ad hoc* arbitration according to the UNCITRAL arbitration rules, or (3) Stockholm Chamber of Commerce (SCC) arbitration (article 26, ECT). Of the 35 cases filed to

[105] While all of these cases are based primarily on the ECT, some of the cases also include claims based on various intra-EU BITs. For ECT-based claims, see Joe Tirado, 'Renewable Energy Claims under the Energy Charter Treaty: An Overview', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3).

[106] See Kim Talus, 'Introduction – Renewable Energy Disputes in the Europe and beyond: An Overview of Current Cases', *OGEL/TDM Special on 'Renewable Energy Disputes',* 2015, 13(3), at 7. There are also new cases based on the scaling back of PV solar incentives that could arise in Germany, Greece and Romania.

[107] *Mesa Energy v Canada* (UNCITRAL), NAFTA, 4 October 2011; *Windstream v Canada* (UNCITRAL), NAFTA, 5 November 2013.

date, 22 are ICSID arbitrations, nine are *ad hoc* UNCITRAL arbitrations, and four are SCC arbitrations.

Considering that all of these cases are pending (as of 15 September 2015) and that there is no default rule requiring that the registration of the cases or that awards be made publicly available, it is unknown exactly how many cases exist and on what legal basis the claims are being made. In the case of Spain, the 23 cases are all being brought by investors from Western Europe. The timing of the cases may give an indication as to which measures are being challenged. For example, the first of these cases is an *ad hoc* UNCITRAL arbitration brought in November of 2011 by a consolidated group of investors in the Spanish PV solar sector.[108] It is likely that this claim is based on the changes made to the FIT programme in 2010. As was seen in section 2, two laws passed in 2010 reduced the duration under which the FIT would be available, put a limit on the number hours that PV solar could benefit from the FIT, and added a new grid access fee.[109] The claimants will have to show that these changes amounted to an indirect expropriation of their investment (ECT article 13) or violated the fair and equitable treatment (FET) obligation (ECT article 10).

The other 22 cases against Spain have all been filed in 2013, 2014, and 2015. Three of the cases are SCC arbitrations[110] and 19 are ICSID arbitrations.[111] These cases could be based on the legislative changes of 2010, but they may also be tied to the changes occurring in 2013: the mandated reduction in the IRR of PV solar projects to approximately five percent and the seven percent tax on all electricity generated.[112]

Seven cases were filed against the Czech Republic in 2013. All cases are being brought by claimants from Western Europe and all are UNCITRAL arbitrations.[113] These cases are

[108] *PV Investors v Spain* (UNCITRAL), ECT, 1 November 2011. PV Investors is a group of the following 16 investors: AES (France), Ampere (Netherlands), Element (UK), Eoxis (UK), European Energy (Denmark), Foresight (UK), GreenPower (Denmark), GWMLux (Luxembourg), HgCapital (Germany), Hudson (UK), Impax (UK), KGAL (Germany), NIBC (Belgium), Scan (Denmark), White Owl (Germany).

[109] *Supra* notes 18-19.

[110] *Charanne (Netherlands) v Spain* (SCC), ECT, 2013; *Isolux (Netherlands) v Spain* (SCC), ECT, 2013; *CSP (Luxembourg) v Spain* (SCC), ECT, 2013.

[111] *RREEF (UK) v. Spain* (ICSID Case No. ARB/13/30), ECT, 22 November 2013; *Antin (France) v Spain* (ICSID Case No. ARB/13/31), ECT, 11 November 2013; *Eiser (UK) v Spain* (ICSID Case No. ARB/13/36), ECT, 23 December 2013; *Masdar (Netherlands) v Spain* (ICSID Case No. ARB/14/01), ECT, 11 February 2014; *NextEra (Netherlands) v Spain* (ICSID Case No. ARB/14/11), ECT, 23 May 2014; *InfraRed (UK) v Spain* (ICSID Case No. ARB/14/12), ECT, 3 June 2014; *Renergy (Luxembourg) v Spain* (ICSID Case ARB/14/18), ECT, 1 August 2014; *RWE (Germany) v Spain* (ICSID Case No. ARB/14/34), ECT, 23 December 2014; *Stadtwerke (Germany) v Spain* (ICSID Case No. ARB/15/1), ECT, 7 January 2015; *STEAG (Germany) v Spain* (ICSID Case No. ARB/15/4), ECT, 21 January 2015; *9REN (Italy) v Spain* (ICSID Case No. ARB15/15), ECT, 21 April 2015; *BayWa r.e. (Germany) v Spain* (ICSID Case No. ARB 15/16), ECT, 8 May 2015; *Cube Infrastructure (Luxembourg) v Spain* (ICSID Case No. ARB 15/20), ECT, 1 June 2015; *Matthias Kruck (Germany) v Spain* (ICSID Case No. ARB/15/23), ECT, 6 June 2015; *KS Invest & TLS Invest (Germany) v Spain* (ICSID Case No. ARB/15/25), ECT, 16 June 2015; *JGC (UK) v Spain* (ICSID Case No. ARB/15/27), ECT, 22 June 2015; *Cavalum SGPS (Portugal) v Spain* (ICSID Case No. ARB/15/34), ECT, 4 August 2015; *E.ON (Germany) v Spain* (ICSID Case No. ARB/15/35), ECT, 10 August 2015*; OperaFund Eco-Invest (Malta) and Schwab Holding (Switzerland) v Spain* (ICSID Case No. ARB/15/36), ECT, 11 August 2015; *SolEs Badajoz v Spain* (ICSID Case No. ARB/15/38), ECT, 24 August 2015.

[112] See *supra* notes 25-26.

[113] Of the seven cases filed, six are *ad hoc* UNICTRAL cases, and one case is registered at the Permanent Court of Arbitration (PCA) under the UNICTRAL rules: *Antaris (Germany) v Czech Republic* (PCA UNCITRAL), ECT, 8 May 2013; *Natland (Netherlands) v Czech Republic* (UNCITRAL), ECT, 8 May 2013; *Voltaic (Germany) v Czech Republic* (UNCITRAL), ECT, 8 May 2013; *ICW (UK) v Czech Republic* (UNCITRAL), ECT, 8 May 2013; *Photovoltaik (Germany) v Czech Republic* (UNCITRAL), ECT, 8 May 2013; *WA (Cyprus) v Czech Republic* (UNCITRAL), ECT, 8 May 2013; *JSW Solar (Germany) v Czech Republic* (UNCITRAL), ECT, 1 June 2013.

likely to be based on claims of indirect expropriation and violations of the FET standard as they probably relate to the tax adopted in 2012 that only applies to PV solar projects installed in 2009 and 2010.[114]

Three cases have been filed against Italy since 2013. Two of the cases are ICSID arbitrations and one is an SCC case. All three cases are brought according to the ECT.[115] The claims in these cases are also likely to be based on indirect expropriation and the FET standard. The timing of the cases indicates that the challenged measure may be related to the cap on annual spending added under the fifth conto energia, which may reduce or limit access to previously promised incentives; or the dispute may be a fact-specific scenario related to administrative changes that rendered a particular PV solar project unprofitable.[116] However, the most recent legislative changes introduced by the Italian parliament in June 2014 (and which came into force in October) are likely to give rise to a number of new investment treaty claims because it reduces the price guarantees given to PV solar producers and could be viewed as a violation of the legitimate expectations of PV solar investors under the ECT and relevant BITs.[117]

Two case were also filed against Bulgaria since mid-2013. Both cases are ICSID arbitrations based on the ECT and a BIT.[118] According to media reports, these are both claims being made by electrical power companies (DSOs operating in Bulgaria) challenging the obligation to absorb the cost of PV solar incentives offered through Bulgarian legislation. For example in one case, the investor, EVN, claims that the price of these incentives is costing it over 100 million dollars a year.[119] While EVN has attempted to pass on some of these costs to consumers through the price of electricity, protests on high electricity costs forced the government to reduce prices by approximately seven percent in 2013: a price reduction mainly borne at the expense of DSOs. The most recent case, filed in 2015, is based on a similar set of facts.

One major question that arises in these cases is whether and how the investment tribunals will take into account states' duties under GATT 1994, the SCM Agreement and the TFEU to discipline the use of subsidies. If not taken into account, states may be mandated by the investment tribunals to compensate investors in direct violation of their duties to control trade distorting subsidies.[120] Moreover, funds that could otherwise have been available as lawful subsidies to assist establishment of new production of renewable energy could be channelled towards securing an excessively high return on existing production facilities as a result of such

[114] See *supra* note 39.
[115] *Blusun (Belgium) v Italy* (ICSID Case No. ARB/14/3), ECT, 21 February 2014; *Greentech Energy (Denmark) and Novenergia (Luxembourg) v. Italy* (SCC), ECT, 7 July 2015; and *Silver Ridge Power (Netherlands) v Italy* (ICSID Case No. ARB/15/37), ECT, 11 August 2015.
[116] See *supra* notes 52-53.
[117] See *supra* notes 56-57.
[118] *EVN v Bulgaria* (ICSID Case No. ARB/13/17), ECT and Czech Republic-Bulgaria BIT, 19 July 2013; and *Energo-Pro v Bulgaria* (ICSID Case No. ARB/15/19), ECT and Austria-Bulgaria BIT, 26 May 2015.
[119] 'EVN prepares legal action on Bulgarian electricity dispute', Reuters, 19 March 2013, www.reuters.com/article/2013/03/19/austria-evn-bulgaria-idUSL6N0CB6DU20130319 (accessed 15 September 2015).
[120] See the European Commission's decision of 1 October 2014 to initiate the formal investigation procedure: (SA.38517): Romania Implementation of Arbitral award *Micula v Romania* of 11 December 2013, OJ C 393/03 7 November 2014, at pp. 27-40.

decisions. In line with this type of reasoning, the Commission has sought leave to intervene in the PV solar cases against the Czech Republic claiming, *inter alia*, that the state aid offered to investors in the Czech Republic to support their PV solar projects was never notified to the Commission and therefore never constituted permissible state aid according to EU law.[121] The Commission is implying that any award against the Czech Republic in these cases would itself be illegal state aid and therefore unenforceable.[122]

While the outcome of these cases will be closely monitored by those who have invested in renewable energy technologies under various support schemes throughout the world, these PV solar cases also have a special importance in the European context. All of the cases brought to date are intra-EU disputes. In previous intra-EU investment treaty disputes, the Commission has stated that investment tribunals do not have jurisdiction over cases between EU Member States because only the EU has competence to rule on issues of EU law.[123] The PV solar cases are likely to intensify the exchange between the Commission and investment treaty tribunals constituted under the ECT or intra-EU BITs.[124] It is likely that the cases will contribute to a major shift in policy and practice of the EU and its Member States in regards to investment treaty arbitration. It is also likely that the CJEU will become involved.[125]

5. CONCLUSIONS

When observing the situation of governments that have aggressively pursued the installation of PV solar from a distance, we could easily have come to the conclusion that these governments are under 'cross-fire' before ICTs. One group of cases are initiated at the WTO and before the CJEU by actors that are adversely affected by the increased competitiveness of certain renewable energy producers. Such cases seek to discipline the use of incentives to promote the position of certain market actors and to limit the associated 'policy space' of governments. The second group of cases is those brought before investment tribunals in order to secure investors a stable and predictable investment environment. The latter cases are only remedial in the sense that they do not prevent governments from scaling back the FITs as long as they compensate

[121] 'Brussels' latest intervention casts shadow over investment treaty arbitrations brought by jilted solar energy investors', IA Reporter, 8 September 2014, www.iareporter.com/articles/20140908_3 (accessed 10 March 2015).

[122] See *supra* note 120 where the Commission has successfully prevented Romania from satisfying an ICSID award rendered against it on the grounds that enforcement of the award would be akin to illegal state aid.

[123] See e.g. *Electrabel v Hungary* (ICSID Case ARB/07/19); *EDF v Hungary* (UNCITRAL); *Ioan Micula et al. v Romania* (ICSID Case ARB/05/20); *US Steel Global Holdings v Slovakia* (PCA UNCITRAL). In *Electrabel* and *EDF*, the Commission intervened as a non-disputing party claiming that the tribunal did not have jurisdiction over claims relating to EU law. In *Micula* and *US Steel*, the Commission intervened as a non-disputing party claiming that any award rendered against Romania and Slovakia, respectively, would be equivalent to illegal state aid. After an award was rendered against Romania in 2013 in the *Micula* case, the Commission enjoined Romania from paying the ICSID award. The Micula brothers are now suing the Commission before the CJEU to have the injunction quashed, Case T-646/14, *Micula and Others v Commission* [2014]. In *US Steel*, the claimants dropped the case after the Commission in its submissions raised doubts about its eventual enforceability.

[124] The Commission has sought leave to file interventions in six of the seven cases against the Czech Republic and in nine of the 23 cases against Spain. 'European Commission wades into solar arbitrations against Spain, intervening in one case a week before final hearings', IA Reporter, 17 November 2014, www.iareporter.com/articles/20141118_1 (accessed 15 September 2015); 'Brussels' latest intervention casts shadow over investment treaty arbitrations brought by jilted solar energy investors', IA Reporter, 8 September 2014, www.iareporter.com/articles/20140908_3 (accessed 15 September 2015).

[125] See Case T-646/14, *Micula and Others v Commission* [2014].

and cover costs as decided by the tribunals. Nevertheless, such cases may *de facto* prevent governments from taking measures that interfere with the interests of foreign investors.

Despite the conflicting interests and the potential jurisdictional, procedural and substantive law frictions that could occur among ICTs, a closer scrutiny of the situation within selected states indicates that the long-term effects of the different ICTs being involved in this field may be harmonious. The case studies indicate that many of the challenges faced within the PV solar sector are due to lack of sufficient planning and developed administrative capabilities. The cases brought to the WTO, the CJEU and investment tribunals do all seem to provide strong incentives to governments to act cautiously when implementing policies that may have important implications for international trade and investment.

As has been commented elsewhere, also the ICTs seem to proceed cautiously. As to the WTO and the EU, one commentator has observed that:

> [t]he possible incompatibility of a FIT with the applicable legal rules is either not addressed, as in the WTO case; or is dismissed on the strength of unconvincing argumentation, as in the EU cases. Thus the urgency of the need to put in place measures promoting renewable energy production is clearly seen to trump the strict application of law.[126]

It has also been suggested that investors should be allowed to rely on FITs or FIPs regardless of whether such schemes subsequently are found to be incompatible with EU rules on state aid.[127] The argument is that states have the duty to ensure that their programmes are in line with their obligations under the TFEU, and that investors should not be required to make their own assessment of the lawfulness of the programmes. A similar argument can of course be made in relation to the WTO. Whether investment tribunals will accept such arguments or rather take a 'cautious' approach by applying the IIA in light of the rules of the EU and the WTO remains to be seen.[128]

While the cautiousness of states may be commended from the perspectives of international trade and investment law, it can be questioned from the perspective of international environmental law as it may have a 'chilling effect' on environmental policy initiatives.[129] Hence, in light of calls for urgent action to mitigate climate change, we need to ask whether policy cautiousness is appropriate in the PV solar sector or for promotion of

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[126] Talus, *supra* note 106, at 16-17.

[127] Alexander Reuter, 'Retroactive Reduction of Support for Renewable Energy and Investment Treaty Protection from the Perspective of Shareholders and Lenders', *OGEL/TDM Special on 'Renewable Energy Disputes'*, 2015, 13(3), at 31-41.

[128] On the one hand, Anatole Boute, 'Combating Climate Change through Investment Arbitration', *Fordham International Law Journal*, 2012, 35(3), at 652-653 concludes: 'Low-carbon investors thus have no certainty that arbitral tribunals will follow an interpretative approach that will adequately protect them against public interference with the financial and regulatory basis of their investments. The limits of the protection offered by existing IIAs raise the question of the necessity to create a specific investment regime for low-carbon investments.' On the other hand, Kate Miles, 'Arbitrating climate change: Regulatory regimes and investor-state disputes', *Climate Law*, 2010, 1(1), at 92 concludes: 'While there are indications of more balanced approaches developing, such as those seen in the *Methanex* and *Parkerings* awards and in the drafting of 'new generation BITs', the jurisprudential trends discussed in this paper also point to continued problems for environmental matters in investor-state disputes – and this suggests that international investment law may also operate so as to frustrate measures of climate change mitigation in the future.'

[129] *Supra* notes 63-65.

renewable energy more broadly. Had there been a court under the UN Framework Convention on Climate Change, cases could have been brought to challenge states' failure to implement policies to enhance production of renewable energy. However, except for cases brought before human rights treaty bodies,[130] such cases are not brought before ICTs. The fact that the domestic courts of Spain, the Czech Republic and Italy have found in favour of the governments' policy space to mitigate climate change[131] is indicative of the need for ICTs to take into account states' ability to promote renewable energy.

[130] The issue of global warming and human rights has, inter alia, been brought before the Inter-American Commission on Human Rights in the form of a hearing on 1 March 2007, as well as a petition submitted by the Arctic Athabaskan Peoples against Canada on 23 April 2013.
[131] *Supra* notes 27-29, 42 and 58.