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# Negotiating 21st Century Rules on Energy: What Is at Stake for the European Union, the United States and the BRICS?

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## Abstract

In the context of the Transatlantic Trade and Investment Partnership (TTIP), the European Union (EU) has taken the lead in promoting the inclusion of a specific chapter on energy trade and investment in order to enhance energy security and promote renewable energy. Irrespective of the success of the TTIP negotiations, the EU proposal can contribute to developing multilateral rules on energy trade and investment. This is especially important given the increased number of energy disputes filed by the EU and the United States against other leading energy market players, including the BRICS. This article provides a normative analysis of the new rules proposed by the EU and reflects on potential responses of BRICS energy regulators. It argues that, while these rules are unlikely to immediately affect BRICS energy practices, they may eventually be ‘imported’ in BRICS domestic jurisdictions in order to promote renewable energy and attract investment in energy infrastructure.

## Keywords

Transatlantic Trade and Investment Partnership (TTIP) – BRICS – energy – World Trade Organization (WTO) law – renewable energy

## 1 Introduction

Human-induced climate change is primarily caused by carbon emissions from power and industry sectors.<sup>1</sup> Accordingly, one of the key solutions to climate change lies in the energy transition from carbon-intensive fossil fuels to carbon-neutral renewable energy (RE) sources. This transition can also help to address the problem of diversification of energy sources and thereby increase energy security.<sup>2</sup> No wonder that public support of renewable energy technologies and particularly generation of electricity from RE sources has become a widespread practice. Support is being provided through fiscal and non-fiscal measures for investment into RE technologies and/or for operation of RE producers.<sup>3</sup> In many cases, public support of renewable energy is well justified. Many RE sources are intermittent and depend on geographic and weather conditions of a specific region and thus their integration into the grid is often costly. The RE industry is also characterized by high upfront costs and uncertain returns on investment.<sup>4</sup>

However, as RE production is expanding across countries, the world's manufacturers and installers of RE technologies are facing increasing competition. As a result, recent years have witnessed an upsurge in domestic anti-dumping (AD) and countervailing duties (CVD) investigations into support schemes used by governments for promotion of RE,<sup>5</sup> as well as an increase in the number of complaints brought to the World Trade Organisation (WTO)

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- 1 According to the latest assessments of the Intergovernmental Panel on Climate Change (IPCC), 'human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history'. See IPCC 2014, *Climate Change 2014. Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Summary for Policymakers* (IPCC 2014) 2.
  - 2 Gonzalo Escribano Francés and others, 'RES and Risk: Renewable Energy's Contribution to Energy Security. A Portfolio-Based Approach' (2013) 26 *Renewable and Sustainable Energy Reviews* 549–559.
  - 3 IEA/IRENA Joint Policies and Measures Database <[www.iea.org/policiesandmeasures/renewableenergy/](http://www.iea.org/policiesandmeasures/renewableenergy/)> accessed 21 August 2017.
  - 4 United Nations Environment Programme (UNEP), *Reforming Energy Subsidies: Opportunities to Contribute to the Climate Change Agenda* (UNEP 2008) 8.
  - 5 Edwin Vermulst and Madison Meng, 'Dumping and CVD Issues in the Renewable Energy Sector' in Thomas Cottier and Ilaria Espa (eds), *International Trade in Sustainable Electricity: Regulatory Challenges in International Economic Law* (CUP 2017) 336.

for violations of WTO rules resulting from RE public support measures.<sup>6</sup> The RE 'battle' is currently held by the 'coalition' of developed countries led by the United States and the European Union (EU), on one side, and a group of emerging economies with high potential for RE production instigated by China, on the other. The key standing issue is the use of industrial policy measures in domestic RE promotion schemes, aimed to create more favourable conditions for domestic suppliers of RE equipment and components for the expansion of domestic RE industries and their share in the world RE market.

The international trade rules of the WTO prohibit the use of local content requirements and quantitative restrictions on imported inputs used in the production. These measures, even though they are imposed in a non-discriminatory manner on domestic and foreign enterprises, are deemed to be inconsistent with the Agreement on Trade-related Investment Measures (TRIMs). This has been confirmed by the outcome of a trade dispute. In the *Canada-Feed-In Tariff Program* dispute (also known as *Canada-Renewable Energy*), brought by Japan and the EU against Canada, a feed-in tariff scheme (FIT)<sup>7</sup> granted to solar and wind energy producers in the Canadian province of Ontario, was challenged under the WTO's subsidy rules.<sup>8</sup> But the key issue raised by both Japan and the EU was the local content requirement (LCR) attached to the FIT, which affected their producers of renewable energy equipment.<sup>9</sup> Under this requirement, Ontario's solar and wind energy producers were to use only locally produced equipment for solar and wind energy generation when designing and constructing their facilities in order for them to benefit from the FIT scheme. Because of its inherent discriminatory nature, the WTO

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6 An upsurge in the number of energy-related disputes in the WTO can also be explained by the expansion of the WTO membership by energy-exporting countries, including China and the Russian Federation, which acceded to the WTO in 2001 and 2012, respectively.

7 FIT schemes envisage long-term contracts with 'green' electricity suppliers, which guarantee them grid access and minimum purchase prices. They are one of the most popular forms of public support of electricity generation from renewable energy sources. For different models of FIT schemes and their compliance with WTO rules, see Marie Wilke, *Feed-In Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Review* (ICTSD issue paper No 4 2011).

8 WTO, *Canada: Measures Relating to the Feed-In Tariff Program*, Panel Report (19 December 2012) WT/DS412/R, WT/DS426/R, modified by Appellate Body Report (6 May 2013) WT/DS412/AB/R, WT/DS426/AB/R, adopted 24 May 2013.

9 Their main complaints concerned violations of Article III:4 of the GATT and art 2.1 of the TRIMs Agreement (a national treatment violation) and, additionally, Article 3.1(b) of the ASCM (a prohibited import substitution subsidy).

adjudicators condemned the LCR component of the Ontario FIT scheme referring to the national treatment obligation under the General Agreement on Tariffs and Trade (GATT) and the TRIMs Agreement.

The resolution of the dispute between Japan, the EU and Canada has not however ended arguments over public support schemes used for the promotion of RE and other measures which governments take in the RE sector. Currently, there are a number of pending consultations in the WTO concerning energy measures. Besides the use of FITs and other anti-competitive practices, the topics of consultations in the WTO dispute settlement include the imposition of ADs and CVDs on imports of energy products, as well as issues related to the use of standards for biofuels and other RE sources.<sup>10</sup> The lion's share of these consultations has been initiated by China, Russia, Brazil, Argentina and Indonesia against the EU.<sup>11</sup> The United States is also an active participant in the energy-related consultations and, frequently, panel proceedings in the WTO. A couple of years ago, it challenged Chinese measures (including grants, funds and awards to enterprises) supporting domestic producers of wind power equipment.<sup>12</sup> In return, China successfully challenged through the panel proceedings the United States' CVDs imposed on Chinese solar items.<sup>13</sup> More recently, the United States won a dispute over the Indian solar energy policies involving subsidies and domestic content requirements under the Jawaharlal Nehru National Solar Mission.<sup>14</sup>

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- 10 See current status of disputes in the WTO at <[www.wto.org/english/tratop\\_e/dispu\\_e/dispu\\_current\\_status\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/dispu_current_status_e.htm)> accessed 17 July 2017.
- 11 Tamara Perišin, 'Pending EU Disputes in the WTO: Challenges to EU Energy Law and Policy' (2014) 10 *Croatian Yearbook of European Law and Policy* 371–381.
- 12 The consultations have been ended, as China withdrew its subsidies. See US-China Business Council, 'China Ends Wind Power Subsidies, Resolves WTO Dispute' (7 June 2011) <[www.uschina.org/washington-update/china-ends-wind-power-subsidies-resolves-wto-dispute](http://www.uschina.org/washington-update/china-ends-wind-power-subsidies-resolves-wto-dispute)> accessed 17 July 2017.
- 13 See WTO Dispute Settlement, 'United States – Countervailing Duty Measures on Certain Products from China' <[www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds437\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds437_e.htm)> accessed 21 August 2017.
- 14 See WTO Dispute Settlement, 'India – Certain Measures Relating to Solar Cells and Solar Modules' <[www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds456\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds456_e.htm)> accessed 21 August 2017. See also D Ravi Kanth, 'Green Energy and Trade Disputes: Global Trade Rules Shall Continue to Trump Clean Energy Policies Pursued by Sovereign Governments' (1 September 2015) <[www.livemint.com/Opinion/D65qFpjDfPlshmXHqZ3DCN/Green-energy-and-trade-disputes.html](http://www.livemint.com/Opinion/D65qFpjDfPlshmXHqZ3DCN/Green-energy-and-trade-disputes.html)> accessed 21 August 2017.

There is no doubt that the outcomes of all this ongoing and prospective litigation will have an impact on the policy space available to governments to support RE and regulate domestic energy sectors, while also affecting the energy market, climate change policy and energy security. Such prospects call for active negotiations among countries with the aim of finding consensus regarding policy space of governments for the promotion of RE and regulation of the energy sector. This could include the revision of the multilateral legal framework for energy trade and investment, including WTO rules, as required for better balancing between the goals of economic efficiency, energy security and climate change mitigation.

International economic law literature highlights the fragmentation of international energy regulation and its deficiency in supporting a transition to renewables.<sup>15</sup> With respect to the latter, it raises issues concerning trade barriers for environmental goods and services, subsidy regimes, non-discrimination rules, competition and legal guarantees for investors in the energy sector.<sup>16</sup> It draws attention to the need for institutional support of deployment of RE technologies and the role of trade and intellectual property rights regimes in facilitating transfer of RE technologies.<sup>17</sup> Referring to the gaps in the international legal framework for energy trade and investment, trade law experts put forward the idea of an international framework agreement on energy,

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- 15 Michael Hahn and Kateryna Holzer, 'Special Agreements and Energy: Filling the Gaps' in Mitsuo Matsushita and Thomas J Schoenbaum (eds), *Emerging Issues in Sustainable Development: International Trade Law and Policy Relating to Natural Resources, Energy and the Environment* (Springer 2016) 259–277; Thomas Cottier, 'Renewable Energy and WTO Law: More Policy Space or Enhanced Disciplines?' (2014) 5 *Renewable Energy Law and Policy Review* 40–51.
- 16 Robert Howse, *World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers (UNCTAD)* (United Nations 2009); Yulia Selivanova (ed), *Regulation of Energy in International Trade Law: WTO, NAFTA and Energy Charter* (Kluwer Law International 2011); Luca Rubini, 'Ain't Wastin' Time No More: Subsidies for Renewable Energy, the SCM Agreement, Policy Space and Law Reform' (2012) 15(2) *JIEL* 525–579; Kateryna Holzer and others, 'Promoting Green Electricity Through Differentiated Electricity Tax Schemes' in Cottier and Espa (n 5) 356–389; Karolis Gudas, 'The External Dimension of Cross-Border Electricity Systems Planning' in Raphael J Heffron and Gavin F M Little (eds), *Delivering Energy Law and Policy in the EU and the US* (Edinburgh University Press 2016).
- 17 Frederick Abbott, 'Transfer of Technology and a Global Clean Energy Grid' in Cottier and Espa (n 5) 417–427.

particularly electricity, either within the WTO, in other energy-related fora or as a separate international treaty.<sup>18</sup>

Regarding the institutional basis of global energy governance, academic literature primarily focuses on the WTO and the Energy Charter, making attempts to clarify the scope and application of relevant provisions of the WTO Agreement and the Energy Charter Treaty to energy trade and investment.<sup>19</sup> It also covers other international institutions contributing to international energy cooperation and renewable energy expansion, such as the International Energy Agency (IEA), G20, and the United Nations Framework Convention on Climate Change (UNFCCC).<sup>20</sup> More recent studies also explore regional approaches to energy regulation, particularly the role of regional trade agreements (RTAs) and energy-specific intergovernmental arrangements.<sup>21</sup> Finally, a vast body of literature is dedicated to domestic regulation of the energy sector in the EU, the United States and BRICS countries.<sup>22</sup>

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- 18 Thomas Cottier and others, 'Towards a WTO Framework Agreement on Trade in Energy' SIEL Working Paper No 2010/40.
- 19 See eg Steivan Defilla, 'Energy Trade Under the ECT and Accession to the WTO' (2003) 21 *J Energy Nat Resources & Envtl L* 428–446; Gabrielle Marceau, 'The WTO in the Emerging Energy Governance Debate' in Joost Pauwelyn (ed), *Global Challenges at the Intersection of Trade, Energy and the Environment* (Graduate Institute 2010) 25 et seq; Mireille Cossy, 'Energy Transport and Transit in the WTO' in Pauwelyn, *ibid*, 113 et seq; Yulia Selivanova, 'The Energy Charter and the International Energy Governance' in Selivanova (n 16) 373; Alan Yanovich, 'WTO Rules and the Energy Sector' in Selivanova, *ibid*, 1–48.
- 20 See eg Rafael Leal-Arcas and others, *International Energy Governance: Selected Legal Issues* (Edward Elgar 2014); Kim Talus, 'Internationalization of Energy Law' in Kim Talus (ed), *Research Handbook on International Energy Law* (Edward Elgar 2014) 3 et seq.
- 21 See eg Noim Udin and Ros Taplin, 'Regional Cooperation in Widening Energy Access and Also Mitigating Climate Change: Current Programs and Future Potential' (2015) 35 *Global Environmental Change* 497–504; Ilaria Espa and Kateryna Holzer, 'Negotiating an Energy Deal Under TTIP: Drivers and Impediments to US Shale Exports to Europe' (2015) 43(4) *Denv J Intl L & Poly* 357–378.
- 22 See eg Angus Johnston and Guy Block, *EU Energy Law* (OUP 2012); Raphael J Heffron and Gavin F M Little (eds), *Delivering Energy Law and Policy in the EU and the US* (Edinburgh UP 2016); Sara Schuman and Alvin Lin, 'China's Renewable Energy Law and Its impact on Renewable Power in China: Progress, Challenges and Recommendations for Improving Implementation' (2012) 5 *Energy Policy* 89–109; Mohammad Naseem, *Energy Law in India* (Kluwer Law International 2011); Tumai Murombo, 'Regulating Energy in South Africa: Enabling Sustainable Energy by Integrating Energy and Environmental Regulation' (2015) 33(4) *J Energy Nat Resources L* 320–348.

More studies are needed to explore the influence of renewable energy arrangements reached in regional negotiations on the multilateral regime for energy trade and investment. This is even more so given the potential for innovation in the regulatory framework offered by mega-regionals, such as the Transatlantic Trade and Investment Partnership (TTIP). Based on the TTIP negotiations between the United States and the EU have in particular been used by the latter as an opportunity to play a leading role in the global energy regime formation. However, whether China and other important global energy market players will accept to be rule-takers is not certain. This article examines this question and assesses in particular the disclosed content of the EU non-paper on a TTIP energy data<sup>23</sup> in light of its ability to serve the goal of renewable energy promotion and to set the tone for future regional and multilateral negotiations on energy. In doing so, the analysis focuses on how the 'model' promoted by the EU in the context of the TTIP negotiations could influence the domestic energy agendas of BRICS and contribute to the formation of the multilateral energy regime.<sup>24</sup>

This article is structured as follows. Section 2 gives an account of the energy profiles of the EU, the United States and BRICS countries in terms of the energy mix and also in terms of RE promotion policies. Section 3 lays out contours of the 'model' for an energy chapter that the EU is promoting in the framework of TTIP negotiations. Section 4 assesses the normative value of the proposed TTIP energy chapter in light of its RE promotion potential and environmental impacts. This is followed by Section 5, which reflects on the implications of prospective EU-US energy rules for BRICS countries and the prospects for their multilateralization. Finally, Section 6 presents some concluding remarks.

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23 A non-paper is an informal document distributed in closed negotiations within EU institutions in order to test reaction of negotiating parties to some ideas and proposals regarding contentious issues. See Council of the European Union, 'Non-Paper on a Chapter on Energy and Raw Materials in TTIP' Note for the Attention of the Trade Policy Committee, (27 May 2014), art O <[www.scribd.com/doc/233022558/EU-Energy-Non-paper](http://www.scribd.com/doc/233022558/EU-Energy-Non-paper)> accessed 29 January 2018.

24 It is expected that by 2035, the United States, the EU, China, India, Russia, Brazil and South Africa together will account for two-thirds of the world's energy consumption and more than half of the world's energy production. They will also remain among the world's largest energy exporters and importers. See BP (2016), Statistical Review of World Energy <[www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html](http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html)> accessed 21 August 2017.



## 2 EU, US and BRICS Energy Agendas in a Comparative Perspective

World energy production and consumption have been on the rise in the last two decades, reaching levels that in 2014 were almost 50% higher compared to 1995 levels, the effects of the global economic crisis notwithstanding.<sup>25</sup> While developing countries, and particularly BRICS such as China and India, account for the lion share of such increases due to higher rates of gross domestic product (GDP) and population growth,<sup>26</sup> energy remains critical for any economy in the world as it permeates all aspects of modern life and it is quintessential for economic sectors as varied as power generation, transport, industry, buildings and even agriculture.<sup>27</sup> World energy consumption is moreover projected to increase as a result of a number of structural factors, namely demographic trends,<sup>28</sup> economic growth triggered by BRICS and other developing countries,<sup>29</sup> and the ever expanding industrialization, electrification and transportation of countries that are currently at earlier stages of development.<sup>30</sup>

### 2.1 *The Carbon Footprint of Energy*

The energy sector is the most important source of greenhouse gas (GHG) emissions. Two thirds of global GHG emissions are currently generated by the energy sector.<sup>31</sup> This has to do with the fact that fossil fuels continue to meet more than 80% of total primary energy demand.<sup>32</sup> Low energy prices,<sup>33</sup> replenished spare capacity estimates due to innovative exploration and

25 European Commission, *EU Energy in Figures: Statistical Pocketbook 2015* (2015) 10 and 14 <[www.statista.com/statistics/203325/us--energy-consumption-by-source/](http://www.statista.com/statistics/203325/us--energy-consumption-by-source/)> accessed 17 July 2017.

26 International Energy Agency, *World Energy Outlook Special Report: Trade and Climate Change* (2015) 27 <[www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf](http://www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf)> accessed 17 July 2017.

27 *ibid.*

28 International Energy Agency, *World Energy Outlook Report* (2015) 40 <[www.worldenergyoutlook.org/media/weowebiste/2015/WEO2015\\_Chapter01.pdf](http://www.worldenergyoutlook.org/media/weowebiste/2015/WEO2015_Chapter01.pdf)> accessed 17 July 2017.

29 *ibid* 37–38.

30 *ibid.*

31 International Energy Agency, *World Energy Outlook Special Report 2013: Redrawing the Energy-Climate Map* (2013) 15 <[www.worldenergyoutlook.org/media/weowebiste/2013/energyclimatemap/RedrawingEnergyClimateMap.pdf](http://www.worldenergyoutlook.org/media/weowebiste/2013/energyclimatemap/RedrawingEnergyClimateMap.pdf)> accessed 21 August 2017.

32 International Energy Agency (n 26) 25.

33 International Energy Agency (n 28) 46–52.

exploitation techniques and the so-called shale revolution<sup>34</sup> are among the explaining factors for the sustained reliance on fossil fuels on the part of both developed and developing countries to the detriment of RE competitiveness.<sup>35</sup>

The United States and the EU are no exception to this trend. Energy-related GHG emissions account for approximately 80% of total GHG emissions of these regions.<sup>36</sup> According to 2013 figures, the EU relies on fossil fuels to meet around three quarters of its total energy consumption needs, with petroleum being the largest source (33%), followed by natural gas (23%) and coal (17%).<sup>37</sup> In the case of the United States, approximately 80% of overall energy consumption is attributable to fossil fuels.<sup>38</sup> Petroleum and natural gas accounted, respectively, for around 35% and 27% between 2014 and 2015, while coal met around 18% of total US energy consumption.<sup>39</sup> Inasmuch as the United States and the EU are, respectively, the world's second and third largest energy consumers after China,<sup>40</sup> their heavy dependence on fossil fuels translates into them being the second and the third biggest contributors to global GHG emissions, accounting for around 16% and 11.5% based on 2012 data.<sup>41</sup>

A similar situation can be observed in BRICS, which are increasingly becoming the major centers of energy production and consumption based on fossil fuel combustion.<sup>42</sup> While China and India lead the group as the first and third (before and after the United States) largest energy consumers in the world, respectively, the Russian Federation and Brazil are also in the top ten

34 Espa and Holzer (n 21) 358–378.

35 International Energy Agency (n 26) 21.

36 Eurostat, 'Greenhouse Gas Emission Statistics' <[http://ec.europa.eu/eurostat/statistics-explained/index.php/Greenhouse\\_gas\\_emission\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Greenhouse_gas_emission_statistics)> accessed 17 July 2017; US Energy Information Administration (EIA), 'U.S. Energy-Related Carbon Dioxide Emissions Increase in Past Two Years' <[www.eia.gov/todayinenergy/detail.cfm?id=20872](http://www.eia.gov/todayinenergy/detail.cfm?id=20872)> accessed 17 July 2017.

37 European Commission (n 25) 22. In 2013, nuclear power accounted for 14% of overall energy consumption in the EU, while the share of renewable energy was 12%.

38 Statista, 'U.S. Energy Consumption in 2013 and 2014, by Energy Source (in Quadrillion Btu)' <[www.statista.com/statistics/203325/us--energy-consumption-by-source/](http://www.statista.com/statistics/203325/us--energy-consumption-by-source/)> accessed 17 July 2017.

39 *ibid.*

40 European Commission (n 25) 14.

41 *ibid.* 18.

42 According to the IEA, coal use will more than double in India and China by 2050. Over the coming 20 years, the two countries will account for more than 80% of world coal demand. See Tong Wu, *China, BRICS & the Environment: The Dilemma of Growth vs the Environment Is Becoming More Acute for China and Other BRICS Nations* (2011) <<http://thediplomat.com/2011/11/china-brics-and-the-environment/>> accessed 17 July 2017.

countries, and South Africa is rapidly 'catching up'.<sup>43</sup> All BRICS rely on fossil fuels for more than half of their overall energy consumption, with countries such as China, India and South Africa more predominantly depending on higher polluting fossil fuels like coal.<sup>44</sup> Accordingly, energy-related GHG emissions have steadily increased in all BRICS compared to 1990 levels and in certain cases (China and, recently, India) quite dramatically.<sup>45</sup>

## 2.2 RE Promotion Policies

Facing the dilemma of growth vs environmental protection, and considering the huge climate change implications of fossil fuel combustion, both developed and advanced developing countries are keen to develop the RE potential.<sup>46</sup> RE has been put on the top of the political and economic agenda of the United States, the EU and BRICS due to its potential to contribute to GHG emissions reduction and energy security (Figure 1).<sup>47</sup> The latter is particularly true for the EU, which relies on the development of RE also for achieving a larger diversification of energy supplies.<sup>48</sup> In the long run, the EU, as well as some non-EU European countries, plan to substitute with RE not only energy originated from fossil fuels but also nuclear energy.<sup>49</sup>

43 Currently, Russia is at the fourth, Brazil is at the eighth and South Africa is at the twentieth position on the list of countries by primary energy consumption. See Statista (2016) <[www.statista.com/statistics/263455/primary-energy-consumption-of-selected-countries/](http://www.statista.com/statistics/263455/primary-energy-consumption-of-selected-countries/)> accessed 17 July 2017.

44 China and South Africa still relied for around 66% of their total energy consumption on coal in 2014. In the same year, this percentage was 46% in the case of India. In the case of other BRICS countries, the largest single source of energy consumption is either natural gas or oil. The Russian Federation, in particular, counts on natural gas for approximately 54% of its overall energy consumption, whereas Brazil derives 39% of its consumption needs from oil. See Greenpeace, *Laggards and Leaders: The Energy Transition in BRICS Countries* <[www.greenpeace.org/international/Global/international/briefings/climate/COP21/Greenpeace\\_BRICS\\_factsheets.pdf](http://www.greenpeace.org/international/Global/international/briefings/climate/COP21/Greenpeace_BRICS_factsheets.pdf)> accessed 17 July 2017.

45 International Energy Agency (n 26) 26–28.

46 Wu (n 42).

47 Simon Müller and others, *Renewable Energy: Policy Considerations for Deploying Renewables* (Information Paper International Energy Agency 2011).

48 Perišin (n 11) 375.

49 Thomas Cottier and others, *Differentiating Energy Tax on Electricity: An Assessment of the Compatibility with WTO Law and EU Law. A Study Prepared for the Swiss Federal Department of Finance* (2014) <[www.seco.admin.ch/dam/seco/de/dokumente/Publikationen\\_Dienstleistungen/Publikationen\\_Formulare/Umwelt\\_Energie/Vereinbarte\\_differenzierte\\_Stromsteuer.pdf.download.pdf/ES2050\\_zweite\\_Etappe\\_differenzierte\\_Stromsteuern.pdf](http://www.seco.admin.ch/dam/seco/de/dokumente/Publikationen_Dienstleistungen/Publikationen_Formulare/Umwelt_Energie/Vereinbarte_differenzierte_Stromsteuer.pdf.download.pdf/ES2050_zweite_Etappe_differenzierte_Stromsteuern.pdf)> accessed 6 February 2018.

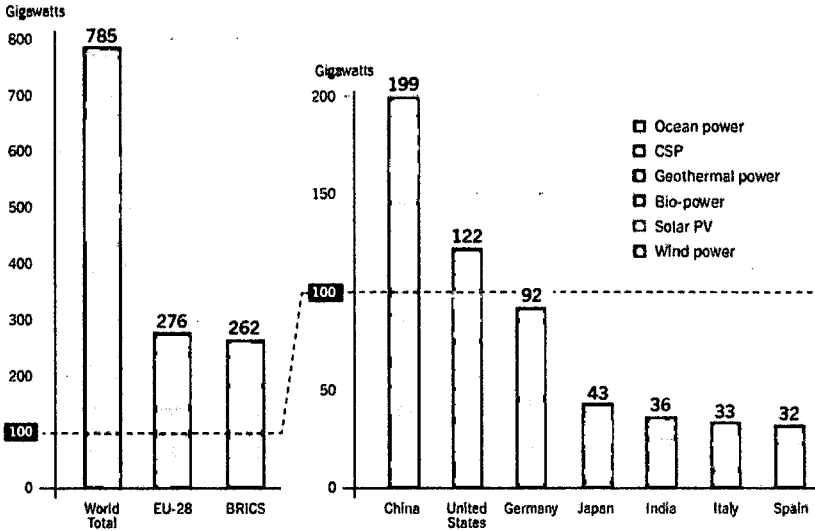


FIGURE 1 *Top countries by renewable energy capacity.*  
 SOURCE: REN21, RENEWABLES 2016 GLOBAL STATUS REPORT (2016) 33  
 <WWW.REN21.NET/WP-CONTENT/UPLOADS/2016/06/GSR\_2016\_FULL\_ REPORT.PDF> ACCESSED 1 JUNE 2018.

In the EU, the share of RE in the energy mix is expected to increase to 20% by 2020, under the so-called ‘20/20/20’ program, which also includes a 20% reduction of GHG emissions by 2020 compared to the levels in 1990 and a 20% improvement in energy efficiency.<sup>50</sup> Moreover, a new set of EU targets was proposed within the context of a renovated European policy framework for climate and energy in the period from 2020 to 2030.<sup>51</sup> In particular, the European Commission has proposed to set a GHG emissions reduction target of 40% compared to the levels of 1990, an increased share of renewable energy in the EU overall energy portfolio of 27%, and an increased level of energy

50 European Commission, *The 2020 Climate and Energy Package* (2008) <[https://ec.europa.eu/clima/policies/strategies/2020\\_en](https://ec.europa.eu/clima/policies/strategies/2020_en)> accessed 17 July 2017. As an Annex I country under the United Nations Framework Convention on Climate Change (UNFCCC), the EU has also committed multilaterally to meet its emission reduction target of 20% by 2020 compared to the levels in 1990 over the second commitment period (2013–2020) of the Kyoto Protocol. See European Commission, *Climate Action: Commission Proposes Ratification of Second Phase of Kyoto Protocol* (2014) <[http://europa.eu/rapid/press-release\\_IP-13-1035\\_en.htm](http://europa.eu/rapid/press-release_IP-13-1035_en.htm)> accessed 21 August 2017.

51 European Commission, *A Policy Framework for Climate and Energy in the Period from 2020 to 2030* (2014) 1-18 <<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0015&from=EN>> accessed 21 August 2017.

savings of 25% by 2030. In the United States, President Obama made a pledge that by 2020 America would reduce its GHG emissions by 17% below the levels of 2005.<sup>52</sup>

As the principal source of GHG emissions is fuel combustion that takes place in energy transformation, i.e. electricity generation,<sup>53</sup> efforts of both the EU and the United States to achieve GHG emissions reductions have focused on the electricity sector. The EU has strengthened its emission trading scheme (ETS) requirements for the electricity sector cancelling the free allocation of emissions allowances, while President Obama has proposed a federal carbon pollution standard for new power plants in 2012, to be implemented in addition to the renewable energy targets and energy efficiency targets put in place in more than 35 and 25 states, respectively.<sup>54</sup>

Of key importance for the promotion of RE is also the liberalisation of the electricity sector and the introduction of competition rules in the electricity market. This includes granting third party access to electricity networks, which enables electricity generated from RE to be fed in the electricity grids and reach its consumers. The EU has made considerable progress in the liberalisation of the electricity sector. In particular, the latest round of EU energy market legislation, known as the Third Energy Package, has recently been enacted.<sup>55</sup> The Third Energy Package contains the latest legislation for completing the internal energy market, including rules on the separation of energy supply and generation from the operation of transmission networks (unbundling), the independence of national energy regulators, and rules designed to benefit European energy consumers by ensuring the right to choose or change suppliers without extra charges, receive information on energy consumption, and quickly and cheaply resolve disputes.<sup>56</sup>

BRICS countries have also taken action to promote renewable energy. As the world's largest energy consumer and emitter, China has taken the lead in the last few years. China's 12th Five-Year Plan (2011–2015) set a goal of reducing

52 The White House, *The President's Climate Action Plan*, Executive Office of the President <[www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf](http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf)> accessed 17 July 2017.

53 US Energy Information Administration (EIA) (n 36); Eurostat (n 36).

54 European Commission (n 51) 5; The White House (n 52) 6. For more on energy efficiency standards in the EU and the United States, see Kateryna Holzer and Thomas Cottier, 'Addressing Climate Change Under Preferential Trade Agreements: Towards Alignment of Carbon Standards Under the Transatlantic Trade and Investment Partnership' (2015) 35 *Global Environmental Change* 514–522.

55 DG Energy of the European Commission, *Market Regulation* (2015) <<https://ec.europa.eu/energy/node/50>> accessed 17 July 2017.

56 *ibid.*

its CO<sub>2</sub> emissions by at least 40% between 2005 and 2020. The Chinese government announced a plan to reduce its carbon intensity (i.e. carbon emissions per unit of GDP) by 17% between 2010 and 2015 and its energy intensity (i.e. energy use per unit of GDP) by 16% during the same period.<sup>57</sup> Accordingly, China has increased its efforts to differentiate its energy sources in the attempt to reduce its heavy dependence on coal and, in particular, it set the target of achieving a share of non-fossil fuel energy consumption of 15% by 2020.<sup>58</sup> In particular, China has massively invested in the de-carbonization of its electricity sector by supporting the share of RE sources in power generation.<sup>59</sup> In accordance with these targets, China has not only become the leading country for total installed RE capacity, being home to approximately one-fourth of the world's renewable power capacity,<sup>60</sup> but it accounted for almost two-thirds of developing country investment in RE in 2014.<sup>61</sup>

Yet, investment in RE has also continued to spread significantly to other BRICS countries in recent years. In particular, Brazil saw the largest percentage increases in 2014,<sup>62</sup> whereas countries such as India and South Africa invested more than USD 1 billion in RE in the same year.<sup>63</sup> This has resulted in BRICS cumulatively accounting for almost a third of the global RE installed capacity, less than the EU28 contribution (approximately 40%) but more than the United States installed capacity (around 16%).<sup>64</sup> If broken down by RE specific forms, all BRICS but South Africa appear at least once among the top five countries in the world in terms of installed RE capacity as of the end of 2014.<sup>65</sup>

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57 US Energy Information Administration (2014), *Countries Profiles: China*, 2.

58 *ibid* 2, 17 and 30.

59 *ibid* 31–36.

60 REN21, *Renewable 2015 Global Report 30* (2015) <[www.ren21.net/wp-content/uploads/2015/07/REN12-GSR2015\\_Onlinebook\\_low1.pdf](http://www.ren21.net/wp-content/uploads/2015/07/REN12-GSR2015_Onlinebook_low1.pdf)> accessed 17 July 2017.

61 *ibid* 22.

62 *ibid*.

63 *ibid*.

64 *ibid* 33.

65 Currently, hydropower with 1,055 gigawatts (GW) of total capacity by far dominates the world's renewable energy production, followed by wind power with 370 GW, solar PV with 177 GW and bioenergy with 93 GW of total capacity. However, wind and solar energy lead the renewable energy sector by the volumes of new added capacity. In 2014, the global wind power market added a record 51 GW, the most of any renewable technology. Solar PV grew by 40 GW. In total, global renewable energy investment reached at least USD 301 billion, and for the fifth year, renewables outpaced fossil fuels by net investment in power capacity additions. Developing country investment in renewable energy amounted to USD 138.9 billion and came the closest ever to surpassing the investment total for developed economies. See *ibid* 19–22.

In some cases, the country dominates in terms of capacity installed for various RE forms. This is true in the case of China, which has more wind power, solar PV, and hydropower capacity of any country in the world.<sup>66</sup> In other cases, the country predominantly relies on a specific RE form: for Brazil and the Russian Federation, this is hydropower; for India, this is wind. Nevertheless, this is just the tip of the iceberg. Much more is happening behind the surface: for instance, in 2014 Brazil commissioned over 3 gigawatts (GW)<sup>67</sup> of hydropower and a record 2.5 GW of wind power capacity, while South Africa was among the top 10 solar PV markets for the first time (ranking 9th), ahead of India, and led the continent as to the installment of new wind power capacity.<sup>68</sup>

### 3 The EU Energy Proposal for the TTIP Negotiations

New rules for the energy sector may result from the conclusion of TTIP.<sup>69</sup> Through the establishment of a bilateral legal framework for energy, the parties strive to increase competition in the energy sector and the share of renewable energy in the energy mix, while guaranteeing the right of each party to maintain standards and regulations concerning energy performance of products, appliances and processes.<sup>70</sup> Highlighting the importance of energy rules for the bilateral trade and investment relations, the EU insists on the inclusion of a separate chapter on energy and raw materials in the agreement, while the United States prefers to regulate energy as part of general trade adding some energy-specific provisions to the texts of other chapters, mainly in the TTIP chapter of trade in goods.<sup>71</sup>

66 China accounted for almost two-thirds of developing country investment in renewable power and fuels. See *ibid* 22.

67 GW is a power unit equal to 1 billion watts, which can be enough to power up to 750,000 homes. See Suparna Kadam, 'What a Watt Is' (27 September 2010) <[www.todayifoundout.com/index.php/2010/09/what-a-watt-is/](http://www.todayifoundout.com/index.php/2010/09/what-a-watt-is/)> accessed 17 July 2017.

68 *ibid* 31.

69 For the main objectives and milestones of TTIP negotiations, see the website of the US Trade Representative <<https://ustr.gov/ttip>> and EU DG Trade at <[http://ec.europa.eu/trade/policy/in-focus/ttip/index\\_en.htm](http://ec.europa.eu/trade/policy/in-focus/ttip/index_en.htm)> accessed 17 July 2017.

70 European Commission, *EU-US Transatlantic Trade and Investment Partnership: Raw Materials and Energy. Initial EU Position Paper* (2013) <[http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc\\_151624.pdf](http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc_151624.pdf)> accessed 21 August 2017.

71 See 'EU Demands U.S. Remove LNG Export Restrictions in TTIP, Doesn't Address Crude Oil' (*Inside US Trade*, 12 July 2016) <<http://insidetradetrade.com/daily-news/eu-demands-us>>

While one of the major interests of the EU in reaching an energy deal within the TTIP lies in launching imports of shale gas from the United States, which would help increase energy security recently put at risk by the Russia-Ukraine conflict,<sup>72</sup> it is also interested in an open, stable, predictable, sustainable, transparent and non-discriminatory legal framework for energy trade and investment.<sup>73</sup> In particular, the EU has stressed the importance of tackling dual pricing practices and preventing trade distortions associated with the predominant position of state-owned enterprises in the energy sector.<sup>74</sup> It has also urged the adoption of sector-specific rules regulating the use of electricity networks, namely those providing third party access (TPA), so as to prevent discrimination among energy suppliers.<sup>75</sup> This is also in the view of supporting the deployment of RE. More generally, the EU points to the need of ensuring fair competition in the RE sector.<sup>76</sup>

In contrast to the EU, the United States has not disclosed its official position with respect to issues discussed within the TTIP negotiations.<sup>77</sup> Yet, given the differences in energy resources and domestic energy market structures of the EU and the United States demonstrated above, it is unlikely that the views of the TTIP negotiating parties on the regulation of energy trade and investment would necessarily converge.

### 3.1 *Non-Discrimination Rules*

While interested in preserving their competitiveness in the RE sector, the EU is nevertheless interested in discussing the prohibition of LCRs in RE subsidy schemes.<sup>78</sup> The reciprocal removal of LCRs practices has already been projected to reshuffle the competitive positions of RE industries on both sides of the Atlantic. In particular, the liberalization of trade and investment in the RE

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remove-Ing-export-restrictions-ttip-doesnt-address-crude-oil?destination=node/155097> accessed 17 July 2017.

72 It should be noted that this goal comes in tension with policies oriented at a low-carbon future and is currently the subject of strong criticism of civil society on the both sides of the Atlantic. See Espa and Holzer (n 21).

73 European Commission (2013): EU-US Transatlantic Trade and Investment Partnership: Raw Materials and Energy. Initial EU Position Paper <[http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc\\_151624.pdf](http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc_151624.pdf)> accessed 21 August 2017.

74 *ibid* 3.

75 *ibid*.

76 European Commission, 'TTIP – Non Papers on Raw Materials and Energy' (Brussels, 20 September 2013).

77 Vermulst and Meng (n 5).

78 European Commission (n 70).



sector would inflict considerable losses on the EU solar industry to the benefit of the US industry while creating a competitive disadvantage for US wind energy producers.<sup>79</sup>

Discriminatory practices towards imported goods and services, such as LCRs, are prohibited under multilateral trade rules of the WTO. The main argument supporting the prohibition of LCRs rests on the fact that such measures create unfair advantages to the benefit of domestic, not necessarily more efficient, producers, often inducing welfare losses. Not only may such instruments distort trade and competition to the detriment of foreign producers, but they have often proved to be insufficient to stimulate the development of RE in and of themselves.<sup>80</sup> Reflecting this economic reality, WTO rules outlaw this practice. Accordingly, the use of LCRs was found to be in violation of the rules of the GATT and the TRIMs Agreement in the WTO dispute *Canada-FIT Program*. In that case, LCRs attached to a feed-in-tariff scheme deployed in the Canadian province of Ontario to support solar and wind energy production were found to qualify as trade-related investment measures falling under Article 2.1 of the TRIMs Agreement and to constitute a violation of the national treatment obligation under Article III:4 of the GATT.<sup>81</sup> The same conclusion was also reached by the Panel and the Appellate Body in the *India-Solar Cells* dispute, which concerned the use of LCR measures imposed under the Jawaharlal Nehru National Solar Mission programme.<sup>82</sup>

A number of other WTO consultations and panel proceedings, which have targeted the use of LCRs in connection with RE support programmes, are still currently pending,<sup>83</sup> reflecting the widespread use of such practices

79 European Parliament, *TTIP Impacts on European Energy Markets and Manufacturing Industries, Study for the ITRE Committee* (2015) 29 <[www.europarl.europa.eu/RegData/etudes/STUD/2015/536316/IPOL\\_STU\(2015\)536316\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/536316/IPOL_STU(2015)536316_EN.pdf)> accessed 17 July 2017.

80 Isabelle Ramdoo, *Unpacking Local Content Requirements in the Extractive Sector: What Implications for the Global Trade and Investment Frameworks?* (E15 Initiative 2015) 5 <<http://e15initiative.org/publications/unpacking-local-content-requirements-in-the-extractive-sector-what-implications-for-the-global-trade-and-investment-frameworks/>> accessed 17 July 2017.

81 WTO, *Canada-FIT Program*, Panel Report (19 December 2012) WT/DS412/R, para 7.167.

82 WTO, *India-Certain Measures Relating to Solar Cells and Solar Modules*, Panel Report (24 February 2016) WT/DS/456/R.

83 Dirk de Bièvre, Ilaria Espa and Arlo Poletti, 'No Iceberg in Sight: On the Absence of WTO Disputes Challenging Fossil Fuel Subsidies' (2017) 17(3) *International Environmental Agreements* 411.

in the world.<sup>84</sup> Yet, existing WTO Panel and the Appellate Body (AB) rulings seems to have made clear that LCRs are a no-go for countries, which intend to support the deployment of RE, inasmuch as they benefit domestic RE industries only.

The recent trends in the WTO jurisprudence show a certain convergence of views on the unlawfulness of LCR practices to be used as a tool to promote RE, although, as discussed below, concerns have been voiced regarding the limitations caused by these rules for the achievement of developing countries' goals to establish domestic RE industries.<sup>85</sup> Building on existing WTO rules and such developments in jurisprudence, the EU has tabled a proposal to include in the text of the TTIP the clear-cut prohibition on the use of LCRs in support schemes for RE. In the non-paper prepared by the Directorate-General for Trade of the European Commission for the negotiation of the TTIP energy chapter,<sup>86</sup> Article O explicitly lists LCRs among those measures that the Parties shall refrain from using for RE promotion.<sup>87</sup>

84 See eg Ilaria Espa and Sonia E Rolland, *Subsidies, Clean Energy and Climate Change* (E15 Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum 2015) 5; Sherry Stephenson, *Addressing Local Content Requirements in a Sustainable Energy Trade Agreement* (ICTSD 2013).

85 In *India-Solar Cells*, in particular, India strongly insisted on its LCR measures being aimed at 'tak[ing] steps to achieve energy security, mitigate climate change, and achieve sustainable development, and ... steps to ensure the adequate supply of clean electricity, generated from solar power, at reasonable prices' (*India-Solar Cells*, Panel Report (24 February 2016) WT/DS456/R, para 7.189). Accordingly, it argued that such measures were to be justified under Article XX (j) and Article XX (d) GATT exceptions as measures necessary to ensure an adequate reserve of domestic manufacturing capacity for solar cells and modules in compliance with the mandate under India's laws and regulations to achieve ecologically sustainable growth and sustainable development. *Ibid* para 7.190. While the Panel dismissed these claims, India recently appealed its findings. See *India-Certain Measures Relating to Solar Cells and Solar Modules*, Notification of an Appeal by India under Article 16.4 and Article 17 of the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) and under Rule 20(1) of the Working Procedures for Appellate Review (15 April 2016) WT/DS456/9.

86 A non-paper is an informal document distributed in closed negotiations within EU institutions in order to test reaction of negotiating parties to some ideas and proposals regarding contentious issues.

87 See Council of the European Union, 'Non-Paper on a Chapter on Energy and Raw Materials in TTIP' Note for the Attention of the Trade Policy Committee (27 May 2014), art O <[www.scribd.com/doc/233022558/EU-Energy-Non-paper](http://www.scribd.com/doc/233022558/EU-Energy-Non-paper)> accessed 29 January 2018.

### 3.2 *Liberalization of the Energy Sector*

The promotion of RE depends on free market conditions in the energy sector, including unbundling of vertically integrated energy companies and access to energy supply infrastructure for private third party operators. The latter is known as the TPA principle, under which owners of energy infrastructure facilities, e.g. electricity networks and gas pipelines, are required to grant access to those facilities to energy suppliers other than their own customers on commercial terms comparable to those that would apply in a competitive market. The EU gradually liberalised its energy sector and developed a sophisticated legal framework governing the creation of its internal energy market.<sup>88</sup> In particular, the EU internal electricity market enables competition among electricity generators and suppliers, while electricity networks, being a natural monopoly and usually owned by a single state-controlled entity, can be used by private energy supplying companies subject to certain conditions. Under these circumstances, EU RE producers may be granted priority or guaranteed access to transmission and distribution networks at the discretion of EU Member States in accordance with the Renewable Energy Directive (RES Directive).<sup>89</sup> The EU has also introduced special third party access conditions to natural gas transmission networks<sup>90</sup> The EU applies its sophisticated competition law for the enforcement of competition rules, including TPA, in the energy sector.<sup>91</sup>

The United States started granting third party access to electricity network facilities as early as the 1970s, when it allowed independent power producers to sell electricity to investor-owned utilities.<sup>92</sup> Since 1992, open access to transmission lines has been required to all electricity generators under the Energy Policy Act.<sup>93</sup> TPA-related issues and other competition matters are dealt with

88 For an overview of the creation and the state of play of the EU internal electricity market, see European Commission, 'Progress Towards Completing the Internal Energy Market' COM(2014)634 final.

89 See Article 16 of the Renewable Energy Directive.

90 See EC Directive 73/2009/EC and Regulation 715/2009.

91 Kim Talus, 'Just What Is the Scope of the Essential Facilities Doctrine in the Energy Sector? Third Party Access-Friendly Interpretation in the EU v. Contractual Freedom in the US' (2011) 48 CMLR 1571–1598.

92 Chun Chun Ni, 'Analysis of Applicable Liberalization Models in China's Electric Power Market' (2005) 16 International Public Economy Studies.

93 *ibid.*

in accordance with the essential facilities doctrine.<sup>94</sup> This has to do with the fact that the US energy market structure is much more adapted to competition compared to that of the EU before the creation of the internal market.<sup>95</sup> However, TPA rights have been interpreted in the US jurisprudence in a much more conservative way, so that commercial considerations may serve as a justification for restricting third party access provided that they are based on legitimate business interests.<sup>96</sup>

In contrast to the EU and the United States, electricity markets in most developing countries are not liberalized. Market structures are still dominated by state-controlled or state-owned vertically integrated companies having an exclusive right to supply electricity and develop electricity grids. In China, the liberalisation of the electricity market has just been announced and the separation of generation assets from transmission networks has just started.<sup>97</sup> Access to grids for private investors is restricted.<sup>98</sup> A similar situation can be found in other BRICS countries.<sup>99</sup>

When it comes to international rules, they are fragmented and poorly designed to enhance competition in the energy sector traditionally falling within the sphere of state sovereignty.<sup>100</sup> Competition rules are not included in the WTO rulebook, neither as generally applicable obligations nor as sector-specific

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- 94 Piet-Jan Slot and Angus Johnston, *An Introduction to Competition Law* (Hart 2006).
- 95 Talus (n 91) 1597. It should be mentioned, however, that the electricity market structures and conditions for competition are not equal across US states. There are states where the separation of generation and transmission (unbundling) is not yet complete. See Chun Chun Ni (n 92).
- 96 *ibid* 1579–1582.
- 97 'China Issues Rules to Reform Electricity System, NE21.Com Says' (*Bloomberg*, 23 March 2015) <[www.bloomberg.com/news/articles/2015-03-23/china-issues-rules-to-reform-electricity-system-ne21-com-says](http://www.bloomberg.com/news/articles/2015-03-23/china-issues-rules-to-reform-electricity-system-ne21-com-says)> accessed 17 July 2017.
- 98 Yanrui Wu, *Deregulation, Competition, and Market Integration in China's Electricity Sector* (ERIA Discussion Paper Series 2014) <[www.eria.org/ERIA-DP-2014-22.pdf](http://www.eria.org/ERIA-DP-2014-22.pdf)> accessed 17 July 2017. China's system operations, transmission, distribution and sales of power are managed by three companies belonging to central government (State Grid Corp. China Southern Power Grid Co. and the Inner Mongolia Power Group, with State Grid accounting for 80% of power-sector transactions. See 'China Issues Rules to Reform Electricity System, NE21.Com Says' (*Bloomberg*, 23 March 2015).
- 99 Electricity markets in Russia and South Africa are heavily monopolized and electricity markets are not liberalized to ensure free trade.
- 100 Joost Pauwelyn, 'Global Challenges at the Intersection of Trade, Energy and the Environment: An Introduction' in Pauwelyn (n 19) 2–3.

disciplines.<sup>101</sup> For energy, the absence of an international legal framework on competition creates barriers to the access to hardware networks (pipelines, electricity grids etc.).<sup>102</sup> For electricity, in particular, such barriers may cause delays in the realization of RE projects, which depend on the connection to the existing transmission and distribution grids. Currently, the only relevant WTO provision is the one, which refers to transit in the GATT.<sup>103</sup> This provision does not apply specifically to energy transit and thus it does not fully address the needs of energy suppliers, to the extent that it does not guarantee uninterrupted supplies of energy products and flows of electricity.<sup>104</sup> It does not impose third-party access obligations either.

Recognising the gaps in the existing international rules relevant to the energy sector, the EU and the United States have included energy-related transit and TPA rules in the agenda of TTIP negotiations. As for transit, Article K of the non-paper on raw materials and energy reaffirms the existing rights and obligations under Article V GATT but goes beyond them in prescribing that the parties 'shall take all necessary measures to prohibit and address the interference with or the unauthorized taking of the energy goods' in transit.<sup>105</sup> As to third party access, TTIP draft rules encourage the granting of TPA to energy transport networks in a transparent, objective and non-discriminatory manner. Moreover, they regulate the imposition of access tariffs and other conditions for the use of energy transport facilities aimed at ensuring transparency and pro-competitive practices. At the same time, these rules foresee the possibility of an exemption from TPA rules for major new energy transport facilities.

Given the geographical distance between the United States and the EU, these TTIP rules may have limited application in the bilateral relations between the parties, especially in the electricity sector. However, the negotiations of these rules under the TTIP are important for future negotiations at the multilateral level, as they could be used as the basis for international rules.

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101 The ill-fated Havana Charter did envisage generally applicable rules on competition that were meant to address private anti-competitive business practices affecting international trade. See ch V of the Havana Charter <[www.wto.org/english/docs\\_e/legal\\_e/havana\\_e.pdf](http://www.wto.org/english/docs_e/legal_e/havana_e.pdf)> accessed 17 July 2017.

102 Lothar Ehring and Yulia Selivanova, 'Energy Transit' in Selivanova (n 16) 81.

103 See Article V of the GATT.

104 Yanovich (n 19) 26–27.

105 See Article K(3) of the TTIP non-paper on raw materials and energy.

### 3.3 *Subsidies Issues*

Another major area of interest for the RE sector is the area of subsidies. Although RE technologies and electricity produced from RE sources are gradually becoming cost competitive, there still remain many countries and circumstances where their deployment is dependent upon government intervention mainly due to the lack of progress in the process of phasing out fossil fuel subsidies.<sup>106</sup> To neutralize the market and regulatory failures inhibiting the development of RE industry to its full potential, developed and developing countries have introduced a wide range of RE public support policies, be it in the form of feed-in tariffs, tax expenditures, research and development (R&D) funding, preferential loans, or loan guarantees.<sup>107</sup> Depending on their design and structure, clean energy subsidies may operate more or less efficiently and not always prove cost effective in terms of technology cost reductions achieved. In particular, the latest empirical studies seem to suggest that allocation of financial support to R&D activities on RE may actually contribute more to technology cost reduction than just RE production and/or consumption support policies such as feed-in-tariffs.<sup>108</sup> Yet, many such schemes are often implemented as a result of the adoption of RE policy targets.<sup>109</sup> The EU and the United States are no exception to this. In particular, EU Member States have put in place a wide array of RE public support schemes as explicitly allowed and encouraged by the RES Directive to meet their individual RE quota obligations.<sup>110</sup> In the case of the United States, RE government subsidies are largely allocated through state-level policies and reflect electricity generation targets or mandates.<sup>111</sup>

The extent to which general international trade rules on subsidies may be 'stretched' to give countries sufficient policy space to implement RE public support schemes is still subject to contention. The disciplines of the WTO Agreement on Subsidies and Countervailing Measures (ASCM), as they currently stand, capture many of the clean energy subsidies used by governments

106 Fossil fuel subsidies still amounted to USD 510 billion in 2014 based on International Energy Agency data. International Energy Agency (n 26) 21.

107 Espa and Rolland (n 84) 5–6.

108 Richard Bridle and Christopher Beaton, *The Cost-Effectiveness of Solar PV Deployment Subsidies* (NCCR Working Paper No 2011) 21–22.

109 REN21 (n 60) 19.

110 See art 2 (k) of the RES Directive.

111 Fereidoon Sioshansi, 'The North American Experience' in Cottier and Espa (n 5) 120.

to support RE deployment.<sup>112</sup> Absent any environmental exceptions in the ASCM after the expiration of Article 8.2, this would mean that they may be actionable if challenged before WTO adjudicators. In this sense, the decision of the AB to regard the Ontario FIT scheme as not qualifying under the legal definition of 'subsidy' needs to be read as an effort of 'legal acrobatics' aimed at avoiding an explicit stand against clean energy subsidies.<sup>113</sup> Yet, the implications of this decision for future cases and the contours of such a 'judicial' exception are far from being established.

Subsidies-relevant rules have not been explicitly included in the TTIP energy negotiations, most probably due to the most-favored-nation-like implications of subsidy disciplines when included in preferential trade agreements and the possibility of free-riding.<sup>114</sup> Article O of the non-paper on raw materials and energy lists a number of national policies which the United States and the EU shall refrain from using when promoting the development of the RE sector. Neither fossil fuels subsidies nor RE public support schemes are mentioned there.<sup>115</sup>

#### 4 Reflections on the Normative Value of a TTIP Energy Deal

The EU proposal on the inclusion of an energy chapter in the TTIP addresses major problems facing the energy sector at a global scale today, namely energy security and energy sustainability, the solution of which requires energy issues to be taken up at all levels of governance.<sup>116</sup> While the proposed provisions of

<sup>112</sup> Espa and Rolland (n 84) 5–6.

<sup>113</sup> Aaron Cosbey and Petros C Mavroidis, 'A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO' (2014) 17 JIEL 12.

<sup>114</sup> Thomas Cottier, 'Towards Transatlantic Regulatory Convergence in TTIP' Presentation given at the ELEC Economic and Social Commission, Milan (17 June 2016) <[www.wti.org/research/publications/995/towards-transatlantic-regulatory-convergence-in-ttip/](http://www.wti.org/research/publications/995/towards-transatlantic-regulatory-convergence-in-ttip/)> accessed 21 August 2017.

<sup>115</sup> Despite the renewed pledges on the progressive elimination of fossil subsidies on the international level, such as those included in a series of recent G20 declarations, both the United States and the EU Member States continue to use an array of direct expenditures and tax preferences for fossil fuels. See 'OECD-IEA Fossil Fuel Subsidies and Other Support' database <[www.oecd.org/site/tadffss/](http://www.oecd.org/site/tadffss/)> accessed 21 August 2017.

<sup>116</sup> The third major problem facing the global energy sector is energy access for all, which in combination with a sustainable energy component, has been put on the Sustainable Development Agenda of the United Nations for 2030. See Hahn and Holzer (n 15).

the TTIP energy chapter may not always be considered ground-breaking when looked at separately, they demonstrate the EU effort to push forward the issue of energy governance in international economic relations.<sup>117</sup> In this respect, the EU proposal goes one step further than legal frameworks for energy trade and investment in existing FTAs.

So far the most comprehensive set of energy rules in FTAs has been included in the North American Free Trade Agreement (NAFTA), concluded by the United States with its neighbouring countries – Canada and Mexico – at the beginning of the 1990s. Yet, the NAFTA rules do not address the specific problems linked to the promotion of renewable energy and liberalisation of the energy sector due to the absence of climate change on the political agenda at that time.<sup>118</sup> Some NAFTA energy rules are WTO-plus, such as the restriction on the use of export duties and the prohibition of dual pricing practices unduly advantaging domestic consumers and economy, but they mainly focus on the energy security issue. In particular, they privilege the goal of ensuring uninterrupted cross-border flows of energy sources over the environmental protection goals through the imposition of stricter conditions for the use of exceptions, be it for the reasons of critical shortages, environmental protection or under any other justification, as foreseen under GATT Article XX.<sup>119</sup>

In contrast to the existing energy trade and investment rules in NAFTA, the EU proposal for an energy chapter contains several provisions which have a direct relevance to the renewable sector. In the intention of the EU, such additional regulatory component should advance the energy regulatory framework in line with the objectives of climate change mitigation and transition to a low carbon economy.<sup>120</sup> Enhancing competition in the energy sector through the introduction of a third party access requirement is crucial to integrate renewable energy sources in the power system and eventually increase the share of electricity produced from these carbon-neutral sources into the

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117 Little progress, recently been made in multilateral energy-related forums (eg negotiation of the Environmental Goods Agreement in the WTO and the International Energy Charter declaration), is not sufficient to address the contemporary problems of the global energy sector. See *ibid.*

118 Roberto Rios Herrán and Pietro Poretti, 'Energy Trade and Investment under the North American Free Trade Agreement' in Selivanova (n 16) 363; Gary Horlick and others, *NAFTA Provisions and the Electricity Sector* (background paper prepared for the Commission for Environmental Cooperation Secretariat 29 June 2002) <[www3.cec.org/islandora/en/item/1821-nafta-provisions-and-electricity-sector-en.pdf](http://www3.cec.org/islandora/en/item/1821-nafta-provisions-and-electricity-sector-en.pdf)> accessed 21 August 2017.

119 Espa and Holzer (n 21) 363.

120 European Commission (n 70).



grid.<sup>121</sup> Up until now, such type of provision has not appeared in RTAs but has only been included in domestic energy legislation, with the EU being an exception driven by the need to support the formation of the internal energy market. GATT Article XVII-like provisions prohibiting discrimination by state trading enterprises (STEs) do not suffice to discipline transmission system operators in their activities relating to transmission systems planning and development.<sup>122</sup>

The prohibition of local content requirements, on the other hand, exists already as a generally applicable rule under the multilateral trading system. Reaffirming the unlawfulness of this practice for the specific purposes of RE promotion seems to be aimed at closing the door for industrial policy arguments in favour of LCRs as an instrument to develop national RE production, instead giving preference to the economic efficiency arguments advocating a level playing field between the EU and the United States in the interest of most efficient equipment manufacturers.<sup>123</sup> Yet, it remains to be seen what would be the US stance concerning this matter as one of the countries that heavily rely on the use of such instruments to boost domestic RE production with forty-four RE programs with a LCR component currently in place in a total of twenty-three states.<sup>124</sup> The position of developing countries, including China and India, with respect to LCR is also far from receptive towards accepting a blanket prohibition of LCRs measures in connection to RE promotion policy instruments. In *India–Solar Cells*, in particular, India advocated for the right to maintain LCRs under its National Solar Mission programme and appealed the Panel ruling which dismissed its Article XX GATT-based claims. The position

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121 Gudas (n 16).

122 *ibid.* The EU third party access (TPA) and other competition rules go much further than the minimum level of competition, which can be ensured by the WTO non-discrimination rules (including those contained in GATT Article XVII on state-trading enterprises). The EU imposes the obligation of the so-called regulated TPA, which means that the EU Member States have to ensure that the TPA is based on published tariffs, which apply to all energy network users without discrimination, and that access to the energy infrastructure can only be denied if there is a lack of necessary capacity in the system. See eg the EU Electricity Directive, 2009/72/EC (13 July 2009).

123 Sherry M Stephenson, 'Addressing Local Content Requirements: Current Challenges and Future Opportunities' (2013) 7(3) *BIORES* <[www.ictsd.org/bridges-news/biores/news/addressing-local-content-requirements-current-challenges-and-future](http://www.ictsd.org/bridges-news/biores/news/addressing-local-content-requirements-current-challenges-and-future)> accessed 21 August 2017.

124 Timothy Meyer, 'How Local Discrimination Promotes Global Public Goods' (2015) 95 *BU LRev* 1939, 1962.

of India is based on the contention that the use of LCRs measures aims at complying with international and domestic law obligations to take steps to achieve an adequate supply of clean energy generated from solar power.<sup>125</sup>

The general impact of a TTIP energy deal on the environment and climate change, however, will ultimately depend on the interplay of the two sets of rules revolving around the two motivations behind the proposed TTIP energy rules – increasing energy security and promoting RE. In particular, the inclusion of provisions aimed at facilitating EU imports of primary energy resources through the lifting of US export restrictions on natural gas may potentially counteract the effects of RE promotion, at least partly.<sup>126</sup> At the same time, the assessment of the overall impact on GHG emissions reductions would need to take into account the possible substitution of other fossil fuel-based energy sources, such as energy from coal-burning power plants not equipped with carbon capture and storage facilities and the latest knowledge about their environmental and climate change impact.<sup>127</sup>

Be that as it may, if adopted, the TTIP energy chapter will in any case represent a significant step forward in energy regulation at the regional level and will possibly set a precedent for conducting negotiations on energy issues within the framework of new regional trade agreements by the EU and the United States and at a multilateral level. Finally, irrespective of the faith of the TTIP itself, the negotiations serve as a testing ground for the EU with a view to identify priority issues in the energy sector, which can be discussed in other relevant fora.

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125 *India–Solar Cells*, Panel Report (n 85) paras 7.189–91.

126 Sierra Club, *Energy Trade in the Trans-Atlantic Trade and Investment Partnership: Endangering Action on Climate Change* (2014) <[www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/Analysis\\_of\\_EU\\_Energy\\_Proposal\\_for\\_TTIP-Final\\_-\\_Sierra\\_C.pdf](http://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/Analysis_of_EU_Energy_Proposal_for_TTIP-Final_-_Sierra_C.pdf)>, accessed 21 August 2017.

127 See Joint Research Centre Ref Report, *Liquefied Natural Gas for Europe – Some Important Issues for Consideration* (2009) 3 <[http://iet.jrc.ec.europa.eu/sites/default/files/documents/scientific\\_publications/2009/eur\\_23818\\_en.pdf](http://iet.jrc.ec.europa.eu/sites/default/files/documents/scientific_publications/2009/eur_23818_en.pdf)> accessed 21 August 2017; Thomas L Brewer, *The Shale Gas Revolution: Implications for Sustainable Development and International Trade* (ICTSD 2014) 2, 7, 15, 21, 13–14 <[www.ictsd.org/downloads/2014/03/the-shale-gas-revolution-implications-for-sustainable-development-and-international-trade.pdf](http://www.ictsd.org/downloads/2014/03/the-shale-gas-revolution-implications-for-sustainable-development-and-international-trade.pdf)> accessed 21 August 2017.

## 5 Implications for BRICS and Perspectives for Multilateralization of the Proposed Rules on Energy

The analysis provided above has shown that the EU intends to reach a high level of ambition when proposing energy rules in preferential trade relations. Were this level of ambition attended in the context of the TTIP negotiations, that would likely have an impact on the competitive positions of third countries in different markets for RE products and technologies. These potential impacts can be divided into two categories. The first category stems from the availability of US shale gas supplies to the EU and the resulting increase in energy security for the EU. The higher supply would lower energy prices to the benefit of the EU energy-intensive industries.<sup>128</sup> Such an outcome could be positive for third countries, including BRICS, as an increase in energy supplies is likely to drive energy prices down in the world market.<sup>129</sup> With the exception of Russia, which already subsidizes domestic consumers of energy,<sup>130</sup> lower energy prices would generally make BRICS manufacturing industries better off. In any case, the increased competitiveness of EU industries is unlikely to harm BRICS producers, who now enjoy a significant cost advantage over EU manufacturers (with the exception of high value added innovative production) due to lower energy and labour costs.<sup>131</sup> By contrast, increased supplies of cheap natural gas to the EU may negatively affect the competitive positions of RE and discourage investments in this sector.<sup>132</sup>

The second category may stem from the change in the rules of the game between the EU and the United States when it comes to energy trade and investment. This concerns, in the first place, the rules for the promotion of RE, such as the prohibition of the LCR component in feed-in-tariffs and other RE

128 It should be mentioned that not all experts believe in this scenario. It is argued that if the US energy exports regime is liberalized, the United States would prefer to direct its natural gas exports to the Asian region, where the prices for energy are higher. See European Parliament (n 79) 11.

129 Espa and Holzer (n 21) 376.

130 Espa and Rolland (n 84) 5–6.

131 China Integrated, *China's Production Costs Are Steadily Decreasing, Year After Year* (2015) <[www.china.com/wp-content/uploads/2015/02/China-Integrated-Chinas-Production-Prices-are-Steadily-Decreasing-Year-After-Year.pdf](http://www.china.com/wp-content/uploads/2015/02/China-Integrated-Chinas-Production-Prices-are-Steadily-Decreasing-Year-After-Year.pdf)> accessed 21 August 2017.

132 Environmental NGOs are particularly concerned with the negative impact it may have on the GHG emissions abatement efforts. See Zach Carter and Kate Sheppard, 'Read the Secret Trade Memo Calling for More Fracking and Offshore Drilling' (*The Huffington Post*, 19 May 2014) <[www.huffingtonpost.com/2014/05/19/trade-fracking\\_n\\_5340420.html](http://www.huffingtonpost.com/2014/05/19/trade-fracking_n_5340420.html)> accessed 21 August 2017.

public support schemes. Notwithstanding the benefits of the liberalisation for particular RE sectors of each of the parties, it is evident that the US-EU 'coalition' would overall be outperformed by emerging economies, particularly BRICS, continuing to use industrial policy measures in the RE sector and supporting the development of RE equipment producers. This scenario will likely lead to a substantial increase in WTO disputes on the use of RE public support schemes involving discriminatory practices. As shown in the *Canada-FIT Program* case, the outcome of such disputes may leave many uncertainties. Moreover, it will also likely increase the incidence of trade remedies investigations in the EU and the US domestic jurisdictions concerning imports of RE equipment and components coming from BRICS, possibly leading to additional WTO disputes.<sup>133</sup>

Moreover, LCR practices as part of industrial policies are inherently limited in time. As domestic 'infant' industries develop and become competitive, it will be inefficient for governments to continue pursuing import-substitution policies.<sup>134</sup> Thus, at some point, the TTIP stance on LCRs in the RE sector may also be shared by third countries, including BRICS.

Another area of regulatory innovation that could have implications for BRICS interests is third party access to energy transport facilities. While it is not clear yet what the final position on TPA will be, the accent put on the development of RE in the EU non paper would seem to suggest that a more liberal approach to TPA will be promoted. It is unlikely however that BRICS policies on the promotion of competition in the energy market can be significantly influenced by the TTIP outcome. Countries remain autonomous in their decisions concerning the structures of their energy sectors, based on their sovereignty rights and national security interests.<sup>135</sup> In any case, granting TPA rights is considered to be beneficial for the expansion of the RE and for the attraction of investment in the energy sector.<sup>136</sup> In this respect, the inclusion of TTIP provisions on TPA would be part of a long-term strategy for the development of RE in the United States and the EU. Moreover, the promotion of third party access in the transatlantic deal seems natural inasmuch as both

133 Vermulst and Meng (n 5).

134 OECD, *Competition Policy, Industrial Policy and National Champions* (OECD Policy Roundtables 2009) <[www.oecd.org/daf/competition/44548025.pdf](http://www.oecd.org/daf/competition/44548025.pdf)> accessed 21 August 2017.

135 Selivanova (n 19) 376, 392.

136 Yulia Selivanova, *Clean Energy and Access to Infrastructure: Implications for the Global Trade System* (2015) <[http://e15initiative.org/wp-content/uploads/2015/01/E15\\_Clean-Energy\\_Selivanova\\_FINAL.pdf](http://e15initiative.org/wp-content/uploads/2015/01/E15_Clean-Energy_Selivanova_FINAL.pdf)> accessed 21 August 2017.

parties have reached a considerable degree of liberalization of their energy sectors.<sup>137</sup>

While there is still a long way towards the full liberalization of the energy sector in BRICS countries, there are strong arguments in favour of granting third party access to energy network facilities at the earliest possibility.<sup>138</sup> The introduction of a TPA system would be conducive to fostering much needed investment in energy infrastructure in such countries as China, India, Brazil and South Africa, which are still lagging behind in terms of per capita installed RE capacity and electrification rates notwithstanding the recent development of RE manufacturing sectors.<sup>139</sup>

In light of the foregoing, third countries that have traditionally acted as rule-takers may actually have the same incentives to embrace more pro-competitive practices in the energy sector of the kind promoted by the EU in the context of the TTIP negotiations. Increased competition in energy markets, not only in developed countries, such as the EU and the United States, but also in emerging economies, including China and India, may eventually pave the way for negotiating international rules in the energy sector, including RE. Reaching an agreement between the United States and the EU on energy rules within the framework of the TTIP could be an important building stone in the process of shaping an international legal regime for the energy sector.

## 6 Conclusions

The energy trade and investment rules proposed by the EU in the context of the TTIP negotiations contain a number of novelty elements for the regulation of the energy sector in general and the renewable energy sector in particular. Important in this regard are the proposals for the inclusion of a prohibition of local content requirements and other discriminatory practices in the renewable energy sector, third party access provisions and disciplines for government interventions in the energy market.

As ambitious as it is, the EU approach to negotiating energy provisions in preferential trade relations may have implications for third countries and particularly for BRICS, which are rapidly developing leading actors in the global

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137 Talus (n 91) 1571–1598.

138 Selivanova (n 136).

139 When considering RE installed capacity per capita, no BRICS country appears among the top five countries. REN<sub>21</sub> (n 60) 20.

renewable energy markets. Although unable to immediately affect BRICS practices in the energy sector, it may eventually be 'imported' in BRICS domestic jurisdictions in the interest of renewable energy development and investment attraction in energy infrastructure. Ultimately, it could serve as a model for global rules on energy trade and investment based on interests and principles that are shared by a larger group of leading energy market players.