

Risky Business? The Energy Charter Treaty, Renewable Energy, and Investor-State Disputes



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*Global energy governance has received increased attention from scholars and policymakers in recent years. Much of the discussion has focused on the inadequacy of the current institutional architecture, particularly in light of the urgent need to decarbonize energy systems. However, little attention has been given to the capacity of global institutions to promote investment in renewable energy. This article considers claims by proponents of the Energy Charter Treaty, the most developed trade and investment treaty in the global energy architecture, that it can play an important role in this regard. Specifically, it examines the ECT's investor-state dispute settlement mechanism. Drawing on scholarship in global governance, law, and economics and an analysis of recent investor-state disputes, the article argues that there are problems with the assumptions underlying the claims of the ECT's proponents. Critically, there is still a lack of evidence that the ECT has a positive impact on flows of investment in any sector, including the renewable energy sector. There is also a risk that ISDS could be used by the fossil fuel industry to impede a clean energy transition. States should approach accession to the ECT with caution and consider other mechanisms to reduce risk for renewable energy investors. **KEYWORDS:** energy, foreign investment, climate change.*

GLOBAL ENERGY GOVERNANCE HAS RECEIVED GROWING ATTENTION IN INTERNATIONAL affairs, and there is now widespread recognition among scholars and policymakers that the existing institutional architecture is inadequate. International relations scholars have pointed to institutional failures such as the lack of coordination between existing international energy organizations, while those in the public policy tradition have pointed to market failures such as imperfect competition and environmental externalities in global energy markets.¹ Both have argued for global energy governance reform, including in the pages of this journal where scholars have highlighted various governance challenges such as promoting renewable energy in developing countries and reforming the International Energy Agency (IEA).² Policymakers have responded and a spate of recent announcements has put the issue on the international agenda. For example, at the 2014 Group of 20 (G-20) summit, world leaders for the first time discussed reform of the international energy architecture, including the IEA.³

One of the main challenges for global energy governance is how to achieve a dramatic transformation of our energy system. The IEA has long argued that current global trends in energy markets “are patently unsustainable” and that “what is needed is nothing short of an energy revolution.”⁴ In the context of climate change and ever more dire predictions from scientists,⁵ an energy revolution will not be achieved without transition to clean energy sources that can drastically curtail the rising greenhouse gas emissions from the energy sector. While the plunging cost of wind and solar power has meant that renewables now account for more than 20 percent of the global electricity supply, the IEA projects that an additional US\$ 44 trillion in investment is required to decarbonize the energy system.⁶

However, in the literature on global energy governance, little attention has been given to the capacity of the existing institutional architecture to promote investment in clean energy technologies. In particular, there has been little discussion of institutions that protect investors in the clean energy sector. Accordingly, in this article we consider the potential of the Energy Charter Treaty (ECT), the most developed trade and investment treaty in the global energy architecture, and its investor-state dispute settlement (ISDS) mechanism, to do just that—that is, to expedite the transition to clean energy sources by facilitating the flow of investment into the renewable energy sector.

ISDS allows multinational corporations to sue states in an international forum. Disputes are presided over by panels of three arbitrators—one chosen by the state, one chosen by the investor, and the third mutually agreed on or appointed by an arbitral institution such as the International Centre for the Settlement of Investment Disputes (ICSID) or International Chamber of Commerce (ICC). While originally devised to deal with issues such as government seizure of property in the context of the postcolonial period, ISDS cases now frequently revolve around the impacts of public policies on investments.

There is considerable concern that incumbent energy producers in the fossil fuel industries will use ISDS provisions to try to stall action on climate change.⁷ ISDS cases have arisen in response to: a moratorium on oil and gas operations along the Italian coastline; a ban by the Canadian province of Quebec on hydraulic fracturing (“fracking”); and the Barack Obama administration’s rejection of a proposal by TransCanada Corporation to build the Keystone XL pipeline to transport oil produced from Alberta’s tar sands to various refineries in the United States. The case in Quebec had not concluded at the time of this writing, and the Italian case was only in the very early stages. TransCanada withdrew its claim against the United States following President Donald Trump’s executive order on 24 January 2017, allowing construction of the Keystone XL pipeline to move ahead.

The mere threat of such cases may deter governments from taking action on climate change, and this is an area of inquiry worth further investigation.⁸ However, in this article we address the reverse proposition—that ISDS might aid

the transition to renewable energy and, thereby, the mitigation of climate change. We do so in response to a growing number of commentators who are making this argument, the most prominent being David Rivkin, president of the International Bar Association. In a side event at the Paris climate conference in 2015, Rivkin devoted the majority of his speech to a vigorous defense of ISDS and argued that “it is vital that a neutral, effective mechanism exist for resolving disputes between investors and states, particularly in order to incentivize foreign investment in renewable energy.”⁹ International arbitrator Edna Sussman has also made this argument with specific reference to the ECT.¹⁰

Drawing on scholarship in global governance, law, and economics and an analysis of recent investor claims in ISDS, we argue that there is currently no evidence that the investment provisions of the ECT facilitate investment into clean energy technologies. The analysis we present suggests that the three key (interrelated) assumptions that underpin the arguments of proponents of ISDS are misplaced, in particular that: (1) political risk is a significant impediment to renewable energy investment; (2) ISDS is an effective countermeasure to political risk; and (3) if states agree to ISDS under the ECT, it will increase flows of foreign direct investment (FDI) in renewable energy. While more research is warranted, the burden of proof lies with the ECT’s proponents. In the absence of evidence that the ECT’s investment regime will contribute to improved global energy governance, states should be cautious about its further expansion.

This article is organized as follows. First, we consider the existing international energy architecture and the transformations taking place in global energy markets. Next, we introduce the ECT and its ISDS provisions. Then, we provide a critical examination of the three key assumptions that support the use of ISDS. We conclude with a discussion of the current uncertainty around the future of ISDS in Europe and beyond, and consideration of some of the other mechanisms that states are exploring to reduce risk for renewable energy investors.

Governing Global Energy

At the G-20 summit in 2014, world leaders for the first time acknowledged that the “international energy architecture needs to reflect better the changing realities of the world energy landscape.”¹¹ The changing reality reflects two trends. First, the rise of Brazil, Russia, India, and China (BRIC) is transforming global energy markets. China has now overtaken the United States as the world’s largest energy consumer and India will be the principal driver of energy consumption within Asia from 2020 on. By the mid-2030s, it is expected that Brazil will be the world’s sixth-largest oil producer and China will become the largest oil-consuming country in the world overtaking the United States.¹² Second, rising energy consumption in the BRIC countries is driving an increase in greenhouse gas emissions including from the energy sector, which is the source of two-thirds of the world’s greenhouse gas emissions.¹³ The IEA expects that even with policy

changes and market developments that drastically reduce fossil fuel consumption, the world is “on a path consistent with a long-term global average temperature increase of 3.6 °C.”¹⁴ As the UN Intergovernmental Panel on Climate Change has made clear, the results of such a trajectory would be catastrophic, rendering parts of the globe uninhabitable.¹⁵

In this context, governing global energy is more important than ever. Yet it is widely agreed that the global system has not adapted to the changing reality wrought by the rise of the BRICs and climate change.¹⁶ For example, today the majority of global energy consumption takes place in countries that are not members of the IEA, the principal international energy organization. Indeed, not one member of the BRICs is a member of the IEA despite the fact that China is the world’s largest energy consumer.¹⁷ It is perhaps an understatement to conclude, as the previous executive director of the IEA, Nobuo Tanaka, did in 2010, that the IEA’s “relevance is under question.”¹⁸ Of course, the IEA represents only part of the patchwork of organizations that govern global energy. There is no shortage of organizations and most scholars would agree that there are “too many.”¹⁹ However, it is not just the number of organizations that is the problem, or that there is little cooperation between them, though this is improving. Rather, it is that the existing organizations tend to preserve the divide between developed and developing countries, as epitomized by the IEA and its perceived adversarial relationship with the Organization of Petroleum Exporting Countries (OPEC). Further, many of these organizations remain overly focused on oil and gas markets and not the challenges posed by rising greenhouse gas emissions in the energy sector. The creation of the International Renewable Energy Agency (IRENA) in 2009, led by the German government, is the latest attempt to rectify the global governance gap generated by an institutional architecture unduly focused on the energy challenges of the past century, and not this one.²⁰

The Energy Charter Treaty

Since 2010, the Energy Charter has been undergoing a process of reform and modernization in an attempt to carve out a central governing role in the new energy landscape. The Energy Charter encompasses the European Energy Charter of 1991, the ECT of 1994, and the International Energy Charter (IEC) of 2015. The Energy Charter was originally designed to promote energy sector investment in Eastern Europe in the aftermath of the Cold War.²¹ At the time, the stated aim was to establish a legal framework to “promote long-term co-operation in the energy field based on complementary and mutual benefits,”²² but it has long been viewed as skewed toward the interests of its Western European members. Caroline Kuzemko, Michael F. Keating, and Andreas Goldthau describe the Energy Charter as the “most ambitious example” of an attempt by “Western powers to formally institutionalise neo-liberal (pro-market) rules in energy trade.”²³ This is

particularly evident in the lopsided rules for investment protection, which provide investors with rights but not obligations.

As a result of its history and membership, the Energy Charter has for most of its existence been concerned with Euro-Russian relations.²⁴ However, Russia never formally ratified the ECT and withdrew from it altogether in 2009,²⁵ threatening the future of the institution and leading some to write it off as a failed experiment.²⁶ Instead of fading into obscurity, in 2010 the Energy Charter Conference adopted a “Road Map for the Modernization of the Energy Charter Process” (hereafter Road Map).²⁷ In its attempt to ensure the continued relevance of the charter and to bypass the polarized framework of relations between the European Union (EU) and Russia, the first priority for the institution was geographical expansion.²⁸ In 2015 in The Hague, seventy-five countries signed the new IEC, which is considered a stepping-stone to accession to the ECT (the number of signatories has since risen to eighty-three). As noted by one observer, “Many hope the declaration in The Hague will set the stage for a more coherent global governance structure for energy markets—and make the ECT the international benchmark for others to follow.”²⁹ Nathalie Bernasconi-Osterwalder points out that the Energy Charter Secretariat has been actively recruiting new IEC members in Africa and also has established Energy Charter liaison embassies in Iran and Pakistan.³⁰

The participation of the United States and China in the IEC is certainly a significant achievement.³¹ However, at the same time the institution has lost Italy, which withdrew from the ECT only weeks before the IEC was announced.³² Australia, Canada, and Indonesia—large fossil fuel—producing and —consuming countries—also abstained from adopting the IEC despite having signed the original European Energy Charter.³³ As for the other BRICs, both Brazil and India were invited to the IEC negotiations, but neither chose to sign on to the final agreement. As such, the Energy Charter has yet to secure the participation of the most important players in the new energy landscape.

With regard to climate change, the Road Map acknowledged that the shift to low-carbon sources of energy was something that needed to be addressed by the institution more comprehensively. The focus was placed squarely on the role to be played by the binding ECT and, specifically, its chapter on investment (similar to many stand-alone bilateral investment treaties), which many consider to be the “cornerstone” of the treaty.³⁴ Crucially, this chapter provides foreign investors access to ISDS. In recent years, proponents of ISDS have begun to argue that it has an important role to play in protecting and promoting investment in clean energy technologies by reducing risk for investors.³⁵ This may be a strategy to counter the onslaught of public criticism that the ISDS system has received, but it cannot be summarily dismissed. This is especially the case in light of the raft of renewable energy disputes that have been launched under the auspices of the ECT since 2011. In fact, at the same time as government representatives were meeting in The Hague to sign the IEC, arbitrators in at least twenty-three cases

were convening behind closed doors to hear claims against Spain, the Czech Republic, and Italy for changes in their subsidy schemes for renewable energy. Only three months later, this number had risen to thirty-three.³⁶ If one includes disputes over hydroelectric and biomass projects, as of November 2016 renewable energy disputes accounted for half of the 100 ISDS cases launched under the ECT (see the Annex).

Unlike the renewable energy disputes that have emerged under the World Trade Organization (WTO), which have led some to question whether the international trade regime is compatible with climate policy,³⁷ most ISDS disputes involving investors in the renewable energy sector have arisen as a result of governments reducing or rolling back renewable energy incentive schemes. In other words, trade disputes have questioned the legality of green subsidy schemes while most investment disputes are instead addressing whether changes to these schemes (that negatively impact investors) are acceptable.

On the surface, it would appear that advocates of an energy transition should welcome this development. However, ISDS is controversial. Critics have pointed to a range of issues including: the limited transparency in international arbitration, the lack of impartiality of arbitrators, the excessive costs of the system, and the potential for cases that challenge public policy measures to lead to “regulatory chill.”³⁸ The Energy Charter Conference is considering some of these issues and the discussions may eventually result in minor reforms to the ECT’s ISDS procedures. However, the Road Map makes it clear that the ECT “investment provisions should remain untouched in their fundamentals.”³⁹

The Energy Charter Treaty and Clean Energy Investment

Only four cases related to renewable energy under the ECT had concluded at the time of this writing and, as a result of the limited transparency in the ISDS process, there is little information publicly available about most cases other than the names of the investor claimants and the date when each arbitration proceeding commenced. Although we discuss some of the context surrounding the Spanish solar disputes below, we do not make any attempt to predict the outcome of the remaining cases. Instead, we focus here on the question of how the ECT and other investment treaties could help to facilitate the transition to low-carbon renewable sources of energy such as wind and solar power. Specifically, we address three assumptions made by proponents of ISDS, namely that: (1) political risk is a major impediment to investment in renewable energy; (2) ISDS is an effective countermeasure to deal with political risk; and (3) if states agree to ISDS under a treaty such as the ECT, it will help them to attract FDI in renewable energy. We consider each of these assumptions in turn.

Political Risk

The assumption that political risk is a major impediment to investment in renewable energy appears reasonable at the outset. Renewable energy firms face a number of different kinds of risk. Financial risk tops the list of concerns by executives in the sector, but political or regulatory risk—the risk of a change in public policy around renewables—is not far behind.⁴⁰ One of the main reasons cited for this is the current dependence of renewable energy investors on incentive schemes such as feed-in tariffs (FITs) and renewable energy targets. Such schemes are meant to reduce financial and regulatory risk by guaranteeing renewable energy producers a set price for their energy over a fixed period of time, or by mandating that a specific proportion of electricity provided by utilities companies comes from the renewables sector. However, while they provide increased security, such schemes are not immune from political risk. Kim Talus argues that a reliance on subsidies makes renewable energy investors particularly vulnerable to policy change.⁴¹ Changes in government or unexpected cost escalations can undermine support for schemes. Furthermore, as Leah Stokes points out, unlike other government subsidies (e.g., for the fossil fuel industry), renewable energy schemes are highly visible and, therefore, more easily targeted when a country's fiscal situation deteriorates.⁴²

The risk in the form of changes to incentive schemes appears to be quite high at present in some countries. However, political risk of this particular variety is becoming much less of an impediment to renewable energy for the simple reason that politics is being overtaken by economics. Miguel Mendonça, David Jacobs, and Benjamin K. Sovacool noted in 2010 that the costs of renewable energy would eventually fall below the price of conventionally produced electricity and that once this “tipping point” had been reached “FITs will have done their job, and will only be needed on a limited basis, if at all.”⁴³ Several studies suggest that onshore wind can now provide electricity competitively compared to fossil fuel-fired power generation without financial support in some parts of the world.⁴⁴ Solar photovoltaic (PV), generally considered the most expensive form of renewable energy, is not far behind. Another report suggests that industrial firms in many developing countries are currently paying more for electricity from traditional sources than the cost of producing it with onshore wind and solar PV.⁴⁵ Although there are certainly limitations to the methods employed in these studies, which often do not account for many real-world usage considerations, the important point is that the cost of renewable energy is continually declining. As such, although incentive schemes such as FITs have played an important role in the past, they will eventually be unnecessary to create a business case for investment in renewables. When government support is no longer needed, the case for ISDS as a protection against changes in subsidies will evaporate.

Other forms of risk may be more persistent. For example, local opposition to renewable energy developments, particularly wind farms, has proven a substantial impediment to investment in many jurisdictions. Although this is often

categorized as not in my backyard (NIMBY) behavior, research suggests that this oversimplifies a much more complex phenomenon.⁴⁶ The term *NIMBY* is widely viewed as pejorative and representative of essentially selfish behavior. Genuine NIMBY behavior would require opponents of a wind farm in their community to generally be in favor of the technology, which often is not the case.⁴⁷ Opponents of wind energy express a wide range of concerns, from potential health impacts (for which there is no scientific basis), to the impact on birds and other wildlife, to purely aesthetic issues. Other issues that frequently arise in complaints about wind farms are the undemocratic nature of planning and approval processes and a lack of meaningful community consultation.⁴⁸

The Role of ISDS

The second assumption of ECT proponents (that ISDS is an effective countermeasure to deal with political risk) is grounded in the notion that ISDS acts both as a deterrent to states and as an insurance policy for investors. If a state changes the rules of the game after an investment has been made, the investor can seek monetary compensation in ISDS. The threat of such action may, in some cases, be sufficient to deter a state from making changes in the first place. While deterrence would benefit all renewable investors, ISDS plays an effective insurance role for only a select group of investors, specifically large foreign investors that have the resources to launch a case and have standing under a treaty (or the ability to restructure their investment to gain such standing).

In 2008, the government of Spain made a series of changes to the country's FIT that were detrimental to both new and existing investors in the sector.⁴⁹ The changes were, in part, a response to the global financial crisis.⁵⁰ However, another critical factor was the dramatic fall in hardware costs for solar modules (about a 60 percent drop between 2008 and 2011). This drop in costs led to a surge of investment that stretched the capacity of FITs and other support schemes in several countries.⁵¹ This factor could have been accommodated if the Spanish FIT had been better designed; however, it was both overgenerous and inflexible.⁵² As a result, the system "overcompensated solar PV and failed to reduce compensation in response to the technology's rapidly declining costs."⁵³

When Spain moved to scale back the FIT, foreign investors turned to the ECT. Small-scale domestic investors and private citizens affected by the changes in Spain's FIT do not have standing in international arbitration. The only domestic firms that have been able to pursue cases are large multinationals, such as Abengoa and Isolux, who have used their foreign affiliates to gain access to the ECT. A significant number of claimants are actually not energy companies at all, but private equity funds. More importantly, some of the companies involved in the ISDS cases only started investing in Spain after 2009 and continued increasing their portfolios throughout 2010 and 2011 (i.e., when the country was in crisis and some changes to the FIT had already been made) and some of them have continued to invest even after bringing an ISDS case.⁵⁴ This suggests that some in

the select group of investors that can access ISDS view it not only as an insurance policy, but also as an additional source of profit.

In January 2016, the first award was issued in an ISDS case pertaining to Spain's FIT. The tribunal in *Charanne BV and Construction Investments SARL v. Spain* (a case that commenced in 2012) ruled in favor of the state and required the investors to pay €1.3 million of the government's legal costs. In coming to the decision, the arbitrators determined (by majority) that because Spain had never made a "specific commitment" to investors about the stabilization of the FIT, they could not have a "legitimate expectation" that the regulatory framework would not change.⁵⁵ The tribunal also noted that the Spanish supreme court had already found that changes to the FIT were permissible under Spanish law before the companies in this case had invested.⁵⁶ A second award was made (but not released publicly) in July 2016 in *Isolux Infrastructure Netherlands v. Spain*. As with *Charanne*, two of the three arbitrators sided with Spain.⁵⁷ A similar outcome occurred in *Blusun S.A. v. Italy*.⁵⁸

In May 2017, an award in a third Spanish case—*Eiser Infrastructure Limited and Energia Solar Luxembourg v. Spain*—was released. This time Spain lost and was required to provide €128 million in compensation to the investors. *Eiser* differed from *Charanne* insofar as it covered more recent changes to the fiscal regime, which had the most detrimental impacts on investments. However, these changes were also covered in *Isolux*, where the tribunal came to a different conclusion. Unfortunately, without a published award in *Isolux*, it is not possible to compare the reasoning of each tribunal. What is clear is that, as in so many modern ISDS disputes, the outcome of *Eiser* hinged on the tribunal's interpretation of the "fair and equitable treatment" standard.⁵⁹ The *Eiser* tribunal determined that unlike in *Charanne*, the investor did have a "legitimate expectation" that the regulatory regime would not be completely transformed, even in the absence of any specific commitment by the Spanish government.

It is unsurprising that Spain has had a mixed experience with its ECT ISDS cases. There is no precedent in ISDS. While arbitrators often rely on past decisions, they are not obliged to do so and the system has been criticized for its inconsistency and unpredictability. The existing body of awards demonstrates that arbitrators can come to very different conclusions about how vague provisions such as the need to provide "fair and equitable treatment" should be interpreted.

Whether Spain's experience will deter other countries from changing their renewable energy incentive schemes is an open question. The fact that the Spanish government has not backed down in the face of so many disputes suggests that either it is confident that it can win the majority of them or that it anticipates that the costs of reinstating the subsidies would be greater than any compensation it might have to pay investors. In terms of the insurance role of ISDS, the early evidence suggests while some investors may prevail in their cases, there is certainly no guarantee of a positive outcome. Other mechanisms to mitigate

risk for investors are likely to be more reliable. For example, the Overseas Private Investment Corporation (OPIC) has specifically tailored risk insurance for the renewable energy sector that explicitly covers “material changes to feed-in-tariffs.”⁶⁰

Whether ISDS is able to provide effective protection against other types of political risk that did not arise in the Spanish cases, such as local opposition to renewable energy development, is also unclear. Governments are more likely to respond to local opposition at the planning stage, rather than after an investment has been made, and most investment treaties (including the ECT) do not cover “preestablishment.” However, there has been one successful claim of this nature under the investment chapter of the North American Free Trade Agreement (NAFTA), which does cover preestablishment. The American company Windstream launched a challenge against Canada in 2012 after the province of Ontario imposed a moratorium on offshore wind projects in the Great Lakes. The company argued that the moratorium was put in place to placate local opponents to wind energy in an election year, whereas the government of Ontario claimed that it was taking a precautionary approach, given an absence of scientific data on the impacts of offshore wind projects in freshwater environments. In September 2016, Windstream won C\$28 million (28 million Canadian dollars; or US\$21 million) in compensation and legal costs.⁶¹ This was far below the approximately US\$350 million that the company had sought. The tribunal accepted that the government did have genuine concerns about the lack of scientific studies. However, it found that the government’s failure to commission research to address this gap left the investor in a “legal and contractual limbo,” which constituted a breach of the fair and equitable treatment standard in NAFTA.⁶²

As evident from the *Windstream Energy LLC v. Government of Canada* award and others, it is not easy for an investor to establish that a government took action for political reasons. Furthermore, political motivation for an action will not necessarily be viewed as sufficient evidence of a breach of an investment treaty. In some ISDS cases tribunals have sanctioned governments for taking measures that harmed investors in response to public demand, but in other cases arbitrators have made it clear that this is not their role. For example, the tribunal in *Electrabel v. Hungary* noted that “politics is what democratic governments necessarily address; and it is not, ipso facto, evidence of irrational or arbitrary conduct for a government to take into account political or even populist controversies in a democracy subject to the rule of law.”⁶³

In any event, there are much more desirable ways to deal with local opposition to renewable energy projects than legal action. Research suggests that financial benefit arrangements, including community profit sharing, or direct involvement of communities in wind farm projects are likely to quell or at least limit opposition in many cases.⁶⁴

Promoting Investment in Renewables?

The final assumption of ECT proponents is based on a logical combination of the first two assumptions: if political risk is a major barrier to investment and agreeing to ISDS under a treaty such as the ECT reduces this risk, then it should follow that investment flows will increase to those states that sign treaties. While this is how investment treaties should operate in theory, there is no strong evidence that this plays out in practice. A number of scholars have employed econometrics to examine the question of whether there is a causal link between the existence of an investment treaty and increased flows of FDI. The results have been unconvincing.⁶⁵ Many early studies that demonstrated a positive effect have been criticized on methodological grounds.⁶⁶ Some recent studies have addressed one “endogeneity problem” (omitted variables), but none have accounted for the issue of reverse causality (i.e., that states might choose to sign treaties when they see that investment flows are increasing).⁶⁷ In any case, proving correlation is not the same as proving causation. Furthermore, quantitative studies in this area are based on highly aggregate investment data, which makes it difficult to assess their relevance to specific sectors (e.g., renewable energy).⁶⁸

To a lesser extent, qualitative studies have also been employed to address the relationship between investment treaties and FDI. Lauge N. Skovgaard Poulsen concludes that existing surveys of corporate executives suggest that “for the vast majority of investors, [bilateral investment treaties] do not appear to be important—directly or indirectly—when determining where, and how much, to invest abroad.”⁶⁹ However, he notes that it is possible that investment treaties are more important in some sectors than others.

While more research in this area is warranted, existing evidence does not indicate that renewable energy is a “special case.” For example, the UN Conference on Trade and Development (UNCTAD) 2010 World Investment Report notes that while investment treaties “might have a particular relevance for attracting low-carbon foreign investment,” by and large this type of investment follows the same economic determinants as foreign investment in general (e.g., access to markets and resources).⁷⁰ A 2014 ClimateScope report that mapped the “frontiers” of clean energy investment found Brazil (a country that has never ratified a bilateral investment treaty) to be the second most attractive developing country for renewable energy investment (out of fifty-five countries studied).⁷¹ The study employed fifty-five indicators in the assessment of country attractiveness; the presence of an investment treaty was not one of them.⁷² In short, there currently is no evidence that the ECT is helping to facilitate investment into renewable energy.

Conclusion

It is widely agreed that the international energy architecture needs to be reformed. In the context of climate change, one objective of any reformed institutional

architecture must be to promote investment in clean energy technologies. On the surface, the ECT seems to have the potential to play this role by providing legal protection to investors in the renewable energy sector. However, when one delves a bit deeper, the arguments begin to unravel. The political risk associated with changes in subsidies is of declining significance for the renewable energy sector, given the rapidly falling costs of wind and solar technologies. Furthermore, even if the risk of subsidy changes was to remain significant in the long term, it is not evident that ISDS provisions effectively ameliorate it. Theoretically, ISDS could play some role in deterring states from responding to local opposition to renewable energy developments, but not under the ECT because the preestablishment phase of investment is not covered. Finally, and most importantly, there currently is no strong quantitative or qualitative data to show that providing legal protection to investors through ISDS translates into increased investment flows in the renewable energy sector, or in any other sector for that matter.

A regime that appears to fail to live up to the hopes of its proponents is lamentable. However, of greater concern is that the ECT may not just fail to facilitate a clean energy transition, but also may actively impede it. Although we have not explored the issue in this article, it is important to reiterate that incumbent industries could use the ISDS provisions in the ECT to challenge government measures to combat climate change and reduce dependence on fossil fuels. Of particular concern in this regard are the Energy Charter Secretariat's initiatives to expand the coverage of the ECT into Africa and Asia. As Bernasconi-Osterwalder notes, the legal implications of signing the ECT might not be well understood in many developing countries, particularly given the fact that it is "a common practice for countries to designate their energy ministries as the competent agencies to decide whether or not to join" and these ministries are not typically involved with the negotiation of investment treaties or the resolution of ISDS cases.⁷³

Further research in this area will help to inform policy at a time when the future of ISDS provisions, including those in the ECT, is unclear. It is worth noting that since acquiring competence over investment in the 2009 Treaty of Lisbon, the European Commission has consistently objected to the application of the ECT to "intra-EU" disputes.⁷⁴ Further, the European Commission has proposed to move away from the ECT-style system of ISDS in new treaties, and will instead refer disputes to an investment court.⁷⁵ Whether other countries will accept such a system (so far, only Canada and Vietnam have) remains to be seen, but it could present a path for further reform of the ECT.

However, even if the ECT was reformed to radically improve its ISDS mechanism, it is not clear that there would be any resulting benefits in terms of spurring a renewable energy revolution. Clearer rules would not resolve the fundamental problem that investment treaties do not appear to promote FDI. A reformed ISDS system or investment court that better protected government policy space and provided greater transparency and independent adjudicators would, if anything, be less likely to provide a strong attraction for investors.

For these reasons, any expansion of the ECT under the auspices of the new IEC should be considered with caution, and the burden of proving that the benefits of ISDS outweigh the risks should be placed on those seeking to expand its use. While political risk will remain an issue for some renewable investors in the short to medium term, there are other means through which this risk can be addressed. Notably, governments and international financial institutions can offer renewable energy investors tailored political risk insurance policies on favorable terms. The global community could also acknowledge that some level of political risk will always be present for foreign investors in any sector and focus instead on decreasing other forms of risk for renewable energy investors. At the top of the list is financial risk, which is a subject recently addressed by the G-20 with a proposal to create a “renewable energy specific risk mitigation facility” to allow companies to secure access to affordable financing.⁷⁶ Also noteworthy is the Indian government’s consideration of a currency risk guarantee fund to address the high costs of hedging currency risks in renewable energy projects, which arise when the project has revenue in one currency and loan payments in another.⁷⁷ Such endeavors appear more worthy of the attention of global leaders than the continued expansion and entrenchment of the ECT. 🌐

Annex: Known Investor-State Disputes Related to Renewable Energy, up to June 2017

Claimant Investor	Respondent State	Energy Type	Treaty	Year Initiated	Outcome
Mesa Gamesa	Canada Syria	Wind Wind	NAFTA Spain-Syria BIT	2011 2011	State win Investor win
PV Investors	Spain	Solar	ECT	2011	Pending
Mercer	Canada	Biomass	NAFTA	2012	Pending
Windstream	Canada	Wind	NAFTA	2013	Investor win
Charanne	Spain	Solar	ECT	2013	State win
Antaris Solar	Czech Republic	Solar	ECT	2013	Pending
Isolux Infrastructure	Spain	Solar	ECT	2013	State win
CSP Equity Investment	Spain	Solar	ECT	2013	Pending
RREEF Infrastructure	Spain	Solar	ECT	2013	Pending
Antin Infrastructure	Spain	Solar	ECT	2013	Pending
Eiser Infrastructure	Spain	Solar	ECT	2013	Investor win
Natland Investment Group	Czech Republic	Solar	ECT	2013	Pending
Voltaic Network	Czech Republic	Solar	ECT	2013	Pending
ICW Investments	Czech Republic	Solar	ECT	2013	Pending
Photovoltaik Knopf Betriebs-GmbH	Czech Republic	Solar	ECT	2013	Pending

continues

continued

Claimant Investor	Respondent State	Energy Type	Treaty	Year Initiated	Outcome
WA Investments Europa-Nova	Czech Republic	Solar	ECT	2013	Pending
Wirtgens and JSW Solar EVN	Czech Republic Bulgaria	Solar Electricity supply	ECT ECT & Austria-Bulgaria BIT	2013 2013	Pending Pending
Masdar Solar	Spain	Solar	ECT	2014	Pending
Blusun SA	Italy	Solar	ECT	2014	State win
NextEra Energy	Spain	Solar	ECT	2014	Pending
Infrared Environmental Infrastructure	Spain	Solar	ECT	2014	Pending
REENERGY	Spain	Solar	ECT	2014	Pending
RWE Innogy	Spain	Solar	ECT	2014	Pending
Albaniabeg Ambient Sh.p.k.	Albania	Waste-to-energy	ECT	2014	Pending
Kuivallik	Latvia	Wind	Estonia-Latvia BIT	2014	Pending
Stadtwerke München GmbH	Spain	Solar	ECT	2015	Pending
STEAG GmbH	Spain	Solar	ECT	2015	Pending
9REN Holdings	Spain	Solar	ECT	2015	Pending
Baywa r.e. Renewable Energy	Spain	Solar	ECT	2015	Pending
Cube Infrastructure et al.	Spain	Solar	ECT	2015	Pending
Matthias Kruk et al.	Spain	Solar	ECT	2015	Pending
KS Invest GmbH	Spain	Solar	ECT	2015	Pending
JGC Corp	Spain	Solar	ECT	2015	Pending
Cavalum SGPS	Spain	Solar	ECT	2015	Pending
E.ON SE	Spain	Solar, wind, hydro	ECT	2015	Pending
Greentech Energy	Italy	Solar	ECT	2015	Pending
OperaFund Eco-Invest	Spain	Solar	ECT	2015	Pending
Silver Ridge Power	Italy	Solar	ECT	2015	Pending
SoIEs Badajoz GmbH	Spain	Solar	ECT	2015	Pending
Belenergia	Italy	Solar	ECT	2015	Pending
Hydro Energy	Spain	Solar	ECT	2015	Pending
Watkins Holdings et al.	Spain	Wind	ECT	2015	Pending
Landesbank Baden-Württemberg et al.	Spain	Solar	ECT	2015	Pending
Eskosol	Italy	Solar	ECT	2015	Pending
Altin	Spain	Solar	ECT	2015	Pending
Hydro et al.	Albania	Hydro and other	Albania-Italy BIT	2015	Pending

continues

continued

Claimant Investor	Respondent State	Energy Type	Treaty	Year Initiated	Outcome
ENERGO PRO	Bulgaria	Hydro	ECT & Bulgaria-Czech Republic BIT	2015	Pending
Eurus	Spain	Solar	ECT	2016	Pending
ESPF Beteiligungs GmbH	Italy	Solar	ECT	2016	Pending
Sun-Flower Olmeda et al.	Spain	Solar	ECT	2016	Pending
Infracapital F1	Spain	Solar	ECT	2016	Pending
Sevilla Beheer B.V. et al.	Spain	Solar	ECT	2016	Pending
Amlyn Holding	Croatia	Biomass	ECT	2016	Pending
Viaduct d.o.o. Portorož	Bosnia and Herzegovina	Hydro	ECT	2016	Pending
VC Holding II S.a.r.l. and others	Italy	Solar	ECT	2016	Pending
Portigon A.G.	Spain	Solar	ECT	2017	Pending

Note: NAFTA, North American Free Trade Agreement; BIT, bilateral investment treaty; ECT, Energy Charter Treaty.

Notes

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1. Navroz K. Dubash and Ann Florini, "Mapping Global Energy Governance," *Global Policy* 2 (2011): 6–18; Andreas Goldthau, "A Public Policy Perspective on Global Energy Security," *International Studies Perspectives* 13, no. 1 (2012): 65–84; Dries Lesage, Thijs Van de Graaf, and Kirsten Westphal, *Global Energy Governance in a Multi-polar World* (Surrey: Ashgate, 2010); Thijs Van de Graaf, *The Politics and Institutions of Global Energy Governance* (London: Palgrave Macmillan, 2013); Andreas Goldthau and Jan Martin Witte, eds., *Global Energy Governance: The New Rules of the Game* (Washington, DC: Brookings Institution, 2010).

2. Christian Downie, "Global Energy Governance in the G-20: States, Coalitions, and Crises," *Global Governance* 21, no. 3 (2015): 475–492; Hany Besada and Michael Olender, "Addressing the Economic Costs of Sustainable Energy in the Global South," *Global Governance* (forthcoming).

3. Downie, "Global Energy Governance in the G-20."

4. International Energy Agency (IEA), "World Energy Outlook 2008" (Paris: IEA, 2008), p. 37.

5. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Syn-*

thesis Report. *Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Core Writing Team, R.K. Pachauri and L.A. Meyer, eds. (Geneva: IPCC, 2014).

6. IEA, “Energy Technology Perspectives 2014” (Paris: IEA, 2014), pp. 11, 14.

7. Sierra Club, “The Trans Pacific Partnership: A Threat to Our Air, Water, and Climate,” 2016, www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/TPP%20fact%20sheet.pdf.

8. Kyla Tienhaara, “Regulatory Chill in a Warming World: The Threat to Climate Policy Posed by Investor-state Dispute Settlement,” *Transnational Environmental Law* (2017): 1–22, doi:10.1017/S2047102517000309.

9. David Rivkin, “COP21: Climate Change Related Disputes: A Role for International Arbitration and ADR,” 7 December 2015, http://isdsblog.com/wp-content/uploads/sites/2/2015/12/David-W-Rivkin-speech-Climate_change_arbitration.pdf.

10. Edna Sussman, “The Energy Charter Treaty’s Investor Protection Provisions: Potential to Foster Solutions to Global Warming and Promote Sustainable Development,” in Marie-Claire Cordonier-Segger, Markus W. Gehring, and Andrew Newcombe, eds., *Sustainable Development in World Investment Law* (Alphen an den Rijn: Kluwer Law International, 2011), pp. 513–532.

11. Tony Abbott, “G20 Leaders Discuss Global Energy Issues,” 2014, http://www.g20.utoronto.ca/2014/g20_principles_energy_collaboration.pdf.

12. IEA, “World Energy Outlook 2013” (Paris: IEA, 2013); IEA, “World Energy Outlook 2014” (Paris: IEA, 2014).

13. IEA, “World Energy Outlook 2008.”

14. IEA, “World Energy Outlook 2014,” p. 24.

15. IPCC, “Summary for Policymakers,” in Christopher Field, Vicente Barros, David Dokken, Katharine Mach, Michael Mastrandrea, T. Eren Bilir, Monalisa Chatterjee, et al., eds., *Climate Change 2014: Impacts, Adaptation and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2014), pp. 1–32.

16. Ann Florini, “The Peculiar Politics of Energy,” *Ethics and International Affairs* 26, no. 3 (2012): 293–309, at 303.

17. IEA, “Key World Energy Statistics 2013” (Paris: IEA, 2013).

18. Carola Hoyos, “China Invited to Join IEA as Oil Demand Shifts,” *Financial Times*, 30 June 2010, www.ft.com/intl/cms/s/0/0f973936-3beb-11df-9412-00144feabdc0.html#axzz3ovqoU4wn.

19. Neil Hirst and Antony Froggatt, “The Reform of Global Energy Governance,” Grantham Institute for Climate Change Discussion Paper No. 3 (London: Grantham Institute for Climate Change, 2012).

20. Thijs Van de Graaf, “Fragmentation in Global Energy Governance: Explaining the Creation of IRENA,” *Global Environmental Politics* 13, no. 3 (2013): 14–33.

21. Thomas Walde, *The Energy Charter Treaty: An East-West Gateway for Investment and Trade* (London: Kluwer Law International, 1996).

22. See Energy Charter Treaty, 1994, <https://energycharter.org/fileadmin/DocumentsMedia/Legal/ECTC-en.pdf>. For a discussion of overlapping interests in relation to petroleum investment and the ECT, see also Philip Andrews-Speed, “The

Politics of Petroleum and the Energy Charter Treaty as an Effective Investment Regime,” *Journal of Energy Finance and Development* 4, no. 1 (1999): 117–135.

23. Caroline Kuzemko, Michael F. Keating, and Andreas Goldthau, *The Global Energy Challenge: Environment, Development and Security* (New York: Palgrave, 2016), p. 85.

24. Andrei Belyi, “International Energy Governance: Weaknesses of Multilateralism,” *International Studies Perspectives* 15, no. 3 (2014): 313–338, at 319–320; Francis McGowan, “Can the European Union’s Market Liberalism Ensure Energy Security in a Time of ‘Economic Nationalism’?” *Journal of Contemporary European Research* 4, no. 2 (2008): 90–106, at 98.

25. Russia’s withdrawal was partially linked to the government’s view that the treaty was largely irrelevant since it had failed to prevent or resolve the gas supply dispute with the Ukraine, but it has also been suggested that the high-profile investor-state dispute settlement (ISDS) dispute with Yukos was an additional factor in souring the government’s opinion of the Energy Charter Treaty (ECT). See Bartłomiej Nowak, “Forging the External Dimension of the Energy Policy of the European Union,” *The Electricity Journal* 23, no. 1 (2010): 57–66, at 61; Amelia Hadfield and Adnan Amkhan-Bayno, “From Russia with Cold Feet: EU-Russia Energy Relations, and the Energy Charter Treaty,” *International Journal of Energy Security and Environmental Research* 1, no. 1 (2013): 1–16.

26. Kuzemko, Keating, and Goldthau, *The Global Energy Challenge*.

27. Energy Charter Conference, “Road Map for the Modernisation of the Energy Charter Process,” Decision, Brussels, 24 November 2010.

28. An official policy on consolidation, expansion, and outreach (CONEXO) was adopted in 2012. See <https://energycharter.org/what-we-do/conexo/overview/>.

29. Iana Dreyer, “Brussels Moves Against Intra-EU Investor-state Arbitration Raise Energy Charter Dilemmas,” *Borderlex*, 1 September 2015, www.borderlex.eu/brussels-crack-intra-eu-investor-state-arbitration-raises-energy-charter-dilemmas.

30. Nathalie Bernasconi-Osterwalder, “Expansion of the Energy Charter to Africa and Asia: Undoing Reform in International Investment Law?” *Investment Treaty News*, 12 June 2017, www.iisd.org/itn/2017/06/12/expansion-energy-charter-ect-africa-asia-undoing-reform-international-investment-law-nathalie-bernasconi-osterwalder/.

31. Daria Nochevnik, “China and the Emerging Global Energy Governance Architecture,” *European Energy Review*, 30 June 2015, www.europeanenergyreview.eu/china-and-the-emerging-global-energy-governance-architecture/.

32. Gaetano Iorio Fiorelli, “Italy Withdraws from Energy Charter Treaty,” *Global Arbitration News*, 6 May 2015, <http://globalarbitrationnews.com/italy-withdraws-from-energy-charter-treaty-20150507/>. While the official reason for the withdrawal was the need to cut costs (membership in the ECT costs Italy around € 370,000 annually), others have connected the decision to government concerns about exposure to ISDS, particularly in regard to changes it has made to solar energy subsidies.

33. Pami Aalto, “The New International Energy Charter: Instrumental or Incremental Progress in Governance?” *Energy Research and Social Science* 11 (2016): 92–96.

34. Kaj Hobér, “Investment Arbitration and the Energy Charter Treaty,” *Journal of International Dispute Settlement* 1, no. 1 (2010): 153–190.

35. Sussman, “The Energy Charter Treaty’s Investor Protection Provisions”; Bradford Gentry and Jennifer Ronk, “International Investment Agreements and Investments in Renewable Energy,” in Bradford Gentry, Leslie Parker, Jennifer Ronk, Martijn Wilder,

and James Cameron, eds., *From Barriers to Opportunities: Renewable Energy Issues in Law and Policy* (New Haven: Yale School of Forestry and Environmental Studies, 2007), pp. 25–88; Organisation for Economic Co-operation and Development (OECD), “Harnessing Freedom of Investment for Green Growth,” Freedom of Investment Roundtable 14, April 2011, www.oecd.org/daf/inv/internationalinvestmentagreements/47721398.pdf; Nigel Banks, “Decarbonising the Economy and International Investment Law,” *Journal of Energy and Natural Resources Law* 30, no. 4 (2012): 497–510; Anatole Boute, “Combating Climate Change Through Investment Arbitration,” *Fordham International Law Journal* 35, no. 3 (2012): 613–664.

36. Cases are listed at “Investment Dispute Settlement Cases,” Energy Charter Secretariat, www.energycharter.org/what-we-do/dispute-settlement/investment-dispute-settlement-cases/.

37. See, for example, Joanna Lewis, “The Rise of Renewable Energy Protectionism: Emerging Trade Conflicts and Implications for Low Carbon Development,” *Global Environmental Politics* 14, no. 4 (2014): 10–35.

38. Kyla Tienhaara, “Regulatory Chill and the Threat of Arbitration: A View from Political Science,” in Chester Brown and Kate Miles, eds., *Evolution in Investment Treaty Law and Arbitration* (Cambridge: Cambridge University Press, 2011), pp. 606–627. Although discussions of regulatory chill generally focus on the negative impact that ISDS might have on public policy in areas such as health and the environment, at least one author has postulated that the phenomenon could have beneficial results in the specific case of renewable energy. See Avidan Kent, “Renewable Energy Disputes Before International Economic Tribunals: A Case for Institutional ‘Greening’?” *Oil, Gas and Energy Law Intelligence* 13, no. 3 (2015).

39. Energy Charter Conference, “Road Map for the Modernisation of the Energy Charter Process,” p. 6.

40. The Economist Intelligence Unit, “Managing the Risk in Renewable Energy,” 2011, www.economistinsights.com/sites/default/files/downloads/EIU-SwissRe_ManagingRiskRenewableEnergy_Web_2.pdf.

41. Kim Talus, “Introduction—Renewable Energy Disputes in the Europe and Beyond: An Overview of Current Cases,” *Oil, Gas and Energy Law Intelligence* 13, no. 3 (2015).

42. Leah Stokes, “The Politics of Renewable Energy Policies: The Case of Feed-in Tariffs in Ontario, Canada,” *Energy Policy* 56 (2013): 490–500, at 491.

43. Miguel Mendonça, David Jacobs, and Benjamin K. Sovacool, *Powering the Green Economy: The Feed-in Tariff Handbook* (London: Earthscan, 2010), p. xxiii.

44. International Renewable Energy Agency (IRENA), “Renewable Power Generation Costs in 2014,” 2015, www.irena.org/DocumentDownloads/Publications/IRENA_RE_Power_Costs_2014_report.pdf. See also IEA, “Projected Costs of Generating Electricity,” 2015, www.iea.org/Textbase/npsum/ElecCost2015SUM.pdf; Lazard, “Levelized Cost of Energy Analysis, Version 8.0,” 2014, www.lazard.com/media/1777/levelized_cost_of_energy_-_version_80.pdf; Bloomberg New Energy Finance, “Wind and Solar Boost Cost-Competitiveness Versus Fossil Fuels,” 2015, <http://about.bnef.com/press-releases/wind-solar-boost-cost-competitiveness-versus-fossil-fuels/>.

45. Bloomberg New Energy Finance, Multilateral Investment Fund, UK Department for International Development, and Power Africa, “ClimateScope 2014: Mapping the

Global Frontiers for Clean Energy Investment,” 2014, p. 5, <http://global-climatescope.org/en/download/reports/climatescope-2014-report-en.pdf>.

46. Jamie Baxter, Rakhee Morzaria, and Rachel Hirsch, “A Case-control Study of Support/Opposition to Wind Turbines: Perceptions of Health Risk, Economic Benefits, and Community Conflict,” *Energy Policy* 61 (2013): 931.

47. *Ibid.*

48. *Ibid.*

49. Joe Tirado, “Renewable Energy Claims Under the Energy Charter Treaty: An Overview,” *Oil, Gas and Energy Law Intelligence* 13, no. 3 (2015); Talus “Introduction—Renewable Energy Disputes in the Europe and Beyond.”

50. Toby Couture, “Booms, Busts, and Retroactive Cuts: Spain’s RE Odyssey,” *Analytical Brief* 3, no. 1 (2011), www.e3analytics.eu/wp-content/uploads/2012/05/Analytical_Brief_Vol3_Issue1.pdf.

51. The Economist Intelligence Unit, “Managing the Risk in Renewable Energy,” p. 11.

52. Pablo del Río and Pere Mir-Artigues, “A Cautionary Tale: Spain’s Solar PV Investment Bubble” (Geneva: Global Subsidies Initiative and International Institute for Sustainable Development, 2014), p. 2, www.iisd.org/gsi/sites/default/files/rens_ct_spain.pdf.

53. *Ibid.*

54. Cecilia Olivet and Pia Eberhardt, “Profiting from Crisis: How Corporations and Lawyers Are Scavenging Profits from Europe’s Crisis Countries” (Amsterdam: Transnational Institute and Corporate Europe Observatory, 2014), http://corporateeurope.org/sites/default/files/profitting-from-crisis_0.pdf.

55. Luke Eric Peterson and Zoe Williams, “Spain Prevails on Merits in First of Many Energy Charter Treaty Claims in the Solar Sector,” *Investment Arbitration Reporter*, 26 January 2016, www.iareporter.com.virtual.anu.edu.au/articles/breaking-spain-prevails-on-merits-in-first-of-many-energy-charter-treaty-claims-in-the-solar-sector/.

56. Herbert Smith Freehills, “Herbert Smith Freehills Secures Victory for Kingdom of Spain in Investor-state Arbitration,” 26 January 2016, www.herbertsmithfreehills.com/news/news20160126-hsf-secures-victory-for-kingdom-of-spain-in-investor-state-arbitration.

57. Luke Eric Peterson, “A Second Arbitral Tribunal at Stockholm Weighs In with an ECT Verdict in a Spanish Renewables Dispute,” *Investment Arbitration Reporter*, 13 July 2016, www.iareporter.com.virtual.anu.edu.au/articles/a-second-arbitral-tribunal-at-stockholm-weighs-in-with-an-ect-verdict-in-a-spanish-renewables-dispute/.

58. Jarrod Hepburn, “Analysis: In New Award, Italian Renewables Changes Appear Less Dramatic than Those in Recent Spain Case, Thus Leading to Failure of Blusun’s FET Claim,” *Investment Arbitration Reporter*, 7 June 2017, www.iareporter-com/articles/analysis-in-new-award-italian-renewables-changes-appear-less-dramatic-than-those-in-recent-spain-case-thus-leading-to-failure-of-blusuns-fet-claim-arbitrators-disagree-on-expropriation-assessment/.

59. Jarrod Hepburn and Zoe Williams, “In Depth: Arbitrators in Eiser Award Deem ECT to Protect Against ‘Total’ and Unreasonable Regulatory Change, but Tax Measure Is Excluded,” *Investment Arbitration Reporter*, 11 May 2017, www.iareporter-com/articles/in-depth-arbitrators-in-eiser-award-deem-ect-to-protect-against-total-and-unreasonable

-regulatory-change-but-tax-measure-is-excluded-spain-fails-to-admit-favourable-scc-award-into-evidence/.

60. Overseas Private Investment Corporation (OPIC), “Regulatory Risk,” www.opic.gov/what-we-offer/political-risk-insurance/types-of-coverage/regulatory-risk, accessed 18 November 2016.

61. *Windstream Energy LLC (U.S.A.) v. The Government of Canada*, Award, 27 September 2016, www.pccases.com/web/view/36.

62. *Ibid.*, par. 379.

63. *Electrabel S.A. v. Hungary* (International Centre for the Settlement of Investment Disputes [ICSID] Case No. ARB/07/19), Award, 25 November 2015, p. 318, www.italaw.com/sites/default/files/case-documents/italaw4495.pdf.

64. Chad Walker, Jamie Baxter, and Danielle Ouellette, “Beyond Rhetoric to Understanding Determinants of Wind Turbine Support and Conflict in Two Ontario, Canada Communities,” *Environment and Planning A* 46, no. 3 (2014): 730–745, at 730.

65. For a comprehensive overview of the literature, see Jonathan Bonnitcha, *Substantive Protection Under Investment Treaties: A Legal and Economic Analysis* (Cambridge: Cambridge University Press, 2014).

66. Emma Aisbett, “Bilateral Investment Treaties and Foreign Direct Investment: Correlation Versus Causation,” in Karl Sauvant and Lisa Sachs, eds., *The Effect of Treaties on Foreign Direct Investments* (New York: Oxford University Press, 2009), pp. 395–437.

67. For an overview of the literature, see UN Conference on Trade and Development (UNCTAD), “The Impact of International Investment Agreements on Foreign Direct Investment: An Overview of Empirical Studies, 1998–2014,” IIA Issues Note, <http://investmentpolicyhub.unctad.org/Upload/Documents/unctad-web-diae-pcb-2014-Sep%2016.pdf>.

68. Lauge N. Skovgaard Poulsen, “The Importance of BITs for Foreign Direct Investment and Political Risk Insurance: Revisiting the Evidence,” in Karl P. Sauvant, ed., *Yearbook on International Investment Law and Policy 2009/2010* (New York: Oxford University Press, 2010), pp. 539–574.

69. *Ibid.*, p. 541. See also Jason Webb Yackee, “Do Bilateral Investment Treaties Promote Foreign Direct Investment? Some Hints from Alternative Evidence,” *Virginia Journal of International Law* 51, no. 2 (2010): 397–442; Axel Berger, “Financing Global Development: Can Foreign Direct Investments be Increased Through International Investment Agreements?” Briefing Paper 9/2015 (Bonn: German Development Institute), <https://www.die-gdi.de/en/briefing-paper/article/financing-global-development-can-foreign-direct-investments-be-increased-through-international-investment-agreements/>.

70. UNCTAD, “World Investment Report 2010: Investing in a Low Carbon Economy” (Geneva: UNCTAD), pp. 117, 136.

71. Bloomberg New Energy Finance, Multilateral Investment Fund, UK Department for International Development, and Power Africa, “ClimateScope 2014.” The Ernst and Young Renewable Energy Country Attractiveness Index (2015) lists Brazil as the third most attractive developing country, behind China and India, [www.ey.com/Publication/vwLUAssets/RECAI_44/\\$FILE/RECAI%2044_June%202015.pdf](http://www.ey.com/Publication/vwLUAssets/RECAI_44/$FILE/RECAI%2044_June%202015.pdf).

72. See the methodology used in the ClimateScope 2014 report at <http://global-climatescope.org/en/download/docs/climatescope-2014-methodology-en.pdf>.

73. Bernasconi-Osterwalder, “Expansion of the Energy Charter to Africa and Asia.”

74. Dreyer, “Brussels Moves Against Intra-EU Investor-state Arbitration Raise Energy Charter Dilemmas.”

75. European Commission, press release, “Commission Proposes New Investment Court System for TTIP and Other EU Trade and Investment Negotiations,” 16 September 2015, http://europa.eu/rapid/press-release_IP-15-5651_en.htm.

76. IRENA, press release, “G20 Toolkit of Voluntary Options for Renewable Energy Development,” 2016, <https://irenanewsroom.org/2016/07/05/g20-irena-take-on-renewable-energy-at-energy-ministers-meeting/>.

77. IRENA, “Unlocking Renewable Energy Investment: The Role of Risk Mitigation and Structured Finance” (Abu Dhabi: IRENA, 2016), www.irena.org/DocumentDownloads/Publications/IRENA_Risk_Mitigation_and_Structured_Finance_2016.pdf.