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Combating Climate Change Through Investment Arbitration

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ARTICLES

COMBATING CLIMATE CHANGE THROUGH INVESTMENT ARBITRATION

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INTRODUCTION

Private capital and technology play a central role in the transition to a low-carbon economy.[1] In the absence of an international carbon price, the regulatory initiatives currently used to stimulate the participation of private investors in this transition are primarily directed at influencing the incomes of investments. At the national level, states create support schemes to enable the financial viability of low-carbon investments, such as renewable energy projects, energy efficiency improvements, and carbon capture and storage.[2] At an international level, the flexible mechanisms of the Kyoto Protocol[3]—the Joint Implementation ("JI") and Clean Development Mechanism ("CDM")—provide low-carbon investors with an additional income to cover the higher costs of greenhouse gas ("GHG") emission reduction projects that would, in theory, not have been realized without this support. Moreover, at national and regional levels, emissions trading schemes positively influence the financial viability of low-carbon investments by capping and trading GHG emissions.[4]

The potential costs and revenues of a project, however, are not the only considerations taken into account by investors. Investment decisions are also influenced by risks of ex post regulatory changes or interference by the state. Due to the dependence on public support and other regulatory structures that states create to internalize the carbon externality, low-carbon investments are particularly vulnerable to regulatory risks. Given the financial consequences of support policies for the state budget and consumers, states may be tempted to renege on promises of public support once the investments have

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1. *See* Executive Secretary of the United Nations Framework Convention on Climate Change, *Investment and Financial Flows to Address Climate Change*, at 42 (2007).

2. *See* INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2010, at 295–96, 299 (2010) [hereinafter IEA].

3. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22 [hereinafter Kyoto Protocol].

4. *See, e.g.*, Directive 2003/87/EC of the European Parliament and of the Council on Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community and Amending Directive 96/61/EC, 2003 O.J. L 275/32.

been made and costs are "sunk."[5] A perception amongst low-carbon investors that the state might act opportunistically and change the "rules of the game" requires them to factor in a risk premium. Taking into account long-term and capital-intensive nature of most low-carbon investments, it is reasonable to assume that this perception of ex post public interference with the financial basis of low-carbon investments will increase the cost of climate policies. By contrast, economic and financial theory would suggest that a guarantee of protection against these risks may reduce the required returns and thus stimulate these investments.[6]

The focus on the "'income-side" of low-carbon investments has taken attention away from the importance of the "risk-side" of these investments. This contribution builds upon the idea that, to promote low-carbon investments, "mitigating risk is certainly an alternative to raising the level of compensation."[7] To be efficient, climate regulations need to be compatible with the way private investors make their investment decisions and must therefore reflect both the income and risk components of low-carbon investments.

Despite the considerable importance of regulatory risks for low-carbon investments, legal literature largely remains silent on how to best protect low-carbon investors against the occurrence of these risks. The debate on the interaction between investment arbitration and climate law, for instance, almost exclusively focuses on the potential constraining effect ("regulatory chill") that investment standards might have on states intending to implement GHG emission reduction policies.[8] The role that

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5. *See* Dieter Helm, Cameron Hepburn & Richard Mash, *Credible Carbon Policy*, 19 OXFORD REV. ECON. POL'Y 438, 439–42 (2003).

6. *See* Catherine Mitchell, Dierk Bauknecht & Peter M. Connor, *Effectiveness through Risk Reduction: A Comparison of the Renewable Obligation in England and Wales and the Feed-in System in Germany*, 34 ENERGY POL'Y 297, 297 (2006); *see also* Dominique Finon & Yannick Perez, *The Social Efficiency of Instruments of Promotion of Renewable Energies: A Transaction-cost Perspective*, 62 ECOLOGICAL ECON. 77, 81, 86 (2007). On the importance of regulatory stability and predictability for climate policies, see NICHOLAS STERN, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW 325 (2006).

7. *See* Mitchell, Bauknecht & Connor, *supra* note 6, at 297 (quoting OLE LANGNISS & PETER HELBY, FINANCING RENEWABLE ENERGY SYSTEMS 112 (1999)).

8. *See, e.g.*, Marie-Claire Cordonier Segger & Markus Gehring, *Trade and Investment Implication of Carbon Trading for Sustainable Development*, *in* LEGAL ASPECTS OF CARBON TRADING: KYOTO, COPENHAGEN, AND BEYOND 77, 88 (David Freestone &

investment arbitration might play in reinforcing climate change mitigation policies (i.e. investment arbitration as a "force for good") is only mentioned *en passant*.[9]

This Article examines whether investment arbitration could complement the existing income-based approach of climate policies with a risk-based approach and thus reinforce the credibility and effectiveness of climate change mitigation efforts. Indeed, international investment agreements ("IIAs") aim to protect foreign investors against public interference with the financial and regulatory basis of their investments.[10] International investment law is based on the necessity to reduce noncommercial regulatory and political risks in order to promote the inflow of foreign capital and technology.[11] The substantive investment standards that are generally contained in IIAs include protection against expropriation, the provision of fair and equitable treatment, and nondiscrimination and umbrella (*pacta sunt servanda*) clauses. Are these international investment protection standards capable of shielding low-carbon investments against substantial change by host states in terms of the support mechanisms that they create to attract such

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Charlotte Streck eds., 2009); Lise Johnson, *International Investment Agreements and Climate Change: The Potential for Investor-State Conflicts and Possible Strategies for Minimizing It*, 39 ENVTL. L. REP. 11147, 11150, 11153 (2009); Stephan W. Schill, *Do Investment Treaties Chill Unilateral State Regulation to Mitigate Climate Change?*, 24 J. INT'L ARB. 469, 470, 477 (2007); JACOB WERKSMAN, KEVIN A. BAUMERT & NAVROZ K. DUBASH, WORLD RESOURCES INST., WILL INTERNATIONAL INVESTMENT RULES OBSTRUCT CLIMATE PROTECTION POLICIES? 9 (2001), *available at* http://www.wri.org/publication/will-international-investment-rules-obstruct-climate-protection-policies; Kate Miles, *International Investment Law and Climate Change: Issues in the Transition to a Low Carbon World* 10, 22–25 (Soc'y of Int'l Econ. L., Online Proceedings of the Inaugural Conference, Working Paper No. 27/08, 2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1154588.

9. *See* Schill, *supra* note 8, at 477; *see also* FIONA MARSHALL, INT'L INST. FOR SUSTAINABLE DEV., CLIMATE CHANGE AND INTERNATIONAL INVESTMENT AGREEMENTS: OBSTACLES OR OPPORTUNITIES? 23–25, 79 (2010); Bradford S. Gentry & Jennifer J. Ronk, *International Investment Agreements and Investments in Renewable Energy*, *in* FROM BARRIERS TO OPPORTUNITIES: RENEWABLE ENERGY ISSUES IN LAW AND POLICY 25, 71–73 (Leslie Parker et al. eds., 2007). *But see* Edna Sussman, *The Energy Charter Treaty's Investor Protection Provisions: Potential to Foster Solutions to Global Warming and Promote Sustainable Development*, 14 ILSA J. INT'L & COMP. L. 391, 404 (2008).

10. *See* RUDOLF DOLZER & CHRISTOPH SCHREUER, PRINCIPLES OF INTERNATIONAL INVESTMENT LAW *passim* (2008).

11. *See* ENERGY CHARTER SECRETARIAT, THE ENERGY CHARTER TREATY AND RELATED DOCUMENTS: A LEGAL FRAMEWORK FOR INTERNATIONAL ENERGY COOPERATION 14 (2004).

investment? The answer to this question will determine the ability of international investment law to contribute to the international efforts required to combat climate change.[12]

In Part I, this Article briefly recalls the main regulatory principles underlying the support mechanisms that states develop to attract low-carbon investments and by highlighting how states may interfere with promised support. Part II looks at the regulatory risks in light of current arbitral practice. Whether low-carbon investments would answer to the definition of "investments" under international investment law is questioned in Part II.A. Part II.B then analyzes the expropriation standard, Part II.C considers the fair and equitable treatment standard, Part II.D looks at the nondiscrimination principle, and Part II.E examines umbrella clauses. Finally, Part II.F analyzes the extent to which states could justify possible breaches of these investment protection standards on the basis of public policy objectives. Given that most GHG emission reductions will have to take place in the energy sector, special attention is paid throughout this Article to the energy-specific investment regime of the Energy Charter Treaty.[13]

This Article demonstrates that investment arbitration provides the necessary conceptual tools required to improve the regulatory stability and predictability that is necessary for low-carbon investment. It has the potential to protect low-carbon investments against the risks of regulatory changes that can affect climate policies. By providing these guarantees of stability, investment arbitration can reinforce the credibility of climate change mitigation policies. However, in the absence of a doctrine of precedent in international investment law, low-carbon investors have no certainty that arbitral tribunals will follow an interpretative approach that adequately protects their

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12. *See* U.S. DEP'T OF STATE, REPORT OF THE SUBCOMMITTEE ON INVESTMENT OF THE ADVISORY COMMITTEE ON INTERNATIONAL ECONOMIC POLICY REGARDING THE MODEL BILATERAL INVESTMENT TREATY: ANNEXES (2009) (statement of Alan Larson), *availabel at* http://www.state.gov/e/eb/rls/othr/2009/131118.htm. For a general discussion on the positive contribution of investment arbitration to environmental goals, see Thomas Wälde, *Investment Arbitration and Sustainable Development: Good Intentions—or Effective Results?*, 6 INT'L ENVTL. AGREEMENTS 459, 460–62 (2006).

13. Energy Charter Treaty, 1994 O.J. L 380/24 [hereinafter Energy Charter Treaty].

investments. It is precisely this certainty that is needed to reduce the costs of climate change mitigation policies.

Following the reasoning underlying the Energy Charter Treaty, this Article examines the idea of creating a specific investment treaty for climate change mitigation projects in Part III. In Part IV, this Article proposes to integrate a low-carbon specific investment protection regime in a new international agreement on climate change. This approach would not require the development of new investment disciplines, but could be limited to an official endorsement of existing interpretative approaches.

I. *REGULATORY RISKS IN CLIMATE CHANGE MITIGATION POLICIES*[14]

A. *Risks in the Flexible Mechanisms of the Kyoto Protocol*

The CDM, defined in Article 12 of the Kyoto Protocol, refers to the implementation of project activities that reduce GHG emissions by Annex I parties (i.e. states with GHG emission limits) or by subordinate legal entities in non-Annex I parties.[15] The emission credits generated by such projects are known as Certified Emission Reductions ("CERs") and can be used by Annex I parties to meet their emission reduction targets.[16] CDM project activities thus promote the transfer of low-carbon technologies from industrialized countries to developing countries.[17]

The CDM is supervised by the CDM Executive Board.[18] This international institution approves CDM projects and issues CERs in accordance with the following procedure.[19] First, since

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14. This Part draws on Anatole Boute, *The Potential Contribution of International Investment Protection Law to Combat Climate Change*, 27 J. ENERGY & NAT. RESOURCES L. 333, 341–46 (2009).

15. Kyoto Protocol, *supra* note 3, art. 12; *see* Maria Netto & Kai-Uwe Barani Schmidt, *CDM Project Cycle and the Role of the UNFCCC Secretariat*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK 175, 175 (David Freestone & Charlotte Streck eds., 2005).

16. Kyoto Protocol, *supra* note 3, art. 12(3)(b).

17. *See* Netto & Barani Schmidt, *supra* note 15, at 175.

18. Kyoto Protocol, *supra* note 3, art. 12(4).

19. *See* U.N. Envtl. Programme, *CDM Information and Guidebook*, at 48–49 (Myung-Kyoon Lee ed., 2d ed. 2004), *available at* http://www.cd4cdm.org/Publications/cdm%

participation in the CDM is voluntary, host states, as well as home countries, have to endorse the project.[20] States, the Designated National Authority ("DNA") in particular, generally approve projects by signing so-called Letters of Approval.[21] Second, the project participants have to prepare a Project Design Document ("PDD") outlining the technical design of the project activity and determining its "additionality"[22] in comparison to what would occur without the project ("Business as Usual"). The PDD has to be approved by a Designated Operational Entity ("DOE").[23] Third, after being validated by a DOE, the proposed project activity must be submitted for registration by the CDM Executive Board.[24] Once registered, the project activity can be implemented and can begin to generate emission reductions. Emissions reductions are calculated in relation to a baseline representing the emissions that would occur in a Business as Usual scenario. A DOE must independently control the monitoring of the project activity and certify the amount of emission reductions achieved. On the basis of this certification, the CDM Executive Board issues a corresponding amount of CERs.

JI, defined in Article 6 of the Kyoto Protocol, refers to the implementation by Annex I parties, or its legal entities, of

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20guideline%202nd%20edition.pdf; *see also* Kati Kulovesi, *The Private Sector and the Implementation of the Kyoto Protocol: Experiences, Challenges and Prospects*, 16 REV. EUR. COMMUNITY & INT'L ENVTL. L. 145, 147–48, 150–52 (2007); *SIDS CDM Guide–The CDM: Practical Details*, FOUND. FOR INT'L ENVTL. L. & DEV., http://www.cdmguide.net/cdm10.html (last visited Nov. 29, 2011). For an overview of the Clean Development Mechanism ("CDM") project cycle, see Netto & Barani Schmidt, *supra* note 15, at 186–90.

20. *See* Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol, 1st Sess., Nov. 28–Dec. 10, 2005, *Modalities and Procedures for a Clean Development Mechanism as Defined in Article 12 of the Kyoto Protocol*, at 15, Decision 3/CMP.1, U.N. Doc. FCCC/KP/CMP/2005/8/Add.1 (Mar. 30, 2006) [hereinafter *Modalities and Procedures for a Clean Development Mechanism*].

21. *See* Robert O'Sullivan & Charles Cormier, *Meeting Participating Country Responsibilities Under the CDM: Designating a National Authority*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK, *supra* note 15, at 213, 223.

22. *See Modalities and Procedures for a Clean Development Mechanism*, *supra* note 20, at 14–16.

23. The Designated Operational Entity is an accredited organization tasked with the independent validation of proposed CDM project activities and verification of emission reductions. *See id.* at 15.

24. *See id.*

project activities that reduce greenhouse gas emissions in other Annex I parties.[25] The emission credits generated by JI projects are known as Emission Reduction Units ("ERUs"). If a host party meets certain eligibility requirements,[26] it may, under the so-called "Track 1 procedure," independently verify the additionality of emission reductions and issue ERUs.[27] ERUs are issued in proportion to the amount of GHG emissions that the project reduces in relation to a baseline.[28] ERUs are generated by converting Assigned Amount Units ("AAUs").[29] If a host party does not meet these requirements, the "Track 2 procedure" applies. Under this procedure, JI projects are, in a similar way to the CDM project cycle, regulated by an international body—the JI Supervisory Committee.[30] It is also this institution that approves projects and issues ERUs corresponding to the verified emission reductions.[31]

The risk of the state interfering with the issuance of CERs to CDM projects is relatively limited.[32] Indeed, it is an international institution—the CDM Executive Board—and not host states that approve these projects and issue the GHG emission credits.[33] The same applies to projects implemented under the JI "Track 2 procedure."[34]

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25. *See* Charlotte Streck, *Joint Implementation: History, Requirements, and Challenges*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK, *supra* note 15, at 107, 107–08.

26. *See* Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol, 1st Sess., Nov. 28–Dec. 10, 2005, *Guidelines for the Implementation of Article 6 of the Kyoto Protocol*, at 6, Decision 9/CMP.1, U.N. Doc. FCCC/KP/CMP/2005/8/Add.2 (Mar. 30, 2006) [hereinafter *Guidelines for the Implementation of Article 6 of the Kyoto Protocol*].

27. *See id.* at 7.

28. *See id.* at 8, 12.

29. The allowances allocated to the Annex I parties corresponding to their greenhouse gas emission limits.

30. *See Guidelines for the Implementation of Article 6 of the Kyoto Protocol*, *supra* note 26, at 7.

31. *See id.* at 7–9.

32. *See* Jolene Lin & Charlotte Streck, *Mobilising Finance for Climate Change Mitigation: Private Sector Involvement in International Carbon Finance Mechanisms*, 10 MELB. J. INT'L L. 70, 74–75 (2009).

33. *See Modalities and Procedures for a Clean Development Mechanism, supra* note 20, at 14, 19.

34. *See* Sander Simonetti, *Legal Protection and (the Lack of) Private Party Remedies in International Carbon Emission Reduction Projects*, 28 J. ENERGY & NAT. RESOURCES L. 171, 179 (2009). The risks related to the issuance of emission credits by the CDM Executive

Nevertheless, in theory, host states could detrimentally affect the investors concerned by exercising influence on the entities (i.e. DOE or Accredited Independant Entity) that are in charge of verifying the emission reductions.[35] This could have an impact on the amount of emission reductions that are certified as having been achieved by the project activity. This, in turn, would affect the amount of CERs and ERUs issued. Host country pressure on the DOE could also affect the renewal of the project beyond the first crediting period, that is beyond the first span of time during which the host country issues ERUs.

The risks to JI projects implemented under the "Track 1 procedure" may be more important. Under this procedure, the discretionary power of the host country is much broader due to the country's central role in the issuance of ERUs.[36] Host states may, for instance, refuse to issue or transfer ERUs to private foreign investors notwithstanding their commitments as contained in the Letter of Approval.[37] Host states may be tempted to do so in order to avoid reducing the amount of AAUs available to meet international emission reduction obligations. Host states might also influence the issuance of ERUs by imposing changes to the baseline that is used to calculate emission reductions, or simply by withdrawing the approval of a JI project and thus its eligibility to receive ERUs.[38] Investors could also face the risk of nationalization of their investment.[39]

Board and the Joint Implementation Supervisory Committee are excluded from the scope of this paper. *See* Lin & Streck, *supra* note 32, at 73, 77–78.

35. *See* Dane Ratliff, *Arbitration in 'Flexible-Mechanism' Contracts*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK, *supra* note 15, at 377, 383 n.23.

36. *See* Streck, *supra* note 25, at 112.

37. *See* Anikó Pogány, *Negotiating a JI Contract: A Project Developer's Perspective*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK, *supra* note 15, at 329, 331.

38. *See* Chester Brown, *International, Mixed, and Private Disputes Arising Under the Kyoto Protocol*, 1 J. INT'L DISP. SETTLEMENT 447, 471 (2010); Charlotte Streck, *World Bank Carbon Finance Business: Contracts and Emission Reductions Purchase Transactions*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK, *supra* note 15, at 355, 369.

39. *See* Julian Richardson, *Carbon Markets*, *in* COPING WITH CLIMATE CHANGE: RISKS AND OPPORTUNITIES FOR INSURERS ch. 17, 13–14 (Chartered Ins. Inst. ed., 2009), *available at* http://www.cii.co.uk/pages/research/climatechangereport.aspx (select "Chapter 17" hyperlink); *see also* Chester Brown, *The Settlement of Disputes Arising in*

B. *Risks in National Support Schemes*

National support for renewable energy sources, energy efficiency improvements, or other types of low-carbon investment is often granted by creating a system of "green certificates" (or "white certificates"), "feed-in tariffs," "premiums," or by granting investment aid or fiscal advantages to electricity producers using renewable energy sources.[40]

Usually, "green certificate" schemes are arranged in such a way that regulatory authorities deliver tradable certificates for a certain amount of electricity generated from renewable energy sources.[41] The value of such certificates is created by obliging electricity suppliers to submit a certain amount of certificates to the regulatory authorities.[42] This amount is generally determined in proportion to the producers' supplies of electricity to end consumers.[43] Suppliers that fail to meet this quota-obligation are fined.[44] A secondary market for certificates is created where eligible producers and suppliers with too many certificates can sell their certificates to other market players.[45]

With "feed-in tariff" schemes, the electricity produced from renewable energy installations is paid at a fixed minimum price.[46] This minimum purchase price is generally set higher than the market price and guaranteed over a specified

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Flexibility Mechanism Transactions Under the Kyoto Protocol, 21 ARB. INT'L 361, 380 (2005); MIRJAM HARMELINK & PAUL SOFFE, FINANCING AND FINANCING MECHANISMS FOR JOINT IMPLEMENTATION (JI) PROJECTS IN THE ELECTRICITY SECTOR 34, 59 (2001).

40. For an overview of the support schemes adopted by the European Union ("EU") Member States, see Commission of the European Communities, The Renewable Energy Progress Report: Commission Report in Accordance with Article 3 of Directive 2001/77/EC, Article 4(2) of Directive 2003/30/EC and on the Implementation of the EU Biomass Action Plan, COM (2009) 192 Final, at 6–7 (Apr. 2009), and the Commission of the European Communities, Communication on the Support of Electricity from Renewable Energy Sources, COM (2005) 627 Final, at 4–5 (Dec. 2005) [hereinafter Commission Communication Dec. 2005].

41. *See* N.H. VAN DER LINDEN ET AL., REVIEW OF INTERNATIONAL EXPERIENCE WITH RENEWABLE ENERGY OBLIGATION SUPPORT MECHANISMS 10–11 (2005).

42. *See* Commission Communication Dec. 2005, *supra* note 40, at 4.

43. *See* VAN DER LINDEN ET AL., *supra* note 41, at 10.

44. *See* DAVID DE JAGER & MAX RATHMANN, POLICY INSTRUMENT DESIGN TO REDUCE FINANCING COSTS IN RENEWABLE ENERGY TECHNOLOGY PROJECTS 38 (2008).

45. *See* Commission Communication Dec. 2005, *supra* note 40, at 5.

46. *See id.* at 4.

duration.[47] Usually, this fixed price is combined with a purchase obligation for electricity suppliers or network companies.[48]

The difference between a "feed-in tariff" and "premium" schemes is that the latter involves a premium being applied on the electricity market price, whereas feed-in tariffs entitle producers to one, all-inclusive, and specific price.[49] In premium schemes, the amount of support paid to the producers fluctuates with the price of electricity on the wholesale market.[50]

The experience gathered regarding the implementation of support schemes suggests that states might easily succumb to the temptation of interfering with the amount and duration of support.[51] Recent analyses on the effectiveness of support schemes for renewable energy implemented in the European Union ("EU"), for instance, show that Member States have introduced fundamental changes to their policy frameworks.[52] These changes have jeopardized the credibility of renewable energy policies and generated high investment uncertainty.[53]

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47. *See* JOAN CANTON & ÅSA JOHANNESSON LINDÉN, EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR ECONOMICS AND FINANCIAL AFFAIRS, ECON. PAPERS NO. 408, KC-AI-10-408-EN-N, *Support Schemes for Renewable Electricity in the EU* 7 (2010).

48. *See* Commission Communication Dec. 2005, *supra* note 40, at 5.

49. *See id.*

50. *See* CANTON & JOHANNESSON LINDÉN, *supra* note 47, at 9.

51. *See* Ryan Katofsky & Lisa Frantzis, *Financing Renewables in Competitive Electricity Markets*, 109 POWER ENGINEERING 76, 76 (2005).

52. *See, e.g.*, MARIO RAGWITZ ET AL., EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT, INTELLIGENT ENERGY FOR EUROPE PROGRAMME, ASSESSMENT AND OPTIMIZATION OF RENEWABLE ENERGIES SUPPORT SCHEMES IN THE EUROPEAN ELECTRICITY MARKET: FINAL REPORT 19–21 (2007); IEA, *supra* note 2, at 319; Gerard Marata et al., *Renewable Energy Incentives in the United States and Spain: Different Paths—Same Destination?*, 28 J. ENERGY & NAT. RESOURCES L. 481, 498–99 (2010); Letter from Ole Beier Sørensen, Chairman, Institutional Investors Grp. on Climate Change, & Chief of Strategy & Analysis, ATP, to José Luis Rodríguez Zapatero, President of Spain (June 23, 2010), *available at* http://www.iigcc.org/data/assets/pdf_file/0010/1009/IIGCC-letter-to-Spanish-government.pdf (describing the Proposed Retroactive Reduction of 661 Tariff for Existing Investments in Spain).

53. *See, e.g.*, Commission of the European Communities, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Energy 2020: A Strategy for Competitive, Sustainable and Secure Energy, COM (2010) 639 Final, at 9 (Nov. 2010) [hereinafter Commission Communication Nov. 2010]; *International PV Investors Demand Compensation or Repeal for Retroactive Spanish PV Tariff Changes Under International Investment Treaty*, NA PRESSEPORTAL, Mar. 8, 2011, www.presseportal.de/pm/78742/2004299/white_owl_capital_ag.

Commentators highlight the fact that the austerity measures being introduced to cut budget deficits in Europe will affect the support for renewable energy.[54] Indeed, subsidies for renewable energy are often considered "an easy target in times of crisis."[55] The problem is not just that governments "will reduce subsidies for new projects. The industry regards cuts as inevitable . . . . More serious is the fear that [governments] will cut agreed subsidies for projects built or under construction."[56]

The European experience shows that investment uncertainty resulting from the risk of cuts has a very negative effect on the development of renewable energy.[57] This can be explained by the fact that, from an investor's perspective, "a financial change of the support system is considered the most important risk factor" for investments in renewable energy.[58] This is because the level of support is the most important element influencing expected profit.[59]

The success of support schemes for renewable energy thus depends on the "credibility of the public authority's long-term commitment."[60] Gaining this credibility by minimizing investors' expectations of ex post regulatory adjustments is, however, a difficult task. The risk is that, once investments are made, the public authorities will be tempted to reconsider their commitments.[61] Indeed, according to Dominique Finon and Yannick Perez:

> The public authority is not committed in the regulatory contract as much as the developers-operators who invest money in [renewable energy sources] RES-E projects; this opens the door to discretionary changes in the contract. The possible government's opportunism, exerted in unforeseeable amendments of the design of the instruments or by willing to change the instrument, creates a risk of

54. *See, e.g.*, Victor Mallet, *Shadow Falls Across Spanish Solar Energy Industry*, FIN. TIMES (London), June 1, 2010, http://www.ft.com/cms/s/0/275db4d0-6cdf-11df-91c8-00144feab49a.html; *see also* Marata et al., *supra* note 52, at 498–99.

55. *See* Mallet, *supra* note 54.

56. *Id.*; *see* Marata et al., *supra* note 52, at 498–99.

57. *See* Commission Communication Nov. 2010, *supra* note 53, at 9.

58. RAGWITZ ET AL., *supra* note 52, at 177–78; *see* Commission Communication Dec. 2005, *supra* note 40, at 16–17.

59. *See* RAGWITZ ET AL., *supra* note 52, at 178.

60. Finon & Perez, *supra* note 6, at 83.

61. *See* Helm, Hepburn & Mash, *supra* note 5, at 440.

> expropriation of quasi-rents on existing RES-E plants or current RES-E investments, and this risk can be a strong deterrent against investing in RES-E.[62]

The authorities could, for instance, withdraw the promised support or shorten its duration. They could refuse to pay or diminish the amount of support. In countries with green certificate schemes, the host country could refuse to issue the certificates or issue fewer certificates than those expected under the rules existing at the moment of investment. The host country could also reduce the quota and thereby depress the price for green certificates.

Investments in energy efficiency improvements made on the basis of "white" certificates or feed-in tariffs, and investments in carbon capture and storage based on public support, face similar risks.

II. *PROTECTION OF LOW-CARBON INVESTMENTS UNDER EXISTING IIAS*

A. *Low-Carbon Investments as "Investments" Protected by IIAs*

To be protected under international investment law, low-carbon investments should qualify as "investments" within the meaning of the applicable IIAs.[63] Arbitral practice developed on the basis of the Convention on the Settlement of Investment Disputes Between States and Nationals of Other States[64] defines an "investment" on the basis of four criteria (the so-called *Salini* test): contributions by the investor, certain duration of performance, the existence of operational risks, and the contribution to the economic development of the host state.[65]

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62. Finon & Perez, *supra* note 6, at 83; *see* Lucy Butler & Karsten Neuhoff, *Comparison of Feed-in Tariff, Quota and Auction Mechanisms to Support Wind Power Development*, 33 RENEWABLE ENERGY 1854, 1861 (2008); Angus Johnston, Amalia Kavali & Karsten Neuhoff, *Take-or-Pay Contracts for Renewables Deployment*, 36 ENERGY POL'Y 2481, 2482 (2008).

63. *See* Freya Baetens, *The Kyoto Protocol in Investor-State Arbitration: Reconciling Climate Change and Investment Protection Objectives*, *in* SUSTAINABLE DEVELOPMENT IN WORLD INVESTMENT LAW 683, 693 (Marie-Claire Cordonier Segger et al. eds., 2011).

64. Convention on the Settlement of Investment Disputes Between States and Nationals of Other States art. 1, Oct. 14, 1966, 17 U.S.T. 1270; 575 U.N.T.S. 159.

65. *See* Salini Costrutorri S.P.A v. Kingdom of Morocco, ICSID Case No. ARB/00/4, Decision on Jurisdiction, ¶ 52 (July 23, 2001), 6 ICSID Rep. 400 (2004); *see*

Most low-carbon investments are likely to fulfill the *Salini* criteria.[66] Indeed, investments in renewable energy or other low-carbon technologies are generally characterized by their high capital intensity and long term pay-back period. The high costs and social relevance (e.g. for energy supply) of these investments expose them to considerable economic, financial, and political risk.[67] Finally, it cannot be doubted that low-carbon projects, particularly those in the energy industry, are important for the development of the national economy.

The Energy Charter Treaty investment regime is limited to "any investment associated with an 'economic activity in the energy sector.'"[68] Renewable energy projects fall within this scope. Indeed, the Final Act of the European Energy Charter Conference specifies that renewable energy sources are "illustrative of Economic Activity in the Energy Sector."[69]

The same conclusion applies to energy efficiency improvement projects. Energy efficiency measures apply to the production, transmission, distribution, or sale of energy products.[70] These measures are by definition associated with the energy sector. Moreover, the Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects considers energy savings to be a "source of energy"[71]—the so-called "fifth energy source" besides natural gas, oil, coal, and uranium. Energy efficiency investments that lead to energy savings could therefore be considered as an economic activity related to the exploitation of this "fifth" source of energy.

Given the intrinsic relationship between GHG emissions and the energy sector, most other low-carbon investments are also likely to fall within the scope of the Energy Charter Treaty's

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also Fedax N.V. v. Republic of Venez., ICSID Case No. ARB/96/3, Decision on Objections to Jurisdiction, ¶ 43 (July 11, 1997), 5 ICSID Rep. 186 (2002).

66. On the application of the *Salini* test to energy investments in general, see Anna Turinov, *'Investment' and 'Investor' in Energy Charter Treaty Arbitration: Uncertain Jurisdiction*, 26 J. INT'L ARB. 1 (2009).

67. *See* U.N. Conference on Trade and Development, *World Investment Report 2008: Transnational Corporations and the Infrastructure Challenge*, at 164, U.N. Doc. UNCTAD/WIR/2008 (Sept. 24, 2008).

68. Energy Charter Treaty, *supra* note 13, art. 1(6), at 25.

69. ENERGY CHARTER SECRETARIAT, *supra* note 11, at 25.

70. *See* Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects, 1994 O.J. L 380/92, arts. 2(4), 3(4), at 92–93.

71. *See id.* art. 1(1), at 92.

application. The Energy Charter secretariat considers that carbon capture and storage is part of the "energy cycle."[72] Carbon dioxide capture, its transportation by pipelines, and its storage can, according to the Energy Charter secretariat, be certified as being "Economic Activities in the Energy Sector."[73] More generally, the secretariat argues that "[carbon dioxide] may be taken within the coverage of the term 'energy related activity.'"[74]

A more delicate issue is whether the rights associated with low-carbon investment—i.e. the right to benefit from support for renewable energy or the right to receive CERs or ERUs—could qualify as "investments" within the meaning of IIAs.[75] In their definition of "investment," many IIAs include "rights conferred by law or contract."[76] Arbitral tribunals[77] and leading commentators[78] have consistently ruled that contractual and regulatory rights can qualify as "investments," and that they are capable of expropriation. Investors in renewable energy projects and in JI and CDM projects generally hold contractual and regulatory rights to benefit from support.[79] For renewable

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72. *See* ENERGY CHARTER SECRETARIAT, INVESTMENT AND MARKET DEVELOPMENT IN CARBON CAPTURE AND STORAGE: ROLE OF THE ENERGY CHARTER TREATY 29 (2009).

73. *See id.*

74. *Id.* at 8.

75. *See* Jennifer Morgan, Note, *Carbon Trading Under the Kyoto Protocol: Risks and Opportunities for Investors,* 18 FORDHAM ENVTL. L. REV. 151, 173 (2006).

76. *See, e.g.*, Energy Charter Treaty, *supra* note 13, arts. 1(6)(c), 1(6)(f); *see also* DOLZER & SCHREUER, *supra* note 10, at 60; CAMPBELL MCLACHLAN ET AL., INTERNATIONAL INVESTMENT ARBITRATION: SUBSTANTIVE PRINCIPLES 173 (2007).

77. *See* Mohammad Ammar Al-Bahloul v. Republic of Taj., Case No. V/064/2008, Partial Award on Jurisdiction and Liability, ¶ 139 (Stockholm Chamber of Commerce 2009), http://italaw.com/documents/Al-BahloulvTajikistan_PartialAward_2Sep2009.pdf [hereinafter *Mohammad Ammar Al-Bahloul*]; Bayindir Insaat Turizm Ticaret Ve Sanayi A.Ş. v. Islamic Republic of Pak., ICSID Case No. ARB/03/29, Award, ¶ 456 (Aug. 27, 2009), http://italaw.com/documents/Bayandiraward.pdf; Compañía de Aguas del Aconquija, S.A. v. Arg. Republic, ICSID Case No. ARB/97/3, Award, ¶¶ 7.5.2, 7.5.4 (Aug. 20, 2007), http://italaw.com/documents/VivendiAward English.pdf [hereinafter *Compañía de Aguas del Aconquija*].

78. *See* United Nations Conference on Trade and Development, *Taking of Property*, at 36, UNCTAD/ITE/IIT/15 (2000).

79. *See* Streck, *supra* note 38, at 359–60; *see also* Anatole Boute, *The Protection of Property Rights Under the European Convention on Human Rights and the Promotion of Low-Carbon Investments*, 1 CLIMATE L. 93, 108–13 (2010); Johnston, Kavali & Neuhoff, *supra* note 62, at 2486, 2497; Matthieu Wemaere & Charlotte Streck, *Legal Ownership and Nature of Kyoto Units and EU Allowances*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK, *supra* note 15, at 35, 43–44.

energy projects, these rights result from agreements that investors conclude with the national public authorities in charge of the implementation of the national support schemes for renewable energy.[80] These agreements concern, for example, the certification of renewable energy installations or the issuance of renewable energy certificates that entitle the operators of eligible installations to public support.[81] Regulatory rights are derived from the national regulatory framework that governs the support of renewable energy sources.[82] Similarly, the implementation of JI and CDM projects involve the conclusion of agreements that formalize the host state's approval of the projects ("Letters of Approval").[83] These agreements also provide the investors with contractual claims regarding the future issuance or transfer of ERUs or CERs.[84] Moreover, national regulations governing the implementation of JI projects confer upon investors that fulfill all procedural criteria the regulatory right to receive ERUs. It is arguable that the contractual and regulatory right to benefit from support schemes and to receive CERs or ERUs would come within the broad ambit of "investments" as understood in arbitral practice.[85]

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80. *See* Department of Energy and Climate Change, Planning Our Electric Future: A White Paper for Secure, Affordable and Low-Carbon Electricity, 2011, Cm. 8099, at 7, 37 (U.K.), *available at* http://www.decc.gov.uk/en/content/cms/legislation/white_papers/emr_wp_2011/emr_wp_2011.aspx [hereinafter Planning Our Electric Future].

81. *See* ASSOCIATION OF ISSUING BODIES, PRINCIPLES AND RULES OF OPERATION FOR THE EUROPEAN ENERGY CERTIFICATE SYSTEM 4, 5 (2011) *available at* http://www.aib-net.org/portal/page/portal/AIB_HOME/AIB_OPE/EECS/EECS_Rules/EECS%20Rules%20Release%207.pdf; *see also* STANDARD TERMS AND CONDITIONS TEMPLATE BETWEEN [THE SCHEME MEMBER] AND [THE MARKET PARTICIPANT] 1–2 (2011), *available at* http://www.aib-net.org/portal/page/portal/AIB_HOME/AIB_OPE/EECS/Standard%20Terms%20%20Conditions/STC%20Template%20Release%203.0.pdf.

82. *See* Boute, *supra* note 79, at 109–10.

83. *See* O'Sullivan & Cormier, *supra* note 21, at 223.

84. *See* Streck, *supra* note 25, at 118–19.

85. *See* Morgan, *supra* note 75, at 173–74; *see also* Lisa Bennett, Note, *Are Tradable Carbon Emissions Credits Investments? Characterization and Ramifications Under International Investment Law*, 85 N.Y.U. L. REV. 1581, 1590–99 (2010). More generally, on the qualification of greenhouse gas emission credits as "possessions" or property, see Harro van Asselt & Joyeeta Gupta, *Stretching Too Far? Developing Countries and the Rule of Flexibility Mechanisms Beyond Kyoto*, 28 STAN. ENVTL. L.J. 311, 337 (2009); Erich Vranes, *Climate Change and the WTO: EU Emission Trading and the WTO Disciplines on Trade in Goods, Services and Investment Protection*, 43 J. WORLD TRADE 707, 716–18 (2009).

The classification of regulatory and contractual rights relative to the financial support of low-carbon investments as "investments" has the effect of bringing these rights within the ambit of protection afforded by IIAs. It does not, however, necessarily mean that these rights are individually protected under the investment disciplines of these IIAs.

Arbitral tribunals are reluctant to isolate particular elements of a larger investment operation and qualify these elements as separate investments that would benefit from individual protection.[86] This is in accordance with the "totality of rights," "indivisible whole," or "general unity of an investment operation" theories. Under these theories, a claim that "forms part of a larger series of transactions would not on its own qualify as an investment."[87] IIAs, therefore, do not separately protect the individual rights associated with an investment transaction. IIAs only protect the general investment itself. Allegations of expropriation, for instance, are assessed on the basis of the impact that the contested measures will have on the general investment, not on the potential destruction or deprivation of individual rights associated with this general investment.

Some arbitral tribunals have nevertheless accepted that specific rights associated with a general investment transaction can individually qualify as investments.[88] These tribunals justified this approach by highlighting the importance of these specific rights for the making of the general investment. In *Eureko,* the tribunal argued that "since the grant to Eureko of [these specific] rights . . . was a *key element* of the investment, without which it appears that there would have been no investment at

86. *See* Christoph Schreuer & Ursula Kriebaum, *The Concept of Property in Human Rights Law and International Investment Law, in* HUMAN RIGHTS, DEMOCRACY AND THE RULE OF LAW: LIBER AMICORUM LUZIUS WILDHABER 743, 760 (Stephan Breitenmoser et al. eds., 2007).

87. *Id.* For an application of this theory, see Enron Corp. & Ponderosa Assets, L.P. v. Arg. Republic, ICSID Case No. ARB/01/3, Decision on Jurisdiction, ¶ 70 (Jan. 14, 2004), http://www.asil.org/ilib/Enron.pdf [hereinafter *Enron*]; Československá Obchodní Banka, A.S. v. Slovak Republic, ICSID Case No. ARB/97/4, Decision on Objections to Jurisdiction, ¶ 72 (May 24, 1999), 38 I.L.M. 1708 (1999).

88. *See* Compañía de Aguas del Aconquija, *supra* note 77, ¶¶ 5.3.9–.10, 7.5.11, 7.5.25–.26; Eureko B.V. v. Republic of Pol., 12 ICSID Rep. 335, ¶ 144 (UNCITRAL Arb. 2005) [hereinafter *Eureko*]; CME Czech Republic B.V. v. Czech, 9 ICSID Rep. 121, ¶¶ 376, 384 (UNCITRAL Arb. 2001) [hereinafter *CME Czech Republic*].

all, the Tribunal concludes that those rights have some economic value and are entitled to protection under the Treaty."[89]

The specific rights were "critical" to the making of the general investment.[90] The arbitral tribunals were therefore willing to "unbundle"[91] the general investment transaction in specific investments to protect specific rights individually under the investment disciplines of the applicable IIA.

Given the absence of an international carbon price, the provision of additional financial support is often an essential precondition—or "key element"—for the making of low-carbon investments. Support under the JI and CDM mechanisms, for instance, depends on the investment "additionality" of the proposed projects.[92] Project participants must not only demonstrate that their investments will reduce GHG emissions in relation to Business as Usual, but they must also prove that the financial viability or financial attractiveness of their activity depends on additional support provided by ERUs and CERs.[93] In theory therefore, the financial support represented by these GHG emission credits constitutes a critical part of the economic foundation of the investment. By the same token, the lack of internalization of the carbon externality in electricity prices, and the relatively high investment cost of renewable energy installations in comparison to traditional power plants, result in these investments being, for the moment, dependent on public support. Following the award reasoning in *Eureko*, the contractual and regulatory right to benefit from support could thus qualify as a specific "investment" entitled to individual protection under the applicable IIA.

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89. *Eureko*, *supra* note 88, ¶ 145 (emphasis added); *see* Middle East Cement Shipping & Handling Co., S.A. v. Arab Republic of Egypt, ICSID Case No. ARB/99/6, Award, ¶¶ 100–01, 135–38 (Apr. 12, 2002), 7 ICSID Rep. 173 (2005) [hereinafter *Middle East Cement*].

90. *See Eureko*, *supra* note 88, ¶¶ 144–45.

91. On the notion of "unbundling" or "dissection" of property rights in the context of international investment law, see M. SORNARAJAH, THE INTERNATIONAL LAW ON FOREIGN INVESTMENT 371–72 (3d ed. 2010).

92. *See* Kyoto Protocol, *supra* note 3, arts. 6(1), 12(5)(c); *Modalities and Procedures for a Clean Development Mechanism*, *supra* note 20, at 14–16.

93. *See* CDM Executive Board 39, *Methodological Tool: Tool for the Demonstration and Assessment of Additionality (Version 05.2)*, at 5, Annex 10 (Aug. 26, 2008), *available at* http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v5.2.pdf.

The approach followed by the *Eureko* tribunal offers considerable protection to investors that base their general investment decisions on specific contractual and regulatory rights, such as investors in renewable energy or in JI and CDM projects. M. Sornarajah argues that:

> From the point of view of property protection, the abstract notion of property as a series of intangible rights has a positive effect in that it makes it easier to protect contractual rights . . . . A complete range of possible uses of property is covered through an unbundling and spelling out of the package of rights that previously constituted a single bundle . . . . One could argue that a series of property rights is spelt out and that impairment of any of those property rights could amount to a taking.[94]

However, as mentioned above, the approach followed by the *Eureko* tribunal is an exception to the theory of "general unity of an investment operation."[95] Investors have no guarantee that arbitral tribunals would accept the "unbundl[ing]" of a general investment transaction in a series of individual rights, and grant these rights separate protection under the investment disciplines of the applicable IIA.

B. *Withdrawal of Support as Partial Expropriation*

Withdrawing support for low-carbon investment nullifies an investor's rights to benefit from this support. Could the affected investors argue that such interference with their rights constitutes a measure tantamount to expropriation? Could investors in JI projects argue that a state's refusal to issue or transfer ERUs qualifies as an expropriation of their right to receive these emission credits? Could CDM project participants successfully invoke the expropriation standard against public interference with CERs?

In accordance with established arbitral practice, the threshold that must be reached before an action amounts to an expropriation is high. Measures must have a substantial impact on the economic benefit and value of the investment

94. SORNARAJAH, *supra* note 91, at 371–72.

95. *Enron*, *supra* note 87, ¶ 70; *see* Schreuer & Kriebaum, *supra* note 86, at 761.

concerned.[96] They must "radically deprive[] [the claimant] of the economic use and enjoyment of its investment,"[97] "effectively neutralize the benefit of the [claimant's] property,"[98] "render [the claimant's property] rights [] useless,"[99] or "have a similar dispossessory effect."[100] Expropriation therefore results from actions that deprive the investor of full ownership and control of the investment.[101]

State interference with the support for low-carbon investment is unlikely to destroy the economic value of the overall investment or deprive investors of full ownership and control of their assets. Even if the support for renewable energy is entirely cancelled, investors are still in control of their installations. They continue to receive revenues for the electricity produced and sold on the market. Similarly, a state's refusal to issue ERUs does not render an investor's property rights in the overall JI investment useless. Public interference with CERs does not radically deprive CDM investors of the economic use of their investments. Indeed, for projects benefiting from support under the flexible mechanisms of the Kyoto Protocol, "[i]ncome from the sale of carbon credits usually makes up only a portion of the overall project budget, meaning that project owners also need other sources of financing to carry out their plans."[102] The protection of low-carbon investors under the expropriation standard would therefore depend on whether the right to receive support

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96. *See* DOLZER & SCHREUER, *supra* note 10, at 101; *see also* L. Yves Fortier & Stephen L. Drymer, *Indirect Expropriation in the Law of International Investment: I Know It When I See It, or* Caveat Investor, 19 ICSID REV.–FOREIGN INVESTMENT L.J. 293, 305 (2004).

97. Técnicas Medioambientales Tecmed, S.A. v. United Mexican States, ICSID Case No. ARB(AF)/00/2, Award, ¶ 115 (May 29, 2003), 43 I.L.M. 133 (2004) [hereinafter *Técnicas Medioambientales Tecmed*]; *see* Compañía del Desarrollo de Santa Elena, S.A. v. Republic of Costa Rica, ICSID Case No. ARB/96/1, Final Award, ¶ 77 (Feb. 17, 2000), 5 ICSID Rep. 157 (2002).

98. *CME Czech Republic*, *supra* note 88, ¶ 150.

99. Starrett Housing Corp. v. Islamic Republic of Iran, 4 Iran-U.S. Cl. Trib. Rep. 122, ¶ 2 (1983).

100. *Compañía de Aguas del Aconquija*, *supra* note 77, ¶ 7.5.24; *see also* National Grid P.L.C. v. Arg. Republic, Case No. 1:09-cv-00248-RBW, Award, ¶ 149 (UNCITRAL Arb. 2008), http://italaw.com/documents/NGvArgentina.pdf.

101. Pope & Talbot, Inc. v. Canada, Interim Award, 40 I.L.M. 258, ¶ 100 (NAFTA/UNCITRAL Arb. 2000) [hereinafter *Pope & Talbot*].

102. Kulovesi, *supra* note 19, at 150.

constitutes a specific investment that is protected independently from the impact on the overall investment.

As mentioned above, most arbitral tribunals opt to follow the theory of "the general unity of an investment operation."[103] In accordance with this theory, these tribunals refuse to qualify measures that destroy specific rights as expropriation when the investors remain in control of the overall investment to which these rights are associated.[104] In *CMS Gas Transmission Co. v. Argentine Republic* and in *Occidental Exploration and Production Co. v. Republic of Ecuador*, for instance, each tribunal "rejected the possibility that an investment can be disassembled into a number of discrete rights, each of which is capable of being expropriated independently of the overall investment."[105] The tribunal reached that conclusion despite the fact that the applicable IIAs included "any right deferred by law or contract" within the definition of an investment.[106]

In *Middle East Cement Shipping and Handling Co., S.A. v. Arab Republic of Egypt*, by contrast, the tribunal chose to examine specific rights and assets separately under the expropriation clause.[107] Having analyzed whether each individual right met the definition of "investment" outlined in the applicable IIA,[108] the tribunal examined whether the host state had deprived the investor of the value of each specific right independently of the impact on the overall investment.[109] The tribunal in *Eureko B.V.*

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103. *See, e.g.*, *Enron*, *supra* note 87, ¶ 70; Schreuer & Kriebaum, *supra* note 87, at 760–71.

104. *See* Ursula Kriebaum, *Partial Expropriation*, 8 J. WORLD INVESTMENT & TRADE 69, 73–78 (2007); *see also* DOLZER & SCHREUER, *supra* note 10, at 107.

105. Kriebaum, *supra* note 104, at 74; *see* CMS Gas Transmission Co. v. Arg. Republic, ICSID Case No. ARB/01/8, Award, ¶¶ 263–64 (May 12, 2005), http://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=showDoc&docId=DC504_En&caseId=C4 [hereinafter *CMS Gas Transmission*]; Occidental Exploration & Production Co. v. Republic of Ecuador, Final Award, 43 I.L.M. 1248, ¶¶ 86–89 (London Ct. Int'l Arb. 2004).

106. Treaty Concerning the Encouragement and Reciprocal Protection of Investment, U.S.-Ecuador, art. 1(a)(v), Aug. 27, 1993, S. TREATY DOC. NO. 103-15 (1993) (entered into force May 11, 1997); Treaty Concerning the Reciprocal Encouragement and Protection of Investment, U.S.-Arg., art. 1(a)(v), Nov. 14, 1991, S. TREATY DOC. NO. 103-2 (1993) (entered into force Oct. 20, 1994).

107. *See Middle East Cement*, *supra* note 89, ¶¶ 107, 143–44.

108. *See id.* ¶¶ 100–01, 135–38.

109. *See id.* ¶¶ 107, 143–44.

v. Poland followed a similar approach.[110] Although it explicitly acknowledged that the contested measure did not affect the basic investment, it ruled that the host state had expropriated the specific rights—"key elements"—associated with this investment.[111] According to Ursula Kriebaum, the *Eureko* award "demonstrates that even in a situation where the basic investment remains unaffected, the deprivation of contract rights that are related to the basic investment may amount to a taking."[112]

Other awards have followed an intermediary approach. In *CME Czech Republic B.V. v. Czech Republic*, the tribunal accepted that the specific rights in question were covered by the definition of investment and could accordingly be expropriated.[113] However, in contrast to the *Middle East Cement* and *Eureko* awards, the tribunal ruled that the measure amounted to an expropriation because it "destroyed . . . the commercial value of the investment."[114]

Reflecting on the *Middle East Cement, Eureko,* and *CME* cases, Kriebaum argues that determining whether a "right is capable of economic exploitation independently of the remainder of the investment" is an important criterion in assessing a specific right, in isolation from the overall investment, under the expropriation standard.[115] Specific rights will be protected individually against expropriation if these rights are "key elements" of an investment and can be exploited separately from the rest of the investment.[116] According to Kriebaum, if these criteria are met, interference with such specific rights could constitute a "partial expropriation" that would violate the expropriation standard.[117]

ERUs and CERs have an intrinsic economic value. They can be sold independently on the international carbon market.[118] It

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110. *See Eureko*, *supra* note 88, ¶ 145.
111. *See id.*
112. *See* Kriebaum, *supra* note 104, at 81.
113. *See CME Czech Republic*, *supra* note 88, ¶¶ 376, 384.
114. *See id.* ¶ 591; *see also Compañía de Aguas del Aconquija*, *supra* note 77, ¶¶ 7.5.25–.26.
115. *See* Kriebaum, *supra* note 104, at 83.
116. *See id.*
117. *See id.*
118. *See* Wemaere & Streck, *supra* note 79, at 36.

is arguable that they constitute a "right [that] is capable of economic exploitation independently of the remainder of the investment."[119] They could, therefore, be subject to partial expropriation.

Qualifying support schemes for renewable energy as independent economic rights is less straightforward. "Green certificates" are usually tradable on a secondary market where they can be sold independently from the overall investment. Green certificates could, therefore, qualify as individual investments that could be subject to partial expropriation. However, "feed-in tariffs" or "premium schemes" entitle the operators of renewable energy installations to fixed prices.[120] This fixed support usually may not be traded independently from the main electricity transaction.[121] Feed-in tariffs and premium schemes, therefore, cannot be considered capable of independent economic exploitation. In accordance with current arbitral practice, investors will find it more challenging to successfully invoke the expropriation standard against state interference with feed-in tariffs and premium schemes than against state interference with green certificates.

C. *Protection Under the Fair and Equitable Treatment Standard*

It is generally accepted that the fair and equitable treatment standard requires the host state to observe the "basic expectations that were taken into account by the foreign investors to make the investment."[122] An investor's legitimate expectations must be based on "representations, commitments or specific conditions offered by the State concerned"[123] and

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119. Kriebaum, *supra* note 104, at 83.

120. *See id.*

121. *See id.* (describing how feed-in tariffs consist as part of a "total price per unit of electricity paid to the producers").

122. *See, e.g.*, Stephan W. Schill, *Fair and Equitable Treatment Under Investment Treaties as an Embodiment of the Rule of Law* 15–16 (Inst. for Int'l Law & Justice N.Y.U. Sch. of Law, Working Paper No. 6, 2006) (quoting *Técnicas Medioambientales Tecmed*, *supra* note 97, ¶ 154); *see also* Katia Yannaca-Small, *Fair and Equitable Treatment Standard: Recent Developments*, *in* STANDARDS OF INVESTMENT PROTECTION 111, 124, 127, 130 (August Reinisch ed., 2008).

123. National Grid P.L.C. v. Arg. Republic, Case No. 1:09-cv-00248-RBW, Award, ¶ 173 (UNCITRAL Arb. 2008), http://italaw.com/documents/NGvArgentina.pdf; *see* Parkerings-Compagniet AS v. Republic of Lith., ICSID Case No. ARB/05/8, Award, ¶ 331 (Sept. 11, 2007), http://italaw.com/documents/Pakerings.pdf [hereinafter

relied upon by the investor in making the investment.[124] Arbitral tribunals pay particular attention to the conditions that the host state proposes and the promises it makes to attract foreign investors. In *Sempra Energy International v. Argentine Republic*, for instance, the tribunal considered that the requirement not to affect the basic expectations taken into account by the investor to make its investment "becomes particularly meaningful when the investment has been attracted and induced by means of assurances and representations . . . ."[125] In *Glamis Gold, Ltd. v. United States*, the tribunal specified that a breach of the fair and equitable treatment standard may be exhibited by "the creation by the State of objective expectations *in order to induce* investment and the subsequent repudiation of those expectations."[126] In *CME Czech Republic*, the tribunal considered that the host state breached its obligation of fair and equitable treatment by "evisceration of the arrangements in reliance upon with [sic] the foreign investor was induced to invest."[127] W. Michael Reisman and Mahnoush Arsanjani argue that: "Where a host State which seeks foreign investment acts intentionally, so as to create expectations in potential investors with respect to particular treatment or comportment, the host

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Parkerings]; Int'l Thunderbird Gaming Corp. v. United Mexican States, 45 I.L.M. 792, ¶ 147 (NAFTA/UNCITRAL Arb. 2006).

124. *See Técnicas Medioambientales Tecmed*, *supra* note 97, ¶ 154; *see also Eureko*, *supra* note 88, ¶ 235. On the importance of investors' reliance on expectations to make their investment decisions, see *Mohammad Ammar Al-Bahloul*, *supra* note 77, ¶¶ 199–217.

125. *See* Sempra Energy Int'l v. Arg. Republic, ICSID Case No. ARB/02/16, Award, ¶ 298 (Sept. 28, 2007), http://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=showDoc&docId=DC694_En&caseId=C8 [hereinafter *Sempra*]. The *Sempra* award has been nullified by the decision of the ad hoc committee of June 29, 2010 on the Argentine Republic's Application for Annulment of the award. The ad hoc committee did not, however, criticize the *Sempra* tribunal's interpretation and application of the fair and equitable treatment standard. It nullified the award based on a manifest excess of power in the application of the emergency exception of the applicable bilateral investment treaty. *See* Sempra Energy Int'l v. Arg. Republic, ICSID Case No. ARB/02/16, Annulment Proceeding, ¶ 223 (June 29, 2010), http://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=showDoc&docId=DC1550_En&caseId=C8.

126. Glamis Gold, Ltd. v. United States, Award, ¶¶ 620–21, 627 (NAFTA/UNCITRAL Arb. 2009), http://www.state.gov/documents/organization/125798.pdf.

127. *See CME Czech Republic, supra* note 88, ¶ 611.

state should . . . be bound by the commitments and the investor is entitled to rely upon them in instances of decision."[128]

Support schemes for renewable energy create incentives that aim to stimulate private investment in the development of renewable energy.[129] Similarly, national regulatory frameworks that govern JI projects aim to attract investment in GHG emission reduction projects to the benefit of the national economy.[130] Low-carbon investors build their business cases on the basis of these policies and promises of support.[131] They invest *in reliance upon* the faithful implementation of support commitments made by host states.[132] Investors in renewable energy expect to receive public support in accordance with the schemes existing at the time of investing.[133] Participants in JI projects meanwhile count on an amount of ERUs corresponding to the verified emission reductions that are generated by their approved projects.[134]

Given the lack of internalization of the carbon externality, public support is a *conditio sine qua non* of a low-carbon investment.[135] It is often the "essential foundation for the

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128. W. Michael Reisman & Mahnoush H. Arsanjani, *The Question of Unilateral Governmental Statements as Applicable Law in Investment Disputes*, *in* COMMON VALUES IN INTERNATIONAL LAW: ESSAYS IN HONOUR OF CHRISTIAN TOMUSCHAT 409, 422 (Pierre-Marie Dupuy ed., 2006).

129. *See* IEA, *supra* note 2, at 293.

130. *See* Streck, *supra* note 25, at 107.

131. *See, e.g.*, Planning Our Electric Future, *supra* note 80, at 34; DEP'T OF ENERGY & CLIMATE CHANGE, UK RENEWABLE ENERGY ROADMAP 27 (2011) (U.K.), *available at* http://www.decc.gov.uk/assets/decc/11/meeting-energy-demand/renewable-energy/2167-uk-renewable-energy-roadmap.pdf; Helm, Hepburn & Mash, *supra* note 5, at 439.

132. *See* DE JAGER & RATHMANN, *supra* note 44, at 10–11.

133. *See id.* at 15–32, 119; DEUTSCHE BANK CLIMATE CHANGE ADVISORS, GLOBAL CLIMATE CHANGE POLICY TRACKER: AN INVESTOR'S ASSESSMENT 11–12 (2009), *available at* http://www.dbcca.com/dbcca/EN/_media/Global_Climate_Change_Policy_Tracker_Exec_Summary.pdf.

134. Streck, *supra* note 25, at 118–19.

135. According to Michael Grubb, Tooraj Jamasb, and Michael Pollitt, "[p]ublic support for the . . . development and deployment of new technologies and industries to reduce emissions is vital." Michael Grubb, Tooraj Jamasb & Michael Pollitt, *A Low-Carbon Electricity Sector for the UK: Issues and Options*, *in* DELIVERING A LOW-CARBON ELECTRICITY SYSTEM: TECHNOLOGIES, ECONOMICS AND POLICY 278, 300 (Michael Grubb et al. eds., 2008); *see* IEA, *supra* note 2, at 277; Letter from Institutional Investors Grp. on Climate Change, to D. José Luis Rodriguez Zapatero on the Proposed Retroactive Reduction of 661 Tariff for Existing Investments (June 23, 2010), *available at* http://www.iigcc.org/__data/assets/pdf_file/0010/1009/IIGCC-letter-to-Spanish-government.pdf; MARIO RAGWITZ ET AL., ASSESSMENTS AND OPTIMISATION OF

investment—without it, it [the investment] could not survive economically."[136] The fair and equitable treatment standard could therefore provide important guarantees of protection against eviscerations by the state on the arrangements it has made to attract low-carbon investments. According to the United Nations Conference on Trade and Development, the fair and equitable treatment standard "could be used to challenge the refusal of expected government support [and] the dismantling of market-creating mechanisms."[137]

The pre-investment legal order does not only form the framework for the positive reach of investors' expectations. It also provides "the scope of considerations upon which the host state is entitled to rely when it defends against subsequent claims of the foreign investor."[138] In the design of national JI regulations, states often aim to retain a degree of discretion to issue and discontinue ERUs.[139] According to Werksman, "[w]hen establishing emissions allowance and offset schemes at the domestic level, government authorities have been careful to avoid any legal characterization that these instruments can provide the basis for legal entitlements or property rights."[140] Similarly, states can maintain a degree of regulatory discretion in the design of support schemes for renewable energy sources by stipulating that the amount and duration of support will be subject to revisions.[141] Are such "waiver clauses" sufficient to

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RENEWABLE ENERGY SUPPORT SCHEMES IN THE EUROPEAN ELECTRICITY MARKET: FINAL REPORT 178 (Intelligent Energy Eur. ed., 2007), *available at* http://www.optres.fhg.de/OPTRES_FINAL_REPORT.pdf.

136. Thomas Wälde & Kaj Hobér, *The First Energy Charter Treaty Arbitral Award*, 22 J. INT'L ARB. 83, 98 (2005).

137. U.N. Conference on Trade and Development, *World Investment Report 2010: Investing in a Low-Carbon Economy*, at 137, U.N. Doc UNCTAD/WIR/2010 (July 22, 2010) [hereinafter *World Investment Report 2010*].

138. Rudolf Dolzer, *Fair and Equitable Treatment: A Key Standard in Investment Treaties*, 39 INT'L L. 87, 103 (2005)*; see also* JESWALD W. SALACUSE, THE LAW OF INVESTMENT TREATIES 232 (2010).

139. Jacob D. Werksman, *Defending the "Legitimate Expectations" of Privates Investors Under the Climate Change Regime: In Search of a Legal Theory for Redress*, 39 GEO. J. INT'L L. 679, 690 (2008).

140. *Id.* at 689.

141. *See, e.g.*, Council Directive 2003/96/EC on Restructuring the Community Framework for the Taxation of Energy Products and Electricity, 2003 O.J. L 283/51, art. 16(3), at 57 [hereinafter Restructuring the Community Framework Directive].

prevent the creation of legitimate expectations protected under the fair and equitable treatment standard?

The Court of Justice for the European Union was confronted with a similar question. This question arose in the context of a claim challenging the withdrawal of a support scheme for renewable energy under the principle of the protection of legitimate expectations in EU law.[142] Plantanol—a German manufacturer of biofuel—complained that, by withdrawing a tax exemption scheme that was aimed at promoting the use of biofuel in the transport sector, Germany had violated Plantanol's legitimate expectations to benefit from this scheme.[143] Germany defended the contested withdrawal by arguing that it was necessary to avoid overcompensating biofuel producers following the introduction of new regulatory obligations, and changes in primary energy prices.[144] The tax exemption scheme was based on a former directive created to promote the use of biofuels for transport[145] and on the Council Directive for the taxation of energy products.[146] The latter Directive explicitly entitles Member States to reconsider and withdraw support to avoid overcompensation.[147] The European Court of Justice argued on this basis that:

> [A] regulatory provision of this kind was . . . capable of indicating at the outset to prudent and circumspect economic operators that the tax exemption scheme applicable to biofuels was liable to be adjusted or even withdrawn by the national authorities in order to take account of changes in certain external circumstances and that, consequently, no certainty that such a scheme would

142. Plantanol GmbH & Co. KG v. Hauptzollamt Darmstadt, Case C-201/08, [2009] E.C.R. I-08343, ¶ 62.

143. *Id.* ¶¶ 20–30.

144. *Id.* ¶ 61.

145. *See generally* Council Directive 2003/30/EC on the Promotion of the Use of Biofuels or Other Renewable Fuels for Transport, 2003 O.J. L 123/42 [hereinafter Council Directive on the Promotion of the Use of Biofuels], *invalidated by* Council Directive 2009/28/EC of the European Parliament and of the Council on the Promotion of the Use of Energy from Renewable Sources and Amending and Subsequently Repealing Directives 2001/77/EC and 2003/30/EC 2009, O.J. L 140/16 [hereinafter Renewable Energy Sources Directive].

146. Restructuring the Community Framework Directive, *supra* note 141, at 52.

147. *See id.* art. 16(3), at 57.

> be maintained for a given period could be based on those rules.[148]

Although the *Plantanol* case provides interesting guidance on the application of the principle of legitimate expectations to the withdrawal of support for low-carbon investments, its relevance for claims under investment arbitration must be considered with care. The threshold for violations of the principle of legal certainty and legitimate expectations under EU law can be considered to be higher than the threshold for breaches of fair and equitable treatment under international investment law. Market players have only rarely succeeded in convincing the Court of Justice that their expectations were eviscerated.[149] This can be explained by the fact that the court often seems to require an explicit guarantee in the legislation that measures would be maintained unchanged.[150] In contrast, arbitral tribunals, with the notorious exceptions of the awards in *Parkerings*[151] and *AES*,[152] usually do not require explicit stabilization guarantees to recognize the legitimacy of investors' expectations.[153] As mentioned before, legitimate expectations are protected under the fair and equitable treatment standard where states act to induce investments, and the resulting arrangements constitute crucial elements in reliance of which investors base their business case.[154]

Moreover, according to the *Tecmed* tribunal: "The investor also expects the State to use the legal instruments that govern the actions of the investor or the investment in conformity with the function usually assigned to such instruments."[155] The "function usually assigned" to support schemes for renewable

148. Plantanol GmbH & Co. KG v. Hauptzollamt Darmstadt, Case C-201/08, [2009] E.C.R. I-08343, ¶ 62.

149. TAKIS TRIDIMAS, THE GENERAL PRINCIPLES OF EU LAW 268 (2d ed. 2006).

150. *See, e.g.*, Vereniging voor Energie v. Directeur van de Dienst uitvoering en toezicht energie, Case C-17/03, [2005] E.C.R. I-04983, ¶ 78.

151. *Parkerings*, *supra* note 123, ¶¶ 334–36.

152. *See* AES Summit Generation Ltd. & AES-Tisza Erömü Kft. v. Republic of Hung., ICSID Case No. ARB/07/22, Award, ¶¶ 9.3.25–.26 (Sept. 23, 2010), 50 I.L.M. 186 (2011) [hereinafter *AES*]; *see also* Total, S.A. v. Arg. Republic, ICSID Case No. ARB/04/1, Decision on Liability, ¶¶ 310–12 (Dec. 27, 2010), http://iatlaw.com/documents/TotalvArgentina_DecisiononLiability.pdf [hereinafter *Total*].

153. *AES*, *supra* note 152, ¶ 9.3.25.

154. *See generally Sempra*, *surpa* note 125.

155. *Técnicas Medioambientales Tecmed*, *supra* note 97, ¶ 154.

energy and to JI schemes is to stimulate low-carbon investments by ensuring their financial viability.[156] Substantial changes to these schemes that would make it impossible for the concerned installations to recover their investment costs and earn a reasonable profit would thus be incompatible with the fundamental function of these support instruments.[157] Such changes should therefore, in most cases, be considered as an interference with investor expectations.

Wemaere and Streck argue that, as states seek to maintain regulatory discretion over the GHG emission credits they create, it appears necessary to protect investors against the "arbitrary confiscation or discounting of these rights."[158] They further state that "in the context of the implementation of JI projects, project participants may legitimately expect to receive an amount of ERUs corresponding to the verified emission reductions they generated" by their investment.[159] By the same token, renewable energy investors can reasonably expect to benefit from the support scheme to which they were entitled at the moment of investing, for the period of time initially promised.[160] National regulations may, to a certain extent, limit these expectations.[161] These regulations cannot, however, be interpreted so as to totally nullify the rights of the investors that made their business decisions relying on the implementation of support schemes.[162] Waiver clauses, especially when formulated in broad and vague terms,[163] do not affect investors' expectations to such an extent as to allow their total destruction.[164]

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156. IEA, *supra* note 2, at 293.

157. *See also Total*, *supra* note 152, ¶ 313.

158. *See* Wemaere & Streck, *supra* note 79, at 53; *see also* Boute, *supra* note 79, at 113.

159. Boute, *supra* note 79, at 113; *see* Streck, *supra* note 25, at 118–19.

160. *See* Boute, *supra* note 79, at 127; *see also* DE JAGER & RATHMANN, *supra* note 44, at 15–32, 119; DEUTSCHE BANK CLIMATE CHANGE ADVISORS, *supra* note 133, at 11–12.

161. Boute, *supra* note 79, at 113; *see* Werksman, *supra* note 139, at 689–90; *see also* Restructuring the Community Framework Directive, *supra* note 141, art. 16, at 57.

162. Boute, *supra* note 79, at 113.

163. In Russia, for instance, O Porjadke Utverzhdenija I Proverki Hoda Realizacii Proektov, Osushhestvljaemyh v Sootvetstkvii so Stat'ej 6 Kiotskogo Protokola k Ramochnoj Konvencii OON ob Izmenenii Kliamata [Decree No. 332, Government of the Russian Federation, On the Procedure of Adopting and Monitoring the Development of Projects Implemented Under Article 6 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change], 24(e) SOBRANIE

D. *National Treatment and Nondiscrimination*

National treatment requires host states not to treat foreign investors less favorably than national investors who are in a comparable situation, unless such difference in treatment is reasonably justified by public interest objectives.[165] The prohibition of discriminatory measures is not limited to discrimination on the basis of nationality, but applies to all types of difference in treatment.[166] Could public interference with the right of foreign investors to benefit from support schemes for renewable energy or with their right to GHG emission credits constitute an unjustified difference in treatment? This question was at the heart of the *Nykomb v. Latvia* case.[167]

Nykomb claimed that Latvia had violated the national treatment standard in the Energy Charter Treaty by refusing to honor a promise of support for low-carbon electricity production on the basis of which he made his investment.[168] The tribunal accepted Nykomb's discrimination claim and ordered Latvia to compensate his losses.[169] Indeed, the tribunal observed that the administrator of the support scheme continued to support low-carbon installations operated by domestic investors, while refusing this payment to a foreign investor, Nykomb, operating in comparable conditions.[170]

ZAKONODATEL'STVA ROSSIISKOI FEDERATSII [SZ RF] [Russian Federation Collection of Legislation] 2007, No. 23, Item 2797, *invalidated by* O Merah po Realizacii Stat'ej 6 Kiotskogo Protokola k Ramochnoj Konvencii OON ob Izmenenii Kliamata [Decree No. 843, Government of the Russian Federation, On the Measures of Implementing the Article 6 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change] SOBRANIE ZAKONODATEL'STVA ROSSIISKOI FEDERATSII [SZ RF] [Russian Federation Collection of Legislation] 2009, No. 44, Item 5240, granted the Russian Government almost unlimited discretion to withdraw support for projects even after they were approved as eligible for such support. *See* ANNA KORPPOO & ARILD MOE, RUSSIAN JI PROCEDURES: MORE PROBLEMS THAN SOLUTIONS? 6 (2007), *available at* http://www.climatestrategies.org/reportfiles/russian_ji_procedures.pdf.

164. Boute, *supra* note 79, at 112.

165. *See* DOLZER & SCHREUER, *supra* note 10, at 179; Andrea K. Bjorklund, *National Treatment*, *in* STANDARDS OF INVESTMENT PROTECTION 27, 29 (August Reinisch ed., 2008).

166. *See* DOLZER & SCHREUER, *supra* note 10, at 176.

167. *See generally* Nykomb Synergetics Tech. Holding AB v. Republic of Lat., SCC Case No. 118/2001, Award (Stockholm Chamber of Commerce 2003) [hereinafter *Nykomb*].

168. *See id.* ¶ 1.1.

169. *See id.* ¶ 4.3.2.

170. *See id.*

The outcome of the *Nykomb* case is of considerable importance for low-carbon investors. It illustrates the potential protection that investment arbitration might offer against illegitimate interference by the state with the financial and regulatory basis of investments. Indeed, the *Nykomb* case is about "bringing modern environmentally friendly and energy efficient . . . technology into an [obsolete] electricity industry."[171] It concerns a "green investor" that "finds his investment based on a commitment to pay a double tariff undermined because it is much cheaper for the state electricity monopoly to purchase imported electricity produced without any internalization of external costs."[172] The *Nykomb* award demonstrates that IIAs "create rights for investors against a host government for changing incentives and subsidies committed to a foreign investor . . . [IIAs] enable[] a host state to make a credible and internationally enforceable promise about investment incentives and guarantees with respect to [low-carbon] energy investment."[173]

However, the protection of low-carbon investors under the national treatment standard suffers from one important limitation: states may not always change or withdraw support by targeting international investors, but may introduce measures that affect the support for all low-carbon investors, including national investors.[174] In case of a general refusal to observe commitments of support, foreign investors could not rely on the national treatment standard by arguing that this measure "targeted Claimants' investments specifically as foreign investments."[175]

E. *Umbrella Clauses*

Contractual relations are central to support schemes for renewable energy and domestic schemes for the implementation

171. Wälde & Hobér, *supra* note 136, at 102–03.

172. *Id.*

173. Sussman, *supra* note 9, at 402.

174. *See* Boute, *supra* note 14, at 362.

175. LG&E Energy Corp. v. Arg. Republic, ICSID Case No. ARB/02/1, Decision on Liability, ¶ 147 (Oct. 3, 2006), 46 I.L.M. 36 (2006) [hereinafter *LG&E Energy Corp.*]; *see* Noble Ventures, Inc. v. Romania, ICSID Case No. ARB/01/11, Award, ¶ 180 (Oct. 12, 2005), http://italaw.com/documents/Noble.pdf [hereinafter *Noble Ventures*].

of the project-based mechanisms of the Kyoto Protocol. As mentioned above, these contracts concern the certification of renewable energy installations and their eligibility to benefit from support schemes. For JI and CDM projects, contractual relations concern the approval of projects by the host state (e.g. Letters of Approval). Contracts also govern the issuance and transfer of GHG emission rights.

Umbrella clauses, also known as sanctity of contracts clauses, in IIAs aim to guarantee by treaty the respect by the host state for the specific obligations it enters into with investors (the *pacta sunt servanda* principle).[176] Could low-carbon investors successfully invoke these clauses against breaches by the state of the contractual obligations made to facilitate the implementation of their investments? Arbitral tribunals and commentators are divided on the scope of umbrella clauses. These divisions reflect on the potential protection that these clauses might offer to low-carbon investors.

The most contentious issue relates to the nature of the obligations covered by these clauses.[177] Some tribunals have adopted a broad interpretation by considering that all contractual obligations are protected by umbrella clauses.[178] Others have refused to accord a broad scope to these clauses by introducing a distinction between the "state as a sovereign" (*acta jure imperii*) and the "state as a merchant" (*acta jure gestionis*).[179] On the basis of this distinction, tribunals have declined to grant

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176. *See* DOLZER & SCHREUER, *supra* note 10, at 153; MCLACHLAN, SHORE & WEINIGER, *supra* note 76, at 92; Katia Yannaca-Small, *Interpretation of the Umbrella Clause in Investment Agreements* 3 (Org. for Econ. Cooperation & Dev., Working Papers on Int'l Inv. No. 2006/3).

177. *See* Thomas Wälde, *Contract Claims Under the Energy Charter Treaty's Umbrella Clause: Original Intentions Versus Emerging Jurisprudence*, *in* INVESTMENT ARBITRATION AND THE ENERGY CHARTER TREATY 205 (Clarisse Ribeiro ed., 2006); Eric Teynier, *Umbrella Clauses: Le Temps se Couvre*, GAZETTE DU PALAIS LES CAHIERS DE L'ARBITRAGE 38 (2006/3).

178. *See, e.g.*, *Noble Ventures*, *supra* note 175, ¶ 51; *Eureko*, *supra* note 88, ¶¶ 246–48.

179. *See, e.g.*, El Paso Energy Int'l Co. v. Arg. Republic, ICSID Case No. ARB/03/15, Decision on Jursidiction, ¶¶ 77–86 (Apr. 27, 2006), http://italaw.com/documents/elpaso-jurisdiction27april2006.pdf [hereinafter *El Paso*]; Pan American Energy LLC v. Arg. Republic, ICSID Case No. ARB/03/13 & BP America Production Co. v. Arg. Republic, ICSID Case No. ARB/04/8, Decision on Preliminary Objections, ¶ 108 (July 27, 2006), http://italaw.com/documents/PanAmericanBPJurisdiction-eng.pdf [hereinafter *Pan American Energy*].

protection to an "ordinary commercial contract entered into by the State."[180] These tribunals have therefore limited the scope of umbrella clauses to additional investment protections contractually agreed by the state in an investment agreement.[181]

The promotion of renewable energy and the reduction of GHG emissions are objectives of public policy.[182] The contracts that states sign with investors to stimulate this kind of investment are framed to pursue objectives of public interest.[183] Arguably, Letters of Approval of JI and CDM projects—where states authorize the implementation of these GHG emission reduction projects—involve the "state as a sovereign" rather than "the state as a merchant."[184] Letters of Approval relate more to investment agreements than to ordinary commercial contracts.[185] For JI projects, the host state takes the commitment to issue and transfer the ERUs to the investor's account.[186] A refusal by the state to transfer ERUs as agreed in a Letter of Approval or in other agreements made with the investors could thus amount to a breach of an umbrella clause.

A second point of debate concerns the application of the rules of attribution to umbrella clauses. In accordance with the rules of attribution, acts of separate entities are only attributable to the state if it is shown that these entities exercise "*puissance publique* (governmental authority) or acted on the instructions of, or under the direction or control of, the State in carrying out the conduct."[187] Is there a violation of the applicable IIA if a legal entity separate from the central state has breached a contractual obligation it had entered into with an investor?[188]

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180. *El Paso*, *supra* note 179, ¶ 81.

181. *See id.*; *see also Pan American Energy*, *supra* note 179, ¶ 109.

182. *See, e.g.*, Renewable Energy Sources Directive, *supra* note 145.

183. *See* ASSOCIATION OF ISSUING BODIES, *supra* note 81, at 8. Agreements for the certification of renewable energy, for instance, pursue the public policy objective of renewable energy development by improving confidence in the green certificates mechanism and by ensuring the uniqueness of the certificates. *Id.*

184. *But see* Ratliff, *supra* note 35, at 390–91 (arguing that unilateral acts may be viewed as *acta jure gestionis*).

185. Streck, *supra* note 25, at 118–19.

186. *See id.*

187. LLC Amto v. Ukraine, SCC Case No. 080/2005, Final Award, ¶ 102 (Stockhold Chamber of Commerce 2008), http://italaw.com/documents/AmtoAward.pdf.

188. *See* Anthony Sinclair, *Bridging the Contract/Treaty Divide*, *in* INTERNATIONAL INVESTMENT LAW FOR THE 21ST CENTURY: ESSAYS IN HONOUR OF CHRISTOPH SCHREUER

Some arbitral tribunals have been reluctant to apply the international rules of attribution to investment agreements.[189] Other tribunals, such as the one in *Noble Ventures v. Romania*, have accepted that contractual breaches by a separate public entity can be attributed to the host state.[190]

Support schemes for renewable energy are often administrated by entities that are separate from the state. In the EU, for instance, Member States tend to charge independent entities (e.g. network operators) with the administration of support schemes in order to avoid qualification as state aid.[191] Attribution to the state of contractual breaches by these separate entities will eventually depend on the influence that the central government exercised on the decision to breach the contract.

The attribution issue is more straightforward as it applies to JI projects.[192] Indeed, although separate entities from the state, such as the Accredited Independent Entities, are involved in the approval of JI projects and in the monitoring of emissions, the main decisions are taken by the Focal Point and this is generally part of the state apparatus (often the Ministry of Energy or the Ministry of Environment).[193] It is the Focal Point that will decide on the conversion of the national AAUs to ERUs.[194] It is also the

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92, 101–02 (Christina Binder et al. eds., 2009); *see also* DOLZER & SCHREUER, *supra* note 10, at 161–62.

189. *See, e.g.*, Compañía de Aguas del Aconquija, S.A. v. Arg. Republic, ICSID Case No. ARB/97/3, Decision on Annulment, ¶ 96 (July 3, 2002), http://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=showDoc&docId=DC552_En&caseId=C159; *see also* Azurix Corp. v. Republic of Arg., ICSID Case No. ARB/01/12, Award, ¶ 384 (July 14, 2006), http://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=showDoc&docId=DC507_En&caseId=C5 [hereinafter *Azurix*]; Impregilo S.p.A v. Islamic Republic of Pak., ICSID Case No. ARB/03/3, Decision on Jurisdiction, ¶¶ 210–14 (Apr. 22, 2005), 12 ICSID Rep. 245.

190. *See Noble Ventures*, *supra* note 175, ¶¶ 68–86.

191. According to the European Court of Justice, "only advantages granted directly or indirectly through State resources are to be considered aid." PreussenElektra AG v. Schhleswag AG, Case C-379/98, [2001] E.C.R. I-2099, ¶ 58.

192. *See* Baetens, *supra* note 63, at 688.

193. Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol on Its First Session, Nov. 28–Dec. 10, 2005, Report of the Conference: Addendum, U.N. Doc. FCCC/KP/CMP/2005/8/Add.2, Dec. 9/CMP.1, Annex D, ¶ 20(a) (Mar. 30, 2006).

194. *See* Streck, *supra* note 25, at 118.

Focal Point that will decide on the transfer of the ERUs to the account of the project participants.[195]

A third issue is whether the scope of umbrella clauses is limited to investor–state contracts or if it extends to other investment-related promises made by the host state.[196] Many arbitral tribunals accept a broad interpretation of the type of "obligations" covered by umbrella clauses.[197] A broad interpretation will include commitments or promises made unilaterally by host states in their domestic legislation as being within the scope of umbrella clauses.[198] However, not all legal obligations resulting from the domestic regulatory framework are protected under umbrella clauses.[199] Arbitral tribunals generally require that the obligations "must have been assumed vis-à-vis the specific investment—not as a matter of the application of some legal obligation of a general character."[200]

Promises of support are investor specific. They are made vis-à-vis investors in renewable energy sources or, in the context of JI projects, vis-à-vis investors in eligible GHG emission reduction projects.[201] It is therefore arguable that violations of legally established commitments to support renewable energy or to issue ERUs to approved JI projects could amount to a breach of umbrella clauses.

F. *Justification of Interference by Objectives of Public Policy?*

The protection of an investor's rights under international arbitration is not absolute. Arbitral practice generally

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195. *Id.*

196. *See* Stephan Schill, *Enabling Private Ordering: Function, Scope and Effect of Umbrella Clauses in International Investment Treaties*, 18 MINN. J. INTL L. 1, 84–93 (2009); *see also* María Cristina Gritón Salias, *Do Umbrella Clauses Apply to Unilateral Undertakings?*, *in* INTERNATIONAL INVESTMENT LAW FOR THE 21ST CENTURY: ESSAYS IN HONOUR OF CHRISTOPH SCHREUER, *supra* note 188, at 490, 490–91.

197. *See* Schill, *supra* note 196, at 90.

198. *See id.*

199. *See id.*

200. Société Générale de Surveillance, S.A. v. Republic of the Phil., ICSID Case No. ARB/02/6, Objections to Jurisdiction, ¶ 121 (Jan. 29, 2004), 8 ICSID Rep. 518 (2005); *see* Continental Casualty Co. v. Arg. Republic, ICSID Case No. ARB/03/9, Award, ¶ 300 (Sept. 5, 2008), http://italaw.com/documents/ContinentalCasualtyAward.pdf [hereinafter *Continental Casualty Co.*]; *LG&E Energy Corp.*, *supra* note 175, ¶ 174; *Noble Ventures*, *supra* note 175, ¶ 51.

201. *See* Streck, *supra* note 25, at 118–21.

acknowledges a host state's sovereign right to regulate.[202] Could host states successfully argue that the withdrawal or substantial modification of support for low-carbon investments is reasonably justified by objectives of public policy?

States could legitimately argue that they must have the right to adapt the level and duration of support to avoid overcompensating low-carbon investments.[203] Overcompensation could occur following increases in the price of electricity or following the internalization of the carbon externality on the basis of a potential post-2012 international agreement on climate change.[204]

However, states could also decide to withdraw or modify support schemes to reduce public debt or to decrease energy prices for consumers in advance of upcoming elections. This would have the effect of imposing the financial burden of climate policies on private investors. Under investment arbitration, could such short-term policy (or populist) objectives justify interference with low-carbon investors' rights and expectations?

Assessing an investor's claim under the fair and equitable treatment standard, the *Saluka* tribunal considered that:

> No investor may reasonably expect that the circumstances prevailing at the time the investment is made remain totally unchanged. In order to determine whether frustration of the foreign investor's expectations was justified and reasonable, the host State's legitimate right subsequently to regulate domestic matters in the public interest must be taken into consideration as well.[205]

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202. *AES*, *supra* note 152, ¶ 9.3.29; Saluka Invs. BV v. Czech, Partial Award, ¶ 305 (UNCITRAL Arb. Trib. 2006), 15 ICSID Rep. 274 (2010) [hereinafter *Saluka*]; *Continental Casualty Co.*, *supra* note 200, at ¶ 258.

203. For an analysis of this issue in light of the principle of the protection of legitimate expectations under EU law, see Plantanol GmbH & Co. KG v Hauptzollamt Darmstadt, Case C-201/08, [2009] E.C.R. I-08343, ¶¶ 53–68.

204. *See, e.g.*, Restructuring the Community Framework Directive, *supra* note 141, art. 16(3), at 57 (referring to overcompensation following changes in raw material prices).

205. *Saluka*, *supra* note 202, ¶ 305; *see Continental Casualty Co.*, *supra* note 200, ¶ 258; M.C.I. Power Group L.C. v. Republic of Ecuador, ICSID Case No. ARB/03/6, Award, ¶ 278 (July 31, 2007), http://italaw.com/documents/MCIEcuador_000.pdf.

In determining a breach of the fair and equitable treatment standard a tribunal is therefore required to weigh the investors' legitimate and reasonable expectations against the legitimate regulatory interests of the host state.

This balancing[206] or proportionality[207] test is unlikely to affect the conclusion that substantial interference with the commitments that states have made to attract low-carbon investment violates the fair and equitable treatment standard. Indeed, an assessment of alleged breaches of the fair and equitable treatment standard will be more stringent where the regulatory change affects specific conditions that the host state offered to investors and where these conditions were determinant for the investment decision.[208] In the words of the *CMS* tribunal:

> It is not a question of whether the legal framework might need to be frozen as it can always evolve and be adapted to changing circumstances, but neither is it a question of whether the framework can be dispensed with altogether when specific commitments to the contrary have been made.[209]

Arbitral tribunals also pay attention to public policy objectives in the assessment of alleged violations of the nondiscrimination standard. In *Pope & Talbot, Inc. v. Canada*, for instance, the tribunal highlighted, in the context of the comparison of foreign and domestic investors, that "[d]ifferences in treatment will presumptively violate [the national treatment obligation], unless they have a reasonable nexus to rational government policies."[210] Differences in treatment are thus justifiable if they pursue a public interest objective.

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206. Elizabeth Snodgrass, *Protecting Investors' Legitimate Expectations: Recognizing and Delimiting a General Principle*, 21 ICSID REV.-FOREIGN INVS. L.J. 1, 45–49 (2006).

207. Yannaca-Small, *supra* note 122, at 126–29.

208. *See CMS Gas Transmission*, *supra* note 105, ¶¶ 274–75.

209. *Id.* ¶ 277.

210. Pope & Talbot, Inc. v. Canada, Award on the Merits of Phase 2, ¶¶ 78–79 (NAFTA Arb. 2002), http://www.naftaclaims.com/Disputes/Canada/Pope/PopeFinal MeritsAward.pdf; *see* S.D. Myers, Inc. v. Canada, Partial Award, ¶¶ 248, 250 (NAFTA/UNCITRAL Arb. 2000), http://italaw.com/documents/SDMeyers-1stPartial Award.pdf.

In *Nykomb v. Latvia*, the tribunal decided that the host state had failed to justify on the basis of public policy why it refused to pay the promised support to the foreign investor, whilst continuing to support national investors.[211] It appears extremely difficult for states to justify the necessity and proportionality of a change to a support scheme that would only affect foreign investors.[212] However, states could more easily justify general changes that equally affect domestic and foreign investors. The public policy reasons that states could invoke are broad. According to the recent award in *AES*, even purely political actions taken to please the electorate in the context of upcoming elections could qualify as reasonable objectives.[213] Based on current arbitral practice, states could thus refer to budgetary difficulties or consumer protection to legitimize the general withdrawal of support schemes under the non-discrimination standard.

A more controversial issue is to what extent host states' right to regulate in the public interest (states' "police powers") must be taken into account in the assessment of regulatory measures under the expropriation standard.[214] On the one hand, according to the "sole effect" doctrine, which is followed in certain awards, the effect of governmental action on the investment is the preponderant and sole factor in assessing whether there has been an expropriation.[215] On the other hand, many tribunals recognize a host state's "police powers," and take them into account to justify the impact of these measures on foreign investments.[216] According to the *Tecmed* tribunal: "There must be a reasonable relationship of proportionality between the charge or weight imposed to the foreign investor and the

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211. *Nykomb*, *supra* note 167, ¶ 4.3.2.

212. *See id.*

213. *AES*, *supra* note 152, ¶ 10.3.22.

214. *See* Fortier & Drymer, *supra* note 96, at 317.

215. Metalclad Corp. v. United Mex. States, ICSID Case No. ARB(AF)/97/1, Award, ¶ 103 (Aug. 30, 2000), 5 ICSID Rep. 212 (2002); *Compañía de Aguas del Aconquija*, *supra* note 77, ¶ 177; *Azurix*, *supra* note 189, ¶ 310.

216. *See Saluka*, *supra* note 202, ¶ 255; Methanex Corp. v. United States, Final Award, pt. IV, ch. D ¶ 7 (NAFTA Arb. 2005), http://www.state.gov/documents/organization/51052.pdf; *Técnicas Medioambientales Tecmed*, *supra* note 97, ¶ 122; *LG&E Energy Corp.*, *supra* note 175, ¶ 189; *see also* Walid Ben Hamida, *La Prise en Compte de L'intérêt Général et Des Impératifs de Développement dans le Droit des Investissements*, 135 J. DU DROIT INT'L 999, 999 (2008).

aim sought to be realized by any expropriatory measure."[217] In the application of the proportionality test, arbitral tribunals take into account investors' legitimate expectations[218] and the degree of deprivation imposed on investors' rights. Measures that completely and permanently annihilate investors' expectations and the economic value of their investment will rarely meet the proportionality and reasonability criterion.[219] According to Thomas Waelde and Abba Kolo: "In the extreme case of complete and indefinite destruction of the economic value of property by otherwise fully legitimate regulation, and if individuals are required by regulation to make a special sacrifice in terms of their proprietary rights for the benefit of the society at large, compensation is . . . owed."[220]

As mentioned above, the creation of specific rights and expectations is central to support schemes for low-carbon investments. Withdrawing support could lead to the destruction of low-carbon investors' rights and expectations to benefit from support. It could place most financial costs of renewable energy and GHG emission reduction policies on the private sector. If arbitral tribunals would agree to assess support schemes individually under the expropriation standard, it is arguable that the destruction of investors' rights of support would fail the proportionality test and would therefore amount to an illegal expropriation.

G. *Preliminary Assessment*

Existing investment standards have, in theory, the potential to adequately protect investors in low-carbon projects against a state's refusal to honor the promises of support that they have made to attract projects. In accordance with a certain arbitral practice, withdrawal of support could be qualified as "partial expropriation" of an investor's regulatory and contractual

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217. *Técnicas Medioambientales Tecmed*, supra note 97, ¶ 122; *see LG&E Energy Corp.*, *supra* note 175, ¶ 195; *Azurix*, *supra* note 189, ¶ 311.

218. *See* Snodgrass, *supra* note 206, at 1; *see also* Stephen Fietta, *Expropriation and the "Fair and Equitable" Standard: The Developing Role of Investors' "Expectations" in International Investment Arbitration*, 23 J. INT'L ARB. 375, 376 (2006).

219. Thomas Waelde & Abba Kolo, *Environmental Regulation, Investment Protection and 'Regulatory Taking' in International Law*, 50 INT'L & COMP. L.Q. 811, 846 (2001).

220. *Id.*

right(s) to receive the additional revenues that are necessary to enable the financial viability of their investments. Substantial changes to support schemes could amount to a violation of the fair and equitable treatment standard by frustrating an investor's legitimate expectation to benefit from support. Attempts by states to impose the major costs of climate policies on foreign investors could be considered to be discriminatory. Moreover, umbrella clauses could provide additional guarantees against breaches of contractual or regulatory commitments made to facilitate low-carbon investments. If the impact on investors' rights and expectations is sufficiently serious, states could hardly justify reneging on their promises of support by advancing public policy objectives, such as budgetary constraints or short-term economic harm.

Arbitral tribunals have, however, followed diverging interpretations of the existing investment standards.[221] This divergence results firstly from different formulations of investment standards in the IIAs applicable to the dispute. It also can be explained by the importance of the specific circumstances in each case.[222] More importantly, investment arbitration does not know a doctrine of precedent.[223] In accordance with Article 53(1) of the ICSID Convention, an award is binding on the parties.[224] Future arbitral tribunals can interpret the applicable IIA differently and apply it to the specific facts of the case according to their own appreciation.[225] The result is a "trend of diverging—and sometimes conflicting—awards," as well as a "lack of coherence, consistency and predictability."[226] Low-carbon investors thus have no

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221. *See* U.N. Conference on Trade and Dev., *Latest Developments in Investor-State Dispute Settlement: IIA Issues Note No. 1*, U.N. Doc. UNCTAD/WEB/DIAE/IA/2010/3, at 12 (2010) [hereinafter IIA Issues Note No. 1].

222. On the importance of the circumstances of the case at hand, see DOLZER & SCHREUER, *supra* note 10, at 128, and Fortier & Drymer, *supra* note 96, at 306.

223. The absence of a doctrine of precedent has been repeatedly confirmed by arbitral tribunals. For the relevant awards, see Christoph Schreuer, *Diversity and Harmonization of Treaty Interpretation in Investment Arbitration*, 3 TRANSNAT'L. DISP. MGMT. 1, 10–15 (2006), *available at* www.univie.ac.at/intlaw/pdf/cspubl_85.pdf.

224. Convention on the Settlement of Investment Disputes Between States and Nationals of Other States, *supra* note 64, art. 53(1).

225. *See id.*

226. IIA Issues Note No. 1, *supra* note 221, at 12; *see World Investment Report 2010*, *supra* note 137, at 137.

certainty that arbitral tribunals will follow an interpretative approach that will adequately protect them against public interference with the financial and regulatory basis of their investments. The limits of the protection offered by existing IIAs raise the question of the necessity to create a specific investment regime for low-carbon investments.

III. *AN INVESTMENT REGIME FOR CLIMATE INVESTMENTS*

Analysts have identified a negative correlation between a state's potential for GHG emission reductions and the quality of their investment climate.[227] In a comparative study on the attractiveness of different countries as hosts for JI projects, Samuel Fankhauser and Lucia Lavric consider that:

> JI investors will face a clear trade-off between the scope for cheap JI on the one hand and the quality of JI institutions and the business environment on the other. The countries with the highest potential for cheap emission reductions also tend to be the countries with the most difficult investment climate.[228]

This negative correlation can be explained by the fact that investment instability and unpredictability would deter the inflow of capital and the transfer of technology necessary to modernize and thus reduce the carbon intensity of the economy. In contrast, countries with a stable investment environment would attract private investments to contribute towards the modernization and improved energy efficiency of the state's economy.[229] There are less so-called "low-hanging

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227. *See* Samuel Fankhauser & Lucia Lavric, *The Investment Climate for Climate Investment: Joint Implementation in Transition Countries* (Eur. Bank for Reconstr. & Dev., Working Paper No. 77, 2003), *available at* http://www.ebrd.com/downloads/research/economics/workingpapers/wp0077.pdf; *see also* Maria Garbuzova & Reinhard Madlener, *Towards an Efficient and Low-Carbon Economy Post-2012: Opportunities and Barriers for Foreign Companies in the Russian Market* 2 (Inst. for Future Energy Consumer Needs & Behavior, Working Paper No. 3, 2011), *available at* http://www.eonerc.rwth-aachen.de/global/show_document.asp?id=aaaaaaaaaacggaz ("Unstable legal and economic conditions in different markets impede the realization of long-term energy efficiency and carbon mitigation projects.").

228. Fankhauser & Lavric, *supra* note 227, at 26.

229. *See* Fankhauser & Lavric, *supra* note 227, at 22 (arguing that "the countries with the worst investment climate will have attracted the lowest amount of (foreign or domestic) investment. Such investments generally increase resource efficiency and

fruits" in terms of energy efficiency improvements and GHG emission reductions in these stable economies.[230]

Kati Kulovesi, arguing along the same line, highlights the positive effect that a stable and secure investment climate has on the attractiveness of a country from an investor's perspective for the implementation of the project-based mechanisms of the Kyoto Protocol.[231] Kulovesi considers that "[CDM and JI] projects tend to concentrate on the most advanced developed countries with conducive and secure investment environments."[232] These findings are supported by Sonja Peterson's analysis, who determined that "[h]ost countries of CDM and JI projects are to date often those countries that also receive a significant proportion of total FDI flows."[233]

To improve the general investment climate for low-carbon investments, analysts have proposed the integration of investment protection rules in a post-2012 international agreement on climate change.[234] Just like the Energy Charter Treaty, which aims to stimulate investments in the energy field by providing investment protection guarantees to private investors,[235] the Kyoto Protocol could encompass an investment regime that would protect low-carbon investments against noncommercial risks.[236] The International Institute for

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upgrade the capital stock: actions that usually lead to a reduction in greenhouse gas emissions").

230. *See id.*

231. *See* Kulovesi, *supra* note 19, at 150.

232. *Id.*

233. Sonja Peterson, *Greenhouse Gas Mitigation in Developing Countries Through Technology Transfer?: A Survey of Empirical Evidence*, 13 MITIGATION & ADAPTATION STRATEGIES FOR GLOBAL CHANGE 283, 300 (2008).

234. *See Rethinking Climate Change as a Sustainable Investment Regime,* INT'L INST. FOR SUSTAINABLE DEV., http://www.iisd.org/investment/research/crosscutting.aspx (last visited Nov. 10, 2011) [hereinafter *Rethinking Climate Change*]; *see also* Baetens, *supra* note 63, at 714; Anatole Boute, *Combating Climate Change and Securing Electricity Supply: The Role of Investment Protection Law,* 16 EUR. ENVTL. L. REV. 227, 248 (2007); Harro Van Asselt et al., *Advancing the Climate Agenda: Exploiting Material and Institutional Linkages to Develop a Menu of Policy Options,* 14 REV. EC & INT'L ENVTL. L. 255, 262 (2005).

235. *See* ENERGY CHARTER SECRETARIAT, *supra* note 11, at 14. *See generally* Andrew Seck, *Investing in the Former Soviet Union's Oil Industry: The Energy Charter Treaty and Its Implications for Mitigating Political Risk*, *in* THE ENERGY CHARTER TREATY: AN EAST-WEST GATEWAY FOR INVESTMENT AND TRADE 110 (Thomas W. Wälde ed., 1996).

236. *See Rethinking Climate Change, supra* note 234.

Sustainable Development ("IISD"), for instance, defended the view that:

> The Kyoto Protocol . . . is an obvious candidate for the addition of investment rules designed to promote sustainable energy investment. IISD can foresee the climate change regime evolving, at least in part, into an investment regime, aimed at stimulating investment in technology renewal and industrial transformation with a view to reducing greenhouse gas emissions.[237]

There are, however, nonnegligible barriers to the transformation of the Kyoto Protocol into a multilateral investment treaty. International climate negotiators are already confronted with the complex task of agreeing on the basic elements of a post-2012 regime, such as GHG emission cuts, monitoring procedures, and new financing mechanisms.[238] According to Edna Sussman, "[a] suggestion that these negotiators also address is the issue of how to craft an acceptable multi-lateral investment treaty that is simply not practical."[239] Instead, Sussman argues that:

> [T]he ECT presents a readymade investment protection treaty already ratified by over fifty nations. It is this treaty that the developing nations should be urged to adopt as an important contribution on their part to arresting climate change, in the absence of GHG emission reduction caps binding on them.[240]

It is true that many states characterized as having "low-hanging fruits" in terms of GHG emission reductions are not contracting parties to the Energy Charter Treaty. Russia, for instance, has an enormous potential for GHG emission reductions[241] and presents considerable opportunities for the

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237. *Id.*

238. *See* Sussman, *supra* note 9, at 402–03.

239. *Id.*

240. *Id.*

241. INTERNATIONAL FINANCE CORPORATION & THE WORLD BANK GROUP, ENERGY EFFICIENCY IN RUSSIA: UNTAPPED RESERVES 68 (2008), *available at* http://www.ifc.org/ifcext/rsefp.nsf/AttachmentsByTitle/FINAL_EE_report_Engl.pdf/$FILE/Final_EE_report_engl.pdf [hereinafter ENERGY EFFICIENCY IN RUSSIA].

development of renewable energy sources.[242] It signed the Energy Charter Treaty, but refused to ratify it.[243] Future climate change mitigation and renewable energy investments in Russia, therefore, are not protected under the Energy Charter Treaty. In line with Sussman's argument, there can be no doubt that Russia's ratification of the Energy Charter Treaty or a similar multilateral energy treaty would considerably improve the investment climate for low-carbon projects.

However, as Russia's reluctance to endorse the Energy Charter Treaty illustrates, this treaty has proved to be particularly sensitive for energy-producing countries. Given relatively cheap access to energy resources, energy producers are often characterized by an energy and carbon intensity.[244] These countries have an enormous potential for energy savings and GHG emission reductions. Advocating the adoption of the Energy Charter Treaty as a solution to the investment instability that affects low-carbon projects will therefore face resistance from some of the most relevant hosts of these projects.

More importantly, the Energy Charter Treaty and existing IIAs in general do not provide low-carbon investors with a clear and certain guarantee of protection against the risks of interference by the state with the financial and regulatory basis of their investments. As analyzed above, existing investment protection standards theoretically could shield low-carbon investors from regulatory changes or ex post public interventions that represent a real threat to the financial viability of their investments. However, given diverging interpretations amongst the arbitral tribunals, there can be no absolute guarantee that the conditions underpinning climate change mitigation investments will be honored.

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242. *See generally* INTERNATIONAL ENERGY AGENCY, RENEWABLES IN RUSSIA: FROM OPPORTUNITY TO REALITY (2003), *available at* http://www.iea.org/Textbase/npsum/renew_in_russiaSUM.pdf.

243. *See* Rasporjazhenie Pravitel'stva Rossijskoj Federacii ot 30 Ijulja 2009 g. N 1055-r [Decree No. 1055-r, Government of the Russian Federation, Decision on the Energy Charter], SOBRANIE ZAKONODATEL'STVA ROSSIISKOI FEDERATSII [SZ RF] [Russian Federation Collection of Legislation] 2009, No. 32, Item 4053.

244. Russia illustrates the fact that many energy producers often tend to be energy and carbon intensive. *See* ENERGY EFFICIENCY IN RUSSIA, *supra* note 241, at 68; *see also* Jonathan Stern, *The Russian Gas Balance to 2015: Difficult Years Ahead*, *in* RUSSIAN AND CIS GAS MARKETS AND THEIR IMPACT ON EUROPE 54, 75 (Simon Pirani ed., 2009).

Accordingly, there appears to be a need to assure low-carbon investors that arbitral tribunals will apply investment standards in a way that offers adequate protection against the specific risks that may affect their investments. The United Nations Conference on Trade and Development's 2010 World Investment Report on Investing in a Low-Carbon Economy recommends: "Policy makers could devise IIA language that strengthens the role of IIAs in helping attract low-carbon foreign investment and encouraging the diffusion of relevant technology."[245] This could be done by fine-tuning the existing IIAs, for instance by means of common interpretative statements, or by integrating a specific low-carbon investment regime in a future international agreement on climate change.

The creation of such a specific low-carbon investment regime will not require the negotiators to develop new investment disciplines. To improve the stability of the investment climate for low-carbon projects, it would suffice to crystallize the interpretation applied by certain arbitral tribunals on existing investment standards that already provide considerable protection against the risks that characterize climate policies. This could be done in the following ways:

First, a low-carbon investment regime should officially endorse the qualification created by the *Eureko* tribunal of specific rights as "investments" that can be individually protected under international investment law. Given that under current market conditions the financial viability of low-carbon investments depends on public support, the right to receive this support constitutes "a key element of the investment, without which it appears that there would have been no investment at all."[246] This right has "some economic value."[247] It should therefore be entitled to individual investment protection. Substantial modifications to, or even withdrawal of, the support

245. *World Investment Report 2010*, *supra* note 137, at 137; *see* ENERGY CHARTER SECRETARIAT, ROAD MAP FOR THE MODERNIZATION OF THE ENERGY CHARTER PROCESS 7 (2010), *available at* http://www.encharter.org/fileadmin/user_upload/document/Road_Map_ENG.pdf; Daniel M. Firger, *The Coming Harmonization of Climate Change Policy and International Investment Law*, COLUM. FDI PERSPECTIVES, No. 37 (2011), *available at* http://www.vcc.columbia.edu/files/vale/print/Firger_May_9_2011_FINAL.pdf.

246. *Eureko*, *supra* note 88, ¶ 145.

247. *Id.*

that existed at the moment of investment should amount to measures tantamount to expropriation. Some support mechanisms, such as feed-in tariffs for renewable energy, might not be capable of "independent economic exploitation" because of the impossibility to sell these support mechanisms independently from the underlying electricity transaction.[248] This could jeopardize the qualification of these rights as an individual investment and make it more difficult to rule that interference with this right constitutes an indirect expropriation. For this reason, the right to benefit from support for renewable energy and GHG emission reduction projects should be explicitly included in the definition of "investments" in IIAs. This definition could specify that low-carbon investments benefit from individual protection under the treaty, independently from the impact on the overall investment. The "unbundling" of property rights[249] should be officially endorsed for low-carbon investments that base their business case on public support.

Second, a specific low-carbon investment regime should adopt the interpretation of the fair and equitable treatment standard outlined by the *Tecmed* tribunal. This interpretation states that host states must "use the legal instruments that govern the actions of the investor or the investment in conformity with the function usually assigned to such instruments."[250] Building further on this approach, the fair and equitable treatment standard should guarantee to investors that host states will apply the mechanisms that they developed to induce investments in conformity with the ordinary use of these mechanisms. Ex post interference with support mechanisms, which prevent companies that invested in reliance on them from recovering their costs, contradicts the "function usually assigned to" these support mechanisms.

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248. *See* COMMISSION OF THE EUROPEAN COMMUNITIES, COMMUNICATION FROM THE COMMISSION, SEC(2008) 57, THE SUPPORT OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES: ACCOMPANYING DOCUMENT TO THE PROPOSAL FOR A DIRECTIVE ON THE PROMOTION OF THE USE OF ENERGY FROM RENEWABLE SOURCES 5 (2008).

249. SORNARAJAH, *supra* note 91, at 371–72.

250. *Técnicas Medioambientales Tecmed*, *supra* note 97, ¶ 154.

Third, in line with the arbitral award in *Noble Ventures*,[251] the scope of umbrella clauses in a low-carbon investment regime should not be limited to contracts concluded by the central state, but should include undertakings made by separate public entities. Similarly, violations of the fair and equitable treatment standard by separate agencies should be attributable to the host state. Such a clarification of the application of the rules of attribution does not mean that the state would have to assume liability for every breach of "commercial" obligations by these separate entities. It would, however, ensure that, when regulatory tasks are delegated to separate entities, a violation by these entities of their obligations entails a violation of the investment treaty. Such a guarantee is particularly relevant in the context of the administration of support schemes for renewable energy. As illustrated by the European experience, states tend to delegate important regulatory tasks to separate entities in order to avoid the qualification of support schemes as state aid. By virtue of this delegation and of the nature of the delegated tasks, it can be said that these entities exercise sovereign competences. A violation of the undertakings taken on the basis of these competences should be attributable to the state.

IV. *THE CLIMATE LAW—INVESTMENT LAW SYNERGY*

The central importance of private investors to national and international climate change mitigation efforts necessitates the integration of their basic concerns in the regulatory initiatives developed to tackle climate change. The lack of internalization of the carbon externality is not the only obstacle to the development of low-carbon investments. The regulatory risks in the mechanisms that states create to internalize the carbon externality are as relevant to private investors. An efficient regulatory approach to climate change mitigation therefore must reflect and address investors' concerns about regulatory stability and predictability.[252]

Providing guarantees of regulatory stability and predictability is controversial because it involves a limitation of

251. *See Noble Ventures*, *supra* note 175, ¶¶ 68–86.

252. STERN, *supra* note 6, at 19.

states' regulatory space. This limitation, by definition, is "a necessary corollary to the objective of creating an investment-friendly climate."[253] If states want to increase the credibility of their political commitments, they must accept being bound by them in the future.[254]

By signing and ratifying IIAs, states have recognized that regulatory stability and predictability influence investment decisions. They have accepted binding external constraints to attract foreign capital and technology. However, the limitation of states' regulatory space is also one of the most contentious issues in the international investment law discipline. The literature repeatedly has stressed how binding investment obligations could affect a state's regulatory space and policy liberty. Regarding climate change mitigation, commentators have warned that foreign investors in energy intensive installations could invoke investment protection standards against the implementation of national and international GHG emission reduction policies. They have criticized the effect of "regulatory chill" that investment arbitration would represent for states that intend to impose emission reductions, and have proposed ways to avoid investment arbitration clashing with climate policies.

The focus on the potential constraining effect of investment arbitration has taken attention away from the potential positive contribution that investment law could make to combat climate change. Analyses on the interaction between investment law and climate change mitigation have been limited by a vision of foreign investors as polluters that aim to take advantage of, and even abuse, basic "rule of law" guarantees. Obsessed with the popular "mythology of 'green communities' opposed by 'greedy and environmentally lax' investors,"[255] analysts have largely ignored the fact that private capital and technology are indispensable to reorient the world economy towards more climate-friendly patterns.

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253. DOLZER & SCHREUER, *supra* note 10, at 9.

254. Michael Grubb & David Newbery, *Pricing Carbon for Electricity Generation: National and International Dimensions*, *in* DELIVERING A LOW-CARBON ELECTRICITY SYSTEM: TECHNOLOGIES, ECONOMICS AND POLICY, *supra* note 135, at 278, 300.

255. Wälde & Hobér, *supra* note 136, at 103.

Investment arbitration, as an "externally supported committed device,"[256] has the potential to neutralize the risks that characterize low-carbon investments. It provides the conceptual tools that are necessary to complement the existing income-based approach with a risk-based approach. By doing so, it can reinforce the credibility, and thus effectiveness, of national and international climate policies.

Climate law and investment law are complementary and mutually reinforcing. Both disciplines aim to promote investments by adopting a different approach. The fundamental objective of both is to attract private capital, especially of foreign origin, and to stimulate the transfer of technology to developing countries and economies in transition. To achieve this objective, climate law creates incentives to enable the financial viability of low-carbon investments. Investment law, on the other hand, aims to promote investment by protecting it against noncommercial risk.

The complementary character of climate and investment law is not limited to the fact that they both aim to promote investment. It also results from the comparable principles that have been developed under climate and investment law to attain this objective.

The principles of climate law and investment law are complementary first because of the central role of investors' expectations in these two fields of law. Under climate law, support schemes for the promotion of low-carbon investments aim to attract investors on the basis of promises of support. States thus create expectations in reliance of which low-carbon investors commit capital and transfer technology. The international investment law principle of fair and equitable treatment, on the other hand, is directed at protecting foreign investors against eviscerations by states of the expectations they have created to attract investors. Climate law thus creates expectations, while investment law protects them.

Second, the principles of climate law and investment law are complementary in the creation and protection of property

256. Emma Aisbett, Bilateral Investment Treaties and Foreign Direct Investment: Correlation Versus Causation 5 (Mar. 15, 2007) (unpublished manuscript) (on file with Munich University Library, Munich Personal RePEc Archive), *available at* http://mpra.ub.uni-muenchen.de/2255/1/MPRA_paper_2255.pdf.

rights. On the one hand, support schemes for low-carbon investments entitle investors to additional financial revenues. These schemes create contractual and regulatory rights for investors to benefit from support during a certain period of time. On the other hand, the expropriation standard under international investment law protects investors against measures that destroy the economic value of investments, including contractual and regulatory rights.

Third, both climate law and investment law recognize contractual relations between the state and investors as the foundation of investment decisions. Under climate law, contractual rights are created to facilitate the investment process. Under investment law, contractual rights are protected against state interference in order to guarantee the stability of investment conditions.

Climate law and investment law are thus based on comparable principles that they approach from different perspectives. Climate law follows an income-based approach, while investment law adopts a risk-based focus. Climate law creates rights and expectations, while investment law aims to protect them. The creation and protection of investors' expectations and rights can be seen as the logical corollary of the general objective of investment promotion that these two fields of law pursue. By providing a conceptual alternative to the current unilateral income-based approach in climate law, investment law has the potential to make a significant contribution to the national and international efforts at combating climate change.

IIAs, however, are not environmental treaties.[257] They are part of the context of globalization and economic liberalization, and are thus not directly designed to stimulate low-carbon investments.[258] According to Thomas Wälde, most existing IIAs

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257. Peter Cameron considers, for instance, that "[t]he ECT is . . . almost explicitly not an environmental treaty and contains only a short provision on the subject in Article 19 and a separate protocol on energy efficiency." PETER D. CAMERON, INTERNATIONAL ENERGY INVESTMENT LAW: THE PURSUIT OF STABILITY 203 (2010).

258. As an exception, the Bilateral Investment Treaty between Japan and Switzerland explicitly refers to the promotion of energy efficiency and climate change mitigation in its preamble. *See World Investment Report 2010*, *supra* note 137, at 137.

focus on "traditional political risk."[259] They do not explicitly aim to address the specific risks that characterize low-carbon projects.

The *Nykomb* case has highlighted the potential relief that investment law might offer to a low-carbon investor who is confronted with a regulatory change affecting the financial basis of his project. It is, however, not sufficiently representative to support the general conclusion that investment standards in existing IIAs, as interpreted in the current arbitral practice, provide adequate protection against the risks that can affect low-carbon investments. *In casu* the violation of investment law was particularly blatant. The host state withdrew the support scheme for the foreign investor, while it continued to support domestic players. Low-carbon investors might yet face much subtler state interference with the public support commitments that underpin their investment decisions. The protection that existing IIAs might offer in these cases is less evident. While the interpretation of investment standards, by some arbitral tribunals, could force states to honor their promises of support, other less favorable approaches cannot be excluded. In the absence of a doctrine of precedent, investment arbitration provides no certainty to low-carbon investors that the financial and regulatory basis of their investment will be respected.

However, it is precisely this certainty that is needed to facilitate the transition to a low-carbon economy. Existing interpretations that provide adequate protection to low-carbon investments therefore should be officially endorsed in IIAs, or be integrated in a specific investment regime for low-carbon investments.

CONCLUSION

Investment arbitration has the potential to considerably limit the instability that currently affects the implementation of climate change mitigation policies. By limiting regulatory risks—and thus risk premiums—for low-carbon investments, investment protection law can reduce the costs of the international GHG emission reduction efforts. The contribution

259. Thomas Wälde, *Treaties and Regulatory Risk in Infrastructure Investment*, 34 J. WORLD TRADE 1, 14 (2000).

of investment arbitration to the improved regulatory certainty of low-carbon investments will, however, depend on the certainty of the arbitral process itself. The ongoing negotiations on the conclusion of a post-2012 international agreement on climate change provide a unique opportunity to address these investors' concerns and create a special investment regime for low-carbon investments.