

THE LEGAL ARCHITECTURE OF JOINT IMPLEMENTATION: WHAT DO WE LEARN FROM THE PILOT PHASE?

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INTRODUCTION

Adopted on May 9, 1992 and entered into force on March 21, 1994, the United Nations Framework Convention on Climate Change (FCCC)¹ allows some of its parties to use a mechanism of Joint Implementation (JI).² Under FCCC Article 4(2)(a), each of the Annex I Parties—namely, members of the Organization for Economic Cooperation and Development (OECD) and countries in transition—may implement national policies and measures on the mitigation of climate change *jointly* with other parties.³ JI allows for an extraterritorialization of the implementation of a country's commitments to reduce greenhouse gas (GHG) emissions. The mechanism's purpose is to achieve emission reductions in the most cost-effective way by taking into account differences in the marginal abatement cost between countries.⁴ The FCCC itself provides that “policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.”⁵

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¹ United Nations Conference on Environment and Development: Framework Convention on Climate Change, May 9, 1992, 31 I.L.M. 849 [hereinafter FCCC].

² See generally Daniel M. Bodansky, *The Emerging Climate Change Regime*, 20 ANN. REV. ENERGY & ENV'T 425 (1995); Philippe Sands, *The United Nations Framework Convention on Climate Change*, 1 REV. EUR. COMMUNITY & INT'L ENVTL. L. 270 (1992).

³ See FCCC, *supra* note 1, art. 4(2)(a), 31 I.L.M. at 856.

⁴ See Roebym Heintz, *Joint Implementation in Discussion*, in JOINT IMPLEMENTATION TO CURB CLIMATE CHANGE 181 (Onno Kuik et al. eds., 1994).

⁵ FCCC, *supra* note 1, art. 3(3), 31 I.L.M. at 854.

This Article explores the legal issues arising from the implementation of JI.⁶ After a brief comment on regulatory problems relating to climate change, Part I will examine the precedents in U.S. domestic law and look at occurrences of JI in other international instruments. Part II will explore the regime of JI in three steps. First, it will discuss the specificities of project-based JI, as opposed to quota-based JI, and see whether the FCCC itself provides for a first criterion on JI. Second, it shall elaborate on the criteria for “Activities Implemented Jointly” (AIJ) as adopted in 1995 at the first Conference of the Parties (COP 1) in Berlin. Third, it will show what steps were taken with respect to JI in 1997 at the third Conference of the Parties (COP 3) in Kyoto. Part III will analyze the legal practice under the Pilot Phase. JI presents many unresolved legal difficulties, especially with regard to agreements involving both state and non-state actors. Finally, Part IV will discuss two issues that may develop after the Pilot Phase: the problem of baselines and the need to provide domestic incentives for non-state actors.

To set up the context for this discussion, it must be stressed that the particular features of GHGs influence the acceptability of different regulatory tools. Emissions of GHGs, such as carbon dioxide or methane, result from a wide range of economic activities and therefore require the application of regulatory measures across a variety of domains.⁷ Chlorofluorocarbons (CFCs) (a cause of ozone depletion) and sulfur dioxide (a cause of acid rain),⁸ on the other hand, are largely produced by a limited number of companies and can thus be targeted more easily by emissions controls. Like CFCs but unlike sulfur dioxide, the spatial repartition of the abatement of carbon dioxide emissions

⁶ For related accounts, see Karin Arts et al., *Legal and Institutional Aspects, in JOINT IMPLEMENTATION TO CURB CLIMATE CHANGE*, *supra* note 4, at 3; Richard J. Blaustein, *Joint-Implementation Essentials for Lawyers*, 26 ENVTL. L. REP. (Envtl. Law Inst.) 10,364 (1996); Richard King, *The Law and Practice of Joint Implementation*, 6 REV. EUR. COMMUNITY & INT'L ENVTL. L. 62 (1997); Farhana Yamin, *The Use of Joint Implementation to Increase Compliance with the Climate Change Convention*, in IMPROVING COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL LAW 229 (James Cameron et al. eds., 1996).

⁷ See Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, Annex A, 37 I.L.M. 22, 42 [hereinafter Kyoto Protocol].

⁸ In Europe, over 70% of the sulfur emissions come from power stations. See Robin Mason, *Joint Implementation and the Second Sulfur Protocol*, 4 REV. EUR. COMMUNITY & INT'L ENVTL. L. 296, 300-01 (1995).

does not influence their environmental impact. In principle, a concentration of sources does not entail any increase in local or global damage because carbon dioxide is a *uniformly mixed pollutant*.⁹ In contrast, the amount of damage caused by sulfur dioxide depends on the location of sources (since contributory factors, such as wind direction, vary from one place to another) as well as on the assimilative capacity of the receiving sites.¹⁰ In other words, unlike the acid rain context, the location of the carbon dioxide emissions or reductions will not affect the level of global damage. Hence, while the varied nature of the problem's *sources* makes the regulator's job more difficult (and the need for cost-effective regulation more acute), the absence of influence of the emissions' location on their *effects* makes some trading restrictions (such as those aimed at preventing "hot spots") unnecessary if JI mechanisms are to be used.

The range of appropriate regulatory mechanisms also depends on the FCCC Parties' willingness to agree on two major issues: (1) the definition of an acceptable global level of GHG emissions and (2) the allocation of individual quantified commitments for each of the FCCC Parties. The former is a matter of intergenerational justice, whereas the latter is a concern of international justice. There is a link between whether an agreement is reached on commitments and the type of JI possible. A state-to-state, quota-based form of JI will only be possible in a "closed"

⁹ For an explanation of uniform mixing, see Roebym J. Heintz & Richard S.J. Tol, *Joint Implementation and Uniform Mixing*, 23 ENERGY POL'Y 911, 914-15 (1995) ("[C]O₂ mixes uniformly in the atmosphere, [i.e.,] a tonne of carbon emitted at place A influences the climate in the same way as a tonne of carbon emitted at place B, for all A and B."). On the claim that CO₂ is uniformly mixed, Heintz and Tol argue that while CO₂ mixes uniformly, there are regionally distinct impacts of (non-) reductions in the short run caused by aerosol effects associated with the combustion of fossil fuels. *See id.* at 914-15. Hence, reducing fossil fuel use would cause the local temperature to first go up locally, since more solar energy would reach the earth's surface (aerosol effect), and then go down after a couple of decades due to lower CO₂ emissions (greenhouse effect). Similarly, afforestation may cause temporary local warming, since forests are generally darker than other surface cover and hence have a relatively lower albedo, while reducing temperature in the long term by sequestering CO₂. Such cases of "temporary local warming" may give support, in some circumstances, to the "export of sacrifices" argument. *See infra* Part II.

¹⁰ This capacity has been operationalized through the concept of "critical sulfur deposition." Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulfur Emissions, June 14, 1994, art. 1(10), 33 I.L.M. 1540, 1542 [hereinafter SSP] (Second Sulfur Protocol).

context, where the Parties have set a global limit for GHG emissions and all of the Parties have committed themselves to emissions limits.¹¹

No agreement has been reached so far with regard to the definition of a cap (i.e., the level of aggregate reduction to be achieved) or to the criteria to be used in allocating emission rights (or abatement obligations) between the Parties. It remains to be decided whether the allocation should be based on historical levels of emissions, on population per capita, on a combination of the two, or on any other criterion.¹² While the use of JI does not in itself imply any particular answer to these questions of intergenerational and international justice, JI is not irrelevant from an equity point of view. Achieving an end at a lower cost generates surplus revenues that can be used to modify this end (e.g., by enabling agreements on stricter targets) and/or to achieve other ends (e.g., by increasing existing levels of Official Development Assistance (ODA)). Therefore, on the one hand, there is a link between the existence of commitments on *all* sides and the possibility of a quota-based JI. On the other hand, the cost reduction that could be achieved through JI may lead to the acceptability of a more stringent global cap.

Finally, with regard to the allocation issue, the Parties have overcome initial ambiguities to settle upon more concrete commitments. Under FCCC Article 4(2)(b), the scope of Annex I Parties' commitments is uncertain.¹³ While the FCCC is clearly a legally binding instrument, the article is drafted in such a way

¹¹ For an elaboration on the terms "closed" and "open" in the JI context, see Navroz K. Dubash, *Commoditizing Carbon: Social and Environmental Implications of Joint Implementation*, in *JOINT IMPLEMENTATION OF CLIMATE CHANGE COMMITMENTS* 56 (Prodipto Gosh & Jyotsna Puri eds., 1994); Yamin, *supra* note 6, at 231.

¹² See Prodipto Ghosh, *Structuring the Equity Issue in Climate Change*, in *THE CLIMATE CHANGE AGENDA: AN INDIAN PERSPECTIVE* 267 (Amrita N. Achanta ed., 1993); Michael Grubb, *Seeking Fair Weather: Ethics and the International Debate on Climate Change*, 71 *INT'L AFF.* 463 (1995); *Five AIJ Projects Endorsed by India*, *JOINT IMPLEMENTATION Q.*, Apr. 1998, at 2, 2-3 ("[Under the] convergence principle . . . developing countries can increase their emissions as part of their economic developmental need, and the industrialized countries bring down their emissions. Eventually, the two paths can converge at a sustainable level of equal per capita emissions as determined by the IPCC.").

¹³ See, e.g., Jacob Werksman & Farhana Yamin, *Carrying Forward the Berlin Mandate: Protocol Negotiations and Activities Implemented Jointly* 24 (FIELD Working Paper, 1995) (on file with author); Bodansky, *supra* note 2, at 436-37; Sands, *supra* note 2, at 274.

that it is not clear whether there would even be an obligation on Parties to *act* (as opposed to achieving a specific result) “with the aim of returning individually *or jointly* to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol”¹⁴ by the year 2000. The subsequently-drafted Kyoto Protocol, however, contains more precise substantive obligations. It states:

The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.¹⁵

This means that the EU countries, for instance, will have to reduce their emissions by eight percent compared to the emissions of the base year 1990.

I

PRECEDENTS

This Part will examine precedents of JI *lato sensu* in U.S. domestic law, as well as two quota-based JI regimes at the international level. Even though there have been similar developments in areas such as fisheries,¹⁶ water effluents,¹⁷ and lead in gasoline,¹⁸ the following discussion will focus exclusively on emission reductions.

¹⁴ FCCC, *supra* note 1, art. 4(2)(b), 31 I.L.M. at 857 (emphasis added).

¹⁵ Kyoto Protocol, *supra* note 7, art. 3(1), 37 I.L.M. at 33.

¹⁶ In some countries (e.g., The Netherlands, New Zealand, and Iceland), there are Individual Transferable Quota (ITQ) regimes at the domestic level. One advantage of ITQs is that they eliminate the problem of the diversion of fishing effort into a race for fish at the beginning of the season as arises in an open-access Total Allowable Catch (TAC) context. *See, e.g.*, Peter H. Pearce, *From Open Access to Private Property: Recent Innovations in Fishing Rights as Instruments of Fisheries Policy*, 23 OCEAN DEV. & INT’L L. 71, 77 (1992). *See generally* PROPERTY RIGHTS IN FISHING (W.P. Davidse ed., 1997).

¹⁷ *See, e.g.*, Robert W. Hahn & Gordon L. Hester, *Marketable Permits: Lessons for Theory and Practice*, 16 ECOLOGY L.Q. 361, 391 (1989).

¹⁸ *See id.* at 380-91.

A. Tradable Permits in the U.S.

Since 1974, emissions trading mechanisms have been put into practice in the U.S. in order to allow firms to more flexibly meet the requirements of the Clean Air Act.¹⁹ Under the four existing types of regimes, namely “netting,” “offsets,” “bubbles,” and “banking,” emissions credits (i.e., the difference between permitted and actual emissions) may be traded or, in a banking regime, retained for future use.²⁰ The regimes differ in terms of type of sources involved (existing/new/modified), form of trade (internal/external), and class of area concerned (attainment/non-attainment area).²¹ While emissions trading has achieved considerable cost savings, especially through netting, it has had insignificant effects in terms of environmental quality.²² Most of the savings have been achieved through internal trading between sources in the same plant or firm, which involves lower transaction costs than external trading.²³ This may be contrasted, however, with the allowance trading of ozone-depleting chemicals in the U.S., where, between 1989 and 1995, there have been 561 inter-company trades (representing 321,085 tons traded) and only 156 intra-company trades (representing 65,071 tons traded).²⁴

A recent example of a tradable permits system is the Allowance Trading Program (ATP). The ATP was introduced in 1990 by Title IV of the Clean Air Act Amendments in order to deal cost-effectively with the problem of acid rain.²⁵ An allowance is an authorization to emit one ton of SO₂ during or after a specified year. Under the ATP, power plants operated by electric utilities are permitted to trade allowances of sulfur dioxide

¹⁹ 42 U.S.C. §§ 7401-7671q (1994).

²⁰ See Hahn & Hester, *supra* note 17, at 368.

²¹ See *id.* at 368-73.

²² See *id.* at 374-76.

²³ See *id.* at 376-80; cf. Scott Atkinson & Tom Tietenberg, *Market Failure in Incentive-Based Regulation: The Case of Emissions Trading*, 21 J. ENVTL. ECON. & MGMT. 17, 28 (1991) (explaining the high proportion of internal to external trades as driven by differences in the internal and external trading processes, the latter being characterized by lateral, sequential trades).

²⁴ See E-mail from Tom Land, Stratospheric Protection Division, U.S. Environmental Protection Agency, to Axel Gosseries, Junior Research Fellow, Belgian National Fund for Scientific Research (Dec. 8, 1997) (on file with author).

²⁵ See 42 U.S.C. § 7651 (1994); see also Jeanne M. Dennis, *Smoke For Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990*, 40 UCLA L. REV. 1101, 1111-17 (1993); Larry B. Parker et al., *Clean Air Act Allowance Trading*, 21 ENVTL. L. 2021 (1991).

emissions, and “[t]hose utilities that have incremental control costs (dollars per ton of SO₂ removed) that are less than the price at which they could sell allowances have an incentive to over-control.”²⁶

A two-phased approach has been adopted with the aim of achieving an emissions reduction of ten million tons of sulfur dioxide from 1980 levels. Since January 1, 1995, 110 electric facilities greater than 100 megawatts (MW) and emitting at a rate greater than 2.5 pounds of SO₂ per million British Thermal Units (Btu) have been allocated allowances. This adds up to an annual aggregate amount of 3.5 million tons of sulfur dioxide emissions.²⁷ After January 1, 2000 (Phase II), more utility units (approximately 2000) will become subject to emission limitation or reduction requirements, since the threshold defining “affected units” will be lowered in terms of capacity (75 instead of 100 MW) and emission rate (1.2 instead of 2.5 lbs/MBtu).²⁸ Allowances will then be allocated (and are, in fact, already being anticipatively auctioned) in such a way that total emissions of sulfur dioxide from utilities will not exceed 8.9 million tons.²⁹

Although sulfur dioxide is a non-uniformly mixed pollutant, there are no federal trading rules, that is, there are neither case-by-case advance approval procedures nor general admissibility conditions.³⁰ Classical command-and-control rules such as National Ambient Air Quality Standards or States Implementation Plans do remain applicable, however.³¹ Additionally, some states (under state law) require prior approval by the public utility commission.

The ATP can already be seen as a success.³² Since the first auction on March 29, 1993, the average value of the allowances

²⁶ Parker et al., *supra* note 25, at 2043.

²⁷ See 42 U.S.C. § 7651c(a).

²⁸ See *id.* § 7651d(a).

²⁹ See *id.* § 7651b(a).

³⁰ See Ger Klaassen, *Trade-Offs in Sulfur Emission Trading in Europe*, 5 ENVTL. & RESOURCES ECON. 191, 192 (1995); Mason, *supra* note 8, at 300.

³¹ See 42 U.S.C. § 7651b(f); Norman W. Fichthorn, *Command-and-Control vs. The Market: The Potential Effects of Other Clean Air Act Requirements on Acid Rain Compliance*, 21 ENVTL. L. 2069 (1991).

³² Clearly, a comparison with the costs of an otherwise command-and-control strategy is difficult. See A. DENNY ELLERMAN ET AL., EMISSIONS TRADING UNDER THE U.S. ACID RAIN PROGRAM 8, 54-63 (1997) (“Our rough estimate of the cost savings attributable to emissions trading in 1995 lies between \$225 and \$375 million, in current dollars, which implies that the cost of compliance with Title IV would have been one-third to one-half again as costly had electric

has been far below projections³³ and emitters have exceeded compliance requirements in the aggregate.³⁴ However, an unexpected factor played a crucial part in the ATP's success: railroad deregulation in the 1980s made Western low-sulfur coal from the Powder River Basin (PRB) competitive in the Midwest, which allowed for significant reductions prior to the beginning of Phase I in 1995.³⁵ The switch to PRB coals became possible as soon as long-term supply contracts signed in the 1970s and early 1980s had expired.³⁶ In 1995, reductions in SO₂ emissions were achieved both by retrofitting equipment (e.g., installing "scrubbers") to de-sulfurize flue gas (45%) and by switching to local lower-sulfur coal (55%),³⁷ the latter option being a less costly option on average.³⁸ Interestingly enough, in 1996 there was an unexpected 6% increase over 1995 emissions from affected units. It was cheaper for some units to buy more allowances, given their low price, and then to switch back to less expensive higher-sulfur coal.³⁹

Still, although tradable permits systems have been successful in many respects in the U.S., the international context can present features that are not appropriately handled by such economic

utilities simply reduced emissions without taking advantage of the emissions-trading provisions."); John Palmisano, *Establishing a Market in Emissions Credits: A Business Perspective*, 2 INST. ECON. AFF. ENV'T BRIEFING 24 (1996) (reporting a figure of about \$4.5 billion a year saved from the U.S. Government Accounting Office).

³³ See ELLERMAN ET AL., *supra* note 32, at 7, 24-37, 48-53; Brian McLean, *Remarks, Fifth Annual SO₂ Allowance Auctions (Mar. 26, 1997)* (visited Nov. 12, 1998) <<http://www.epa.gov/acidrain/auctions/auc97tlk.html>> ("Not only are emissions reductions greater than expected, but compliance costs are now expected to be half that originally expected."); Palmisano, *supra* note 32, at 22; U.S. ENVTL. PROTECTION AGENCY, *Monthly Average Price of Sulfur Dioxide Allowances Under the Acid Rain Program* (last modified Oct. 1998) <<http://www.epa.gov/acidrain/ats/prices.html>>.

³⁴ See ELLERMAN ET AL., *supra* note 32, at 14-15 ("The aggregate cap required that SO₂ emissions from Phase I-affected units be no greater than 8.7 million tons in 1995. In fact, emissions from those units that year totaled 5.3 million tons, or 40%, less than the aggregate limit.").

³⁵ See *id.* at 5, 20-23.

³⁶ See *id.* at 17.

³⁷ See *id.* at 20 tbl.2.

³⁸ See *id.* at 5-6, 38-47. "[R]etrofitted scrubbers achieved emissions reductions in 1995 at an average cost of \$265/ton SO₂ compared to \$153/ton for fuel switching." *Id.* at 6.

³⁹ A. DENNY ELLERMAN ET AL., 1996 UPDATE ON COMPLIANCE AND EMISSIONS TRADING UNDER THE U.S. ACID RAIN PROGRAM 10-16 (1997).

instruments. Transaction costs may prove higher⁴⁰ and uncertainties about the permits' value may be more prevalent. Regional differences in abatement costs may not be significant enough to counterbalance these drawbacks.⁴¹

B. *JI Mechanisms in International Agreements*

1. *Transfers of Production in the Ozone Regime*

In the Ozone regime, under the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer,⁴² as amended in 1990 in London,⁴³ two provisions contain JI mechanisms:

[Art. 2(5):] Any Party may, for any one or more control periods, *transfer to another Party any portion of its calculated levels of production* set out in Articles 2A to 2E, provided that the total combined calculated levels of production of the Parties concerned for any group of controlled substances do not exceed the production limits set out in those Articles for that group. Such transfer of production shall be notified to the Secretariat by each of the Parties concerned, stating the terms of such transfer and the period for which it is to apply.⁴⁴

[Art. 2(8)(a):] Any Parties which are Member States of a regional economic integration organisation . . . may agree that they shall *jointly* fulfill their obligations respecting consumption [of controlled substances] under this Article provided that

⁴⁰ For a discussion of transaction costs and JI, see DANIEL DUDEK & JONATHAN B. WIENER, JOINT IMPLEMENTATION, TRANSACTION COSTS, AND CLIMATE CHANGE 1 (OECD GEEPI paper ENV/EPOC/GEEI, 1996); Anne Arquit Niederberger, Activities Implemented Jointly: Review of Issues for the Pilot Phase 11-12 (July 1996) (on file with author); Martin J. Ossewaarde, *Transaction Costs Between Benefit and Burden*, JOINT IMPLEMENTATION Q., Sept. 1996, at 10, 10-11.

⁴¹ Moreover, these differences in abatement costs may be unexpected. For instance, in the European context, costs of CO₂ control seem to be lower in Germany, the United Kingdom, and Denmark than in Greece, Portugal, and Spain. See David Pearce, *Joint Implementation: A General Overview*, in THE FEASIBILITY OF JOINT IMPLEMENTATION 15, 25-26 (Catrinus J. Jepma ed., 1995).

⁴² Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541 (entered into force Jan. 1, 1989) [hereinafter Montreal Protocol].

⁴³ Montreal Protocol Parties: Adjustments and Amendments to the Montreal Protocol on Substances That Deplete the Ozone Layer, June 29, 1990, 30 I.L.M. 537.

⁴⁴ *Id.* art. 2(5), 30 I.L.M. at 537 (emphasis added).

their total combined calculated level of consumption does not exceed the levels required by this Article.⁴⁵

Article 2(5) allows for a trade in calculated levels of production between any of the Parties, while Article 2(8)(a) provides the possibility for a regional economic integration organization to modify the allocation of consumption levels between its members, so long as it continues to comply with aggregate level requirements. In both cases, “calculated levels” clearly work as quotas.

While there has not yet been any practice under Article 2(8)(a),⁴⁶ there has been activity under Article 2(5). Some of the Article 2(5) transfers of production have been notified⁴⁷ to the UNEP Ozone Secretariat: from the U.S. to Canada (7,000 tons of CFCs in 1991 and 45 tons of methyl chloroform in 1994), from the U.S. to the U.K. (1,281.4 tons of CFCs and 3,000 tons of methyl chloroform in 1994), from the U.S. to Japan (2,100 tons of CFCs in 1994), from the U.S. to France (2,200 tons of CFCs in 1994), from Canada to the U.S. (4,000 tons of CFCs and methyl chloroform in 1993 and approximately 4,800 tons of CFCs in 1994 and 1995), and from France to Spain (18,662 tons of CFCs in 1994).⁴⁸ These transfers of production typically correspond to transfers between two plants of the same multinational company. For instance, in 1993, Dow Chemicals Canada Inc. ended its production of methyl chloroform in Canada and transferred the corresponding amount to Dow (U.S.A.). The market was declining, and it was less costly for Dow “to boost U.S. production and ship

⁴⁵ *Id.* art. 2(8)(a), 30 I.L.M. at 542 (emphasis added).

⁴⁶ See Council Regulation 594/91 of 4 March 1991 on Substances That Deplete the Ozone Layer, 1991 O.J. (L 67) 1, 1. This regulation does not flow from the possibility offered by Article 2(8)(a), but simply from the fact that, in the case of mixed agreements such as the Montreal Protocol, the Community may act as any other party in its area of competence. In fact, whereas JI under Article 2(8)(a) of the Protocol merely applies to consumption, Regulation EEC/594/91 also deals with production. See *id.* art. 10, 1991 O.J. (L 67) at 3. Moreover, no specific reference is made to Article 2(8)(a) in the Regulation’s preamble. See *id.* pmbl., 1991 O.J. (L 67) at 1.

⁴⁷ Notification to the Secretariat is required no later than the time of the transfer. See Montreal Protocol, *supra* note 42, art. 2(7), 26 I.L.M. at 1553. However, notification has sometimes taken place years later. For instance, no Canadian notification can be found before that given on April 26, 1995, which covers transfers of production from 1991 to 1995.

⁴⁸ See E-mail from Michael Graber, Deputy Executive Secretary, United Nations Environment Programme, to Axel Gosseries, Junior Research Fellow, Belgian National Fund for Scientific Research (Dec. 4, 1997) (on file with author).

the chemical back to Canada (through a trade) than to run two under-capacity plants.”⁴⁹ Looking more specifically at the U.S., until the phase-outs on January 1, 1996 resulting from the 1992 Copenhagen Adjustments to the Montreal Protocol,⁵⁰ there had been a total of twenty international trades in the four years spanning 1992 to 1995.⁵¹ This represented 36,017 tons of Class I ozone-depleting substances.⁵² After the phase-outs, limited production is still allowed for export to Article 5 countries.⁵³ In this context, 2,359 tons of CFC-11 and 3,538 tons of CFC-12 have been transferred under the production transfer regime in 1996, 1997, and 1998 from the U.S. to the Netherlands.⁵⁴

2. *JI in the Acid Rain Regime*

In the context of the 1979 Convention on Long-Range Transboundary Air Pollution, the 1994 Second Sulfur Protocol (SSP) provides:

The Parties . . . may, at the session of the Executive Body, in accordance with rules and conditions which the Executive Body shall elaborate and adopt, decide whether two or more Parties may *jointly implement* the obligations set out in Annex II. These rules and conditions shall ensure the fulfillment of the obligations set out in paragraph 2 . . . and also promote the achievement of the environmental objectives set out in paragraph 1 above.⁵⁵

Interestingly, Article 2(7) of the SSP provides for the *approval* of JI agreements by the Parties, whereas transfers of portions of production levels under Articles 2(5) and 2(7) of the Montreal

⁴⁹ David Lee, *Trading Pollution, in OZONE PROTECTION IN THE UNITED STATES* 31, 34 (Elizabeth Cook ed., 1996).

⁵⁰ United Nations: Montreal Protocol on Substances That Deplete the Ozone Layer—Adjustments and Amendment, Nov. 23-25, 1992, arts. 2A(4), 2B(2), 2C(3), 2D(2), 2E(3), 32 I.L.M. 874, 875-78 [hereinafter Copenhagen Adjustments] (adjusting the phaseout date for CFCs, fully halogenated CFCs other than Halon, Carbon Tetrachloride, and Methyl Chloroform to January 1, 1998 and for Halons to January 1, 1994).

⁵¹ See Lee, *supra* note 49, at 35.

⁵² See E-mail from Tom Land to Axel Gosseries, *supra* note 24; see also Lee, *supra* note 49, at 35. In U.S. law, International Transfers fall under Clean Air Act, Title VI, Section 616. See 42 U.S.C. §7671o (1994). Class I substances under U.S. Law are defined in the Clean Air Act and exclude HCFCs that are Class II substances. See *id.* §§ 7671(3)-(4), 7671a(a)-(b).

⁵³ See Copenhagen Adjustments, *supra* note 50, arts. 2A(4), 2B(2), 2C(3), 2D(2), 2E(3), 32 I.L.M. at 875-78.

⁵⁴ See E-mail from Tom Land to Axel Gosseries, *supra* note 24.

⁵⁵ SSP, *supra* note 10, art. 2(7), 33 I.L.M. at 1544 (emphasis added).

Protocol are only required to be *notified*.⁵⁶ Such a difference (approval vs. notification) flows from the fact that sulfur dioxides are non-uniformly mixed pollutants. As a result, changes in the emissions distribution may affect third parties even when there is no change in the aggregate amount of emissions.

In the SSP context, the possibility of using JI depends on the elaboration and adoption of a regime by the Executive Body.⁵⁷ In 1994, the Executive Body asked its Working Group on Strategies to prepare a set of criteria.⁵⁸ The United Nations Economic Commission for Europe's (UN/ECE) Task Force on Economic Aspects of Abatement Strategies has sent a progress report to the Working Group indicating that the cost saving potential of JI under the SSP appears very limited.⁵⁹ Admittedly, there are some differences in abatement costs within the UN/ECE area, and it has been estimated that an unconstrained trade may reduce total abatement costs by twelve percent per year.⁶⁰ However, variations in receiving sites' susceptibility to deposition and differences in transportation of emissions from one emitting location to another both entail variations in effects between emission sites. Adding constraints to quota trading, in order to take into account these variations in effects, would increase transaction costs and drastically reduce the potential for JI—all the more so since the SSP is itself based on cost-minimizing models.⁶¹

This overview shows that despite the successes achieved with tradable permits systems in the U.S., and excepting the transfers taking place under Article 2(5) of the Montreal Protocol, there is no practice of quota-based JI under the international instruments examined above. Still, the FCCC provides us with another opportunity to test the JI mechanism—this time in a project-based form.

⁵⁶ See Montreal Protocol, *supra* note 42, arts. 2(5), 2(7), 26 I.L.M. at 1553.

⁵⁷ See SSP, *supra* note 10, art. 2(7), 33 I.L.M. at 1544.

⁵⁸ See Klaassen, *supra* note 30, at 191.

⁵⁹ See *id.*

⁶⁰ See Mason, *supra* note 8, at 301; *cf.* Pearce, *supra* note 41, at 25.

⁶¹ See DAVID PEARCE, BLUEPRINT 4: CAPTURING GLOBAL ENVIRONMENTAL VALUE 184-86 (1995); Klaassen, *supra* note 30, at 204-05.

II

FROM RIO (1992) TO KYOTO (1997):
CARVING OUT CONCEPTS AND CRITERIA

This Part provides a conceptual framework for joint implementation as it has evolved over the last five years. It will also expand on the criteria for JI.

The topic of JI has sparked much debate at the successive Intergovernmental Negotiating Committee (INC) meetings, for example, at INC 8 (Aug. 1993) and 10 (Sept. 1994).⁶² Various arguments have been raised against JI, many of which appear objectionable and/or may be remedied by adding eligibility criteria.⁶³ Issues such as the acceptability of sinks as JI projects, the avoidance of a shift to JI from ODA or the Financial Mechanism (FM), and the need to ensure that real reductions are achieved require the establishment of specific criteria.

The “export of sacrifices” and “low-hanging fruits” arguments are of particular significance. According to the “export of sacrifices” argument, industrialized countries might use JI to escape the need for radical changes in energy use. JI would also lower the pressure towards technological innovation.⁶⁴ This can be prevented, however, by requiring that a certain percentage of emission reductions be achieved at home, as is the case in the Kyoto Protocol’s Article 12(3)(b).⁶⁵ The “low-hanging fruit” ar-

⁶² See AXEL MICHAELOWA, JOINT IMPLEMENTATION OF GREENHOUSE GAS REDUCTIONS UNDER CONSIDERATIONS OF FISCAL AND REGULATORY INCENTIVES: FINAL REPORT 28 (Bundesministerium für Wirtschaft Studienreihe No. 89, 1995).

⁶³ See *id.* at 22-35; Arts et al., *supra* note 6, at 48-53; Heintz, *supra* note 4, at 181-87. For a public choice approach of the position of the various categories of actors, see Axel Michaelowa & Sandra Greiner, *Joint Implementation from a Public Choice Perspective*, 8 WORLD RESOURCES REV. 231 (1996).

⁶⁴ See Dubash, *supra* note 11, at 73-74. *But see* Niederberger, *supra* note 40, at 22 n.11 (noticing that the argument “is not necessarily justified, given the fact that new markets for AIJ projects would encourage the private sector to adapt technologies to the needs and circumstances of host countries and to develop new technologies, and would tend to intensify cooperation between industrialized and developing countries”).

⁶⁵ See Kyoto Protocol, *supra* note 7, art. 12(3)(b), 37 I.L.M. at 38; *see also* Arts et al., *supra* note 6, at 48; MICHAELOWA, *supra* note 62, at 24, 30; Pier Vellinga et al., *Strategies to Head for Joint Implementation: The Phased Approach vs. Bilateral Framework Agreements Between Nations*, in THE FEASIBILITY OF JOINT IMPLEMENTATION, *supra* note 41, at 145. In practice, the number of attractive JI projects is not likely to be high enough so that national targets could be met through JI alone. *See* Rajendra K. Pachauri, *Introduction*, in JOINT IMPLEMENTATION OF CLIMATE CHANGE COMMITMENTS, *supra* note 11,

gument refers to “the concern that developing countries’ low-cost options would be used up so that developing countries would face only high-cost options in the event that they signed up to their own emission targets at a future date.”⁶⁶ A criterion requiring that JI be allowed only if domestic reduction at the same unit cost has been exhausted could partly avoid this problem.⁶⁷ The argument itself, however, is questionable. Should less developed countries be left only with high-cost options, they would still be better off than if they had to bear the costs of all the reductions alone.⁶⁸ Moreover, the costs of the remaining options can be taken into account in establishing developing countries’ future quantified emission reduction commitments.

A. *Rio and the Birth of Project-Based JI (1992)*

1. *The Quota-based/Project-based Distinction*

Article 4(2)(a) of the FCCC provides that each of the Annex I countries “shall adopt national policies and take corresponding measures on the mitigation of climate change These Parties may *implement* such policies and measures *jointly* with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention.”⁶⁹ The Convention does not provide any definition of JI. Two main forms have been distinguished: quota-based and project-based JI.⁷⁰ Quota-based JI has been defined as a mechanism by which two or more parties agree on modifying and trading their respective obligations while maintaining a definite aggregate obligation. Project-based JI allows parties to implement part of their obligations in another party’s territory.⁷¹ Variations on these basic structures are possible. Quota-based systems can take the form of either a state-to-

at viii-ix; *see also* Axel Michaelowa & Holger Schmidt, *A Dynamic Crediting Regime for Joint Implementation to Foster Innovation in the Long Term*, 2 MITIGATION & ADAPTATION STRATEGIES FOR GLOBAL CHANGE 45-56 (1997) (proposing to design a strategic climate policy fostering technology transfer with full crediting of JI projects at the beginning, followed by a gradual reduction of the crediting ratio, while keeping the pressure upon technology innovation by raising domestic emission taxes).

⁶⁶ PEARCE, *supra* note 61, at 192; *see also* Peter Read, *Two Problems with the Protocol*, JOINT IMPLEMENTATION Q., June 1998, at 8.

⁶⁷ *See* Arts et al., *supra* note 6, at 49.

⁶⁸ *See* MICHAELOWA, *supra* note 62, at 27.

⁶⁹ FCCC, *supra* note 1, art. 4(2)(a), 31 I.L.M. at 855 (emphasis added).

⁷⁰ *See* Mason, *supra* note 8, at 299; Yamin, *supra* note 6, at 230-31.

⁷¹ *See, e.g.*, Dubash, *supra* note 11, at 56; Yamin, *supra* note 6, at 230-31.

state trade and/or an international company-to-company trade of quotas.⁷² A project-based system can take a more or less “multilateral” form, with a clearinghouse in the case of high levels of multilateralism⁷³. It is notable that the original practice of project-based JI has developed on the basis of such a vague text as that of Article 4(2)(a).

There are several differences between quota-based and project-based JI. One difference flows from the context in which JI would develop. In a closed context, both quota-based and project-based JI may occur. In an open context however, when some of the transacting parties do not have quantified commitments, only project-based JI is possible. Thus, a project-based system allows states to begin JI in a context where no agreement on quantified commitments would be reached by all the parties.⁷⁴ A second difference is that, in project-based JI, there is necessarily a concrete project that may involve transfer of technology and/or human resources. The fact that local benefits are likely to be created and actual emissions reductions will, in principle, be achieved *before* credits may be offered is another strength of project-based JI. It may also be that project-based JI acts merely at the implementation level, whereas transfers under a quota-based JI scheme modify the very international obligations of the respective parties. This distinction might have informed a criterion proposed by the interim Secretariat in 1994: “Joint Implementation refers only to joint action to implement policies and meas-

⁷² See Dubash, *supra* note 11, at 52.

⁷³ See generally Irving M. Mintzer, *Institutional Options and Operational Challenges in the Management of a Joint Implementation Regime*, in CRITERIA FOR JOINT IMPLEMENTATION UNDER THE FRAMEWORK CONVENTION ON CLIMATE CHANGE 41-50 (Kilaparti Ramakrishna ed., 1994).

⁷⁴ The possibility of project-based JI in an open context is illustrated by Article 12 Clean Development Mechanism (CDM); its possibility in a closed context is illustrated by Article 6 JI. See *infra* Part II.C.2. Using project-based JI in a closed context makes particular sense when there is ‘hot air,’ by ensuring that real abatement efforts are being made. See Fanny Missfeldt, *Flexibility Mechanisms: Which Path to Take After Kyoto?*, 7 REV. EUR. COMMUNITY & INT’L ENVTL. L. 128, 131-32 (1998) (“‘Hot air’ is traded when one of the trading parties is subject to too low emission targets. In these circumstances, emission permits may simply be transferred or sold to another Party without any further abatement effort. ‘Hot air’ thus constitutes an artificially created costless asset.”); see also *id.* at 138 n.14 (discussing the concept of “superheated air,” referring to “the possibility that economies in transition could use their emission reductions achieved before emissions budgets begin in 2008 in order to meet” the commitments of Article 3 of the Kyoto Protocol).

ures, and in no way modifies the commitments of each Party.”⁷⁵ The Kyoto regime goes against such a view, however.⁷⁶

2. *An Alleged Criterion for JI in the FCCC*

It is sensible to suggest that JI cannot take place unless criteria have been agreed upon.⁷⁷ One author, Farhana Yamin, has argued, on the basis of the FCCC’s text, that “joint implementation is permitted *only among Annex I Parties* and in respect of policies and measures located within the limits of their *collective* national jurisdiction or control.”⁷⁸ If this were true, the FCCC itself would thus define a *ratione personae* criterion for JI. However, Yamin’s thesis may be questioned.⁷⁹

Admittedly, the phrase “implement . . . with other Parties” in Article 4(2)(a) rules out the possibility of JI between an Annex I Party and a non-Party, creating an incentive for non-Parties to ratify the FCCC.⁸⁰ But the fact that JI—either with a non-Party or between two non-Annex I Parties (having no substantive commitments under the FCCC to implement jointly)—is excluded does not rule out the possibility that an Annex I Party may implement its commitments with a non-Annex I Party.

⁷⁵ *Matters Relating to Commitments Criteria for Joint Implementation*, U.N. GAOR Intergovernmental Negotiating Comm. for a Framework Convention on Climate Change, 9th Sess., para. 10(1), U.N. Doc. A/AC.237/49 (1994); see also Decision 5/CP.1, Activities Implemented Jointly Under the Pilot Phase, pmb. (d), in United Nations Framework Convention on Climate Change, Conference of the Parties: Decisions Adopted by the First Session (Berlin), Mar. 28-Apr. 7, 1995, 34 I.L.M. 1671, 1685 [hereinafter Decision 5/CP.1]; *infra* Part II.B.

⁷⁶ See *infra* Part II.C.

⁷⁷ See PHILIPPE SANDS, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 133 (1995); Yamin, *supra* note 6, at 238.

⁷⁸ Yamin, *supra* note 6, at 239 (emphasis added).

⁷⁹ See Arts et al., *supra* note 6, at 48; Bert Metz, *Joint Implementation as a Financing Instrument for Global Reductions in Greenhouse Gas Emissions*, in CRITERIA FOR JOINT IMPLEMENTATION UNDER THE FRAMEWORK CONVENTION ON CLIMATE CHANGE, *supra* note 73, at 25.

⁸⁰ In this respect, it was apparently in response to an “Activities Implemented Jointly” (AIJ) pilot project that Belize ratified the FCCC in 1994. See *Rio Bravo Carbon Sequestration Project Narrative* (last modified June 4, 1998) <<http://www.ji.org/usiji/rio5.html>>; see also *infra* Part II.B (discussing the AIJ concept). Notice, however, that under the U.S. domestic regime of AIJ project approval, ratification of the FCCC by the host country is not required as an eligibility condition; rather, signature is sufficient. See Announcement of Groundrules for U.S. Initiative on Joint Implementation, 59 Fed. Reg. 28,442, 28,445 (1994) [hereinafter USIJI Groundrules]. The Evaluation Panel is only required to “consider . . . whether efforts are underway within the host country to ratify or accede” to the FCCC. *Id.*

Yamin stresses that Article 4(2)(a) provides that each Annex I Party shall take climate mitigation measures by “limiting *its* anthropogenic emissions of greenhouse gases and protecting and enhancing *its* greenhouse gas sinks and reservoirs.”⁸¹ According to Yamin, “its” refers to “emissions released by a Party over its own territorial area.”⁸² Construing Article 4(2)(a) as allowing for JI with non-Annex I countries implies that “its” emissions, reservoirs, and sinks may refer to emissions, reservoirs, and sinks abroad—a result that Yamin finds unacceptable.⁸³

However, if Yamin’s argument were to rule out the possibility of JI with a non-Annex I Party, it would, in fact, rule out the very possibility of *any* JI activity. By definition, JI implies that emissions be reduced/sequestered in another Party’s territory. Using Yamin’s own textual approach, there is no reason to construe “its” emissions, sinks, and reservoirs *narrowly* in the case of an Annex I country/non-Annex I country relationship while construing it *broadly* (as referring to the aggregate emissions, sinks, and reservoirs lying within the limits of the *collective* territorial jurisdiction or control of the Annex-I Parties involved) in the case of an Annex I country/Annex I country relationship. If followed to its logical conclusion, Yamin’s argument would indirectly rule out JI *between* Annex I countries as well. This result is clearly contraindicated by the language of Article 4(2)(a).

Thus, the FCCC itself does not offer conclusive textual evidence excluding JI between an Annex I country and a non-Annex I country. The situation would be different if the words “jointly with other *such* Parties” had been used.⁸⁴ As a matter of policy, however, it is unclear whether a general ban on JI with non-Annex I countries would really serve either equity or the FCCC’s objective as set out in Article 2.⁸⁵ As a matter of law, Decision 5/CP.1’s Article 1(a)⁸⁶ clearly allows AIJ with non-Annex I Parties, and, more recently, the Kyoto Protocol has defined a regime applicable specifically to JI between Annex I and non-Annex I Parties.⁸⁷

⁸¹ Yamin, *supra* note 6, at 240 (emphasis added).

⁸² *Id.*

⁸³ *See id.*

⁸⁴ King, *supra* note 6, at 67 n.15; *see also, e.g.*, Kyoto Protocol, *supra* note 7, art. 6(1), 37 I.L.M. at 35.

⁸⁵ *Cf.* SANDS, *supra* note 77, at 133; Yamin, *supra* note 6, at 241.

⁸⁶ Decision 5/CP.1, *supra* note 75, art. 1(a), 34 I.L.M. at 1686.

⁸⁷ *See* Kyoto Protocol, *supra* note 7, art. 12, 37 I.L.M. at 38.

B. *The Berlin Criteria for Activities Implemented Jointly (1995)*

While there is no legal definition of JI in the FCCC, a second, more detailed, concept was introduced at the first Conference of the Parties: Activities Implemented Jointly.⁸⁸ According to the FCCC's Article 4(2)(d), COP 1 had to make decisions regarding criteria for joint implementation.⁸⁹ Since no agreement had been reached on criteria for JI, the COP introduced the concept of AIJ and defined criteria for it in Decision 5/CP.1.⁹⁰ The new concept was used to overcome the reluctance of many developing countries towards JI. Thus, AIJ refers to JI activities during the Pilot Phase, which, as decided upon at COP 1, will end no later than the close of this decade.⁹¹

1. *Approval by the Parties Involved*

Article 1(c) of Decision 5/CP.1 requires, for all AIJ projects, "prior acceptance, approval or endorsement by the Governments of the Parties participating in these activities."⁹² So far, procedures and criteria/guidelines of eligibility have been formally adopted in a few countries, including the U.S. (May 20, 1994),⁹³ Japan (Feb. 7, 1996),⁹⁴ Canada (1996)⁹⁵ and The Netherlands (July 5, 1997).⁹⁶

⁸⁸ See Decision 5/CP.1, *supra* note 75, art. 3(b), 34 I.L.M. at 1686-87.

⁸⁹ See FCCC, *supra* note 1, art. 4(2)(d), 31 I.L.M. at 857.

⁹⁰ Cf. U.N. Subsidiary Body for Scientific and Technological Advice, 2nd Sess., Agenda Item 2(a), at 7, U.N. Doc. FCCC/SBSTA/1996/1/Add.1 (1996) (extract from the provisional report).

⁹¹ The need for such a pilot phase has been strongly questioned. See Palmisano, *supra* note 32, at 27 (arguing that a substantial amount of data already exists on marketable permit-like programs and that it would be more sensible to learn by reading than to learn by doing).

⁹² Decision 5/CP.1, *supra* note 75, art. 1(c), 34 I.L.M. at 1686.

⁹³ See USIJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,445.

⁹⁴ See JAPAN'S FUNDAMENTAL FRAMEWORK FOR ACTIVITIES IMPLEMENTED JOINTLY UNDER THE PILOT PHASE OF THE FCCC (1996).

⁹⁵ See NATURAL RESOURCES CANADA, CANADIAN JOINT INITIATIVE ON CLIMATE CHANGE—GUIDELINES (1996); NATURAL RESOURCES CANADA, VOLUNTARY CHALLENGE AND REGISTRY—PARTICIPANT'S HANDBOOK (1995).

⁹⁶ See Ministry of VROM [Housing, Spatial Planning, and the Environment], Joint Implementation Registratie en Certificatie Procedure, 3 July 1997/Nr. MBL97100137, STAATSCOURANT, July 22, 1997, *translated in* JOINT IMPLEMENTATION REGISTRATION CENTRE, JOINT IMPLEMENTATION REGISTRATION AND CERTIFICATION PROCEDURE; Gerard Wolters, The Netherlands' Pilot Phase Programme on Joint Implementation 6f (1996) (paper from 1996 Prague Conference on "Joint Implementation: Countries in Transition").

The approval criteria and processes vary somewhat from nation to nation. The guidelines for U.S. Initiative on Joint Implementation (USIJI) project proposals require the project parties to provide “written evidence from the designated responsible ministry of the host country that the project is acceptable to the national or federal government of the project’s host country for inclusion in the USIJI program.”⁹⁷ An evaluation panel, consisting of eight members from federal departments and agencies, is then responsible for the approval of project submissions and the certification of results.⁹⁸ In Japan, the process of approval is apportioned between ministries depending on the nature of the applicant. For instance, “projects set up by the industrial sector have to be submitted to the Ministry of International Trade and Industry (MITI), whereas those initiated by environmental NGOs should be proposed to the Environment Agency (EA).”⁹⁹ The Dutch procedure requires the issuance of a letter of intent on the project signed by the governments of the host and the investing countries.¹⁰⁰ Thereafter, the repartition of tasks between ministries depends on the nature of the task itself. The Ministry of the Environment is in charge of an annual report on the Pilot Phase as well as project certification and the like. The Ministries of Economic and of Foreign Affairs are in charge of identifying, selecting, financing, and monitoring projects.¹⁰¹ The repartition of tasks can also be contingent on the host country’s localization. For example, the Ministry of Economic Affairs is responsible for projects with Central and Eastern European countries, whereas the Ministry of Foreign Affairs is responsible for projects with developing countries.¹⁰²

While there is some diversity with respect to national criteria, every country that has adopted eligibility standards has included all of the Berlin criteria.¹⁰³ Several countries have

⁹⁷ U.S. Initiative on Joint Implementation, *Guidelines for a USIJI Project Proposal* § II(e) (last modified June 4, 1998) <<http://www.ji.org/usiji/guide.shtml>> [hereinafter USIJI Guidelines].

⁹⁸ See USIJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,445.

⁹⁹ Naoki Matsuo, *Update on Japanese AIJ/JI Initiative* (last modified June 4, 1998) <<http://www.ji.org/jinews/japan.shtml>>.

¹⁰⁰ See Ministry of VROM, *supra* note 96, art. 5(a).

¹⁰¹ See Wolters, *supra* note 96, at 11-12.

¹⁰² See *id.*

¹⁰³ See, e.g., Kenneth Andrasko et al., *Technical Issues in JI/AIJ Projects: A Survey and Potential Responses* § 2.1 (Sept. 18, 1996) (paper prepared for the UNEP/AIJ conference, Costa Rica, Oct. 29-31, 1996). Obviously, this excerpt

included additional or more specific criteria,¹⁰⁴ such as an assessment of the other environmental/non-environmental impacts of the project,¹⁰⁵ a required training component for authorities or companies in the host country,¹⁰⁶ local community support and participation and/or benefits from the project,¹⁰⁷ and a requirement that cumulative effects of GHG emission reductions will not be negative.¹⁰⁸ The criteria's implementation can also be more or less flexible. For instance, the USIJI Groundrules make a distinction between minimum requirements (Section 5A)¹⁰⁹ and additional items to be considered (Section 5B).¹¹⁰ Finally, while all projects need to comply with the Berlin criteria for the purpose of *international* approval, the addition of *national* criteria can make perfect sense given the specifics of *domestic* crediting in the investor's country and the particular needs or priorities of the host country.

2. *No International Crediting*

Decision 5/CP.1 provides that “no credits shall accrue to any Party as a result of greenhouse gas emissions reduced or sequestered during the Pilot Phase from activities implemented jointly.”¹¹¹ This clearly excludes international crediting *during* the Pilot Phase. Does it also exclude international crediting, *after* the Pilot Phase, for reductions that took place during the Pilot Phase? To answer this question, it is critical to distinguish between three sub-questions: (1) When do Parties get the credits: before or after the Pilot Phase? (2) For which reductions do they get credits: those achieved before or after the Pilot Phase? (3) Against the commitments of which period are the credits to be applied: that before or after the Pilot Phase? If credits are after-the-fact, then they can only be obtained after the reductions have

the “no international crediting” Berlin criterion, which is not a matter for domestic law. See discussion *infra* Part II.B.2.

¹⁰⁴ See Andrasko et al., *supra* note 103, at 18; Niederberger, *supra* note 40, at 12.

¹⁰⁵ See USIJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,445-46; USIJI Guidelines, *supra* note 97, § IV; see also Blaustein, *supra* note 6, at 10,368-69.

¹⁰⁶ See Ministry of VROM, *supra* note 96, art. 5(e).

¹⁰⁷ See Niederberger, *supra* note 40, at 30 (Costa Rica).

¹⁰⁸ See *id.* at 30 n.13 (discussing Japan and its concept of baseline technologies).

¹⁰⁹ See USIJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,445.

¹¹⁰ See *id.* at 28,446.

¹¹¹ Decision 5/CP.1, *supra* note 75, art. 1(f), 34 I.L.M. at 1686.

been achieved. “After-the-fact” or “retrospective” crediting refers to the obtainment *after date x* of credits standing for reductions achieved *before date x*. The question, then, is whether credits could accrue for emissions achieved several years earlier. If such is the case, could credits obtained after the Pilot Phase relate to reductions achieved during the Pilot Phase? Thus, it is not enough to simply state the date from which credits will begin to be available. One also needs to know for which reductions credits will accrue and against which commitments given emission reductions will be applied. For instance, “banking” can be defined as the obtainment of credits (no matter when) for reductions achieved *before date x* and to be used against the Party’s commitments *after date x*. This is clearly an interesting option. Thus, corresponding to the threefold distinction above, retrospective crediting raises questions about (1) and (2), and banking about (1) and (3).

What does Decision 5/CP.1 say about retrospective crediting and banking? In Article 1(f), the phrase “during the Pilot Phase” is placed not after the word “accrue,” but rather, after the language concerning “emissions reduced or sequestered.”¹¹² This textual observation strongly supports a rejection of crediting based upon reductions achieved during the Pilot Phase. In effect, what it seems to exclude is not merely acquiring credits during the Pilot Phase, but also acquiring credits at whatever stage (during or after the Pilot Phase) counting against whatever commitments (current or post-Pilot Phase ones) *for reductions achieved during the Pilot Phase*. It would thus exclude both retrospective crediting and banking based on reductions achieved during the Pilot Phase. Still, it would not exclude crediting of reductions achieved after the Pilot Phase for projects begun during the Pilot Phase.

However, other passages in Decision 5/CP.1 might suggest a different thesis. Article 1(a) purports “to establish a pilot phase for activities implemented jointly among Annex I Parties and, on a voluntary basis, with non-Annex I Parties that so request.”¹¹³ The use of the phrase “on a voluntary basis” could be interpreted as entailing that crediting after the Pilot Phase, on the basis of reductions achieved during the Pilot Phase, is prohibited for AIJ projects between Annex I and non-Annex I Parties, but remains

¹¹² *Id.*

¹¹³ *Id.* art. 1(a), 34 I.L.M at 1686.

possible for AIJ projects taking place between Annex I Parties. Under this view, retrospective crediting or banking for AIJ between an Annex I and a non-Annex I Party would be prohibited, since it would be voluntary, but AIJ between Annex I countries could give rise to such crediting. Similarly, Decision 5/CP.1's preamble states that "Activities Implemented Jointly between Annex I and non-Annex I Parties will not be seen as fulfillment of current commitments of Annex I Parties under Article 4.2(b) of the Convention."¹¹⁴ This implies *a contrario* the possibility of recognizing AIJ between Annex I Parties as fulfillment of their current commitments and, therefore, makes retrospective crediting possible for AIJ between Annex I countries. Moreover, it does not say anything about whether reductions achieved during the Pilot Phase could count against post-Pilot Phase commitments. Therefore, while retrospective crediting or banking is not allowed on the basis of emission reductions achieved during the Pilot Phase in non-Annex I countries, the situation remains unclear with regard to AIJ between Annex I Parties. We shall see below whether Kyoto helped clarify this issue.

3. *Additionality of the Project and Its Emission Reductions*

Article 1(d) of Decision 5/CP.1 specifies that "activities implemented jointly should bring about real, measurable and long-term environmental benefits related to the mitigation of climate change that *would not have occurred in the absence of such activities*."¹¹⁵ In the U.S. context, this has been translated into a requirement that the project consist of measures "initiated as the result of the U.S. Initiative on Joint Implementation, or in reasonable anticipation thereof."¹¹⁶ To assess this, the USJI Guidelines require, for instance, that the parties provide information including "the date and circumstances when substantive discussions regarding [the] project were initiated"¹¹⁷ and "whether the specific measures taken by the project for reducing or sequestering greenhouse gas emissions are required by existing laws . . . applicable in the U.S. or host country."¹¹⁸

¹¹⁴ *Id.* pmb. (b), 34 I.L.M. at 1685.

¹¹⁵ *Id.* art. 1(d), 34 I.L.M. at 1686 (emphasis added).

¹¹⁶ USJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,445; *see also* USJI Guidelines, *supra* note 97, § II(D).

¹¹⁷ USJI Guidelines, *supra* note 97, § II(A)(5)(a).

¹¹⁸ *Id.* § II(D)(2).

The requirement of measurability might raise difficulties in practice, such as when the project consists of capacity building or training activities (for example, improving logging techniques). More importantly, the requirement of additionality of the project does not exclude “no-regrets” projects, that is, projects with negative incremental costs that would be economically viable in the absence of crediting through JI.¹¹⁹ Sensible policy arguments have been put forward against the recognition of “no regrets” projects as JI.¹²⁰ This is of critical importance, since some projects (e.g., energy conversion or afforestation) are usually regarded as economically viable and profitable on their own. Admittedly, such projects would not normally be eligible under Global Environmental Facility (GEF) funding, since GEF tends to use a concept of net incremental costs (i.e., deducting local benefits from the costs of a project).¹²¹ However, the fact that a project may be profitable does not necessarily mean that it will be carried out. Indeed, there may be institutional barriers, lack of information or of skilled labor, or simply other projects with a better rate of return.¹²² It is clear, for instance, that even in the absence of crediting, JI background agreements may enhance the institutional climate in host countries.

Thus, the phrase “would not have occurred” in Article 1(d) of Decision 5/CP.1 does not exclude “no regrets” projects per se, especially since there is no crediting during the Pilot Phase. What must be assessed is not the beneficial character of the project but the likelihood of its occurrence in the absence of the FCCC and of an AIJ/JI regime. Conversely, the fact that a pro-

¹¹⁹ The USIJI Guidelines clearly state that “[t]he additionality requirement does not exclude projects which are profitable or cost-effective.” *Id.* § II(D).

¹²⁰ See Chiranjeev Bedi, *No-Regrets Under Joint Implementation?*, in *JOINT IMPLEMENTATION OF CLIMATE CHANGE COMMITMENTS*, *supra* note 11, at 103.

¹²¹ See Andrew Jordan & Jacob Werksman, *Financing Global Environmental Protection*, in *IMPROVING COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL LAW*, *supra* note 6, at 253 (making the “gross/net” incremental costs distinction). *But see* Rolf Selrod & John M. Skejelvik, *World Bank Appraisal Mission to Mexico*, THE GEF-ILUMEX PROJECT (CICERO Report, 1994) (providing an example of an economically viable project funded by the GEF).

¹²² See AXEL MICHAELOWA, *JOINT IMPLEMENTATION—THE BASELINE ISSUE* § 3.2 (1997) (including a distinction between microeconomic and macroeconomic no-regret); Niederberger, *supra* note 40, at 14-15. On institutional barriers, the USIJI Guidelines specify that the parties should show “how the USIJI or reasonable anticipation thereof helped or could help overcome any barriers to developing or implementing the project.” USIJI Guidelines, *supra* note 97, § II(D)(1).

ject is not “no regret” does not necessarily mean that it is additional (that it would not have otherwise been carried out, e.g., by public authorities in the public interest).

Finally, the concept of “project additionality” is partially distinct from the concept of “emissions reductions additionality.”¹²³ In the latter, not only must one assess whether the project would otherwise have taken place, but one must also define what proportion of the abatement or reduction achieved by the project is additional. Article 1(d) is clear: it is not, in fact, “the project” but primarily the “environmental benefits” that should not have otherwise occurred. Still, in practice, “project additionality” tends to be regarded as a necessary (but not sufficient) condition for “emissions additionality.” Most of the projects are only partially additional (with respect to emissions additionality) and it is only this additional part which can be credited. The difficulty of assessing emissions reductions additionality may explain part of the interest in afforestation projects in semi-steppe zones (such as Saratov in Russia).¹²⁴ Such projects offer a near-zero baseline so that no deduction from the actual sequestration need be made.

4. *Additionality of Financing*

The issue of the project’s additionality is separate from the issue of the additionality of funding. In the absence of rules, the crediting of JI projects offers an incentive to shift from ODA and from contributing to the FM to a JI regime.¹²⁵ Such an incentive also applies to AIJ projects since it is possible that crediting for emissions achieved after 2000 by what are initially AIJ projects will be available when they become JI projects. Therefore, Deci-

¹²³ See Lisa Carter, Modalities for the Operationalization of Additionality 10 (1997) (paper prepared for the [UNEP]/German Federal Ministry of the Environment, International Workshop on Activities Implemented Jointly) (distinguishing between program additionality and emissions additionality); see also Anne Arquit Niederberger, *Meeting Report—UNFCCC Experts’ Workshop: Additionality* (last modified Sept. 14, 1997) <http://www.admin.ch/swissaij/in_ws_paris.html> (following the UNFCCC Experts’ Workshop on Additionality and distinguishing between “environmental additionality” (art. 1(d)) and “financial additionality” (art. 1(e))).

¹²⁴ The Saratov projects will be discussed in greater detail *infra* Part III.D.

¹²⁵ For more on the relationship between the Financial Mechanism and JI, see Dubash, *supra* note 11, at 77; Sid Embree, *Investing in Less Greenhouse Intensive Development: What Joint Implementation Could Be?*, in JOINT IMPLEMENTATION OF CLIMATE CHANGE COMMITMENTS, *supra* note 11, at 87, 90-91.

sion 5/CP.1 provides that “the financing of activities implemented jointly shall be additional to the financial obligations of Parties included in Annex II to the Convention within the framework of the financial mechanism as well as to current official development assistance (ODA) flows.”¹²⁶

With regard to ODA, additionality is required with regard to *current flows*, as opposed to the aspirational 0.7% GNP target.¹²⁷ In practice, “although global aid volume has grown markedly in gross terms in the last 20 years, as a percentage of OECD GNP it has hardly changed and remains lodged around 0.33 per cent.”¹²⁸ Does this mean that if a country intends to lower its level of ODA, it will not be allowed to take part in AIJ? If AIJ participation is allowed, shifting from ODA to JI would implicitly be possible, which would go against the rationale of Article 1(e). However, if we were to accept a decreasing ODA, one option would be to allow for “crediting if the development aid budget for the country where the project has been carried out is not decreasing more than in the average of all countries receiving funds from the donor.”¹²⁹ On the other hand, if AIJ participation in the above situation is not allowed, it would mean that the possibility of AIJ (and later JI) is conditioned upon maintaining a level of ODA at least as high as that of 1994 (the year the FCCC

¹²⁶ Decision 5/CP.1, *supra* note 75, art. 1(e), 34 I.L.M. at 1686.

¹²⁷ See MICHAELOWA, *supra* note 62, at 25-26 (policy argument), 30 (Danish proposed criterion).

¹²⁸ Jordan & Werksman, *supra* note 121, at 250; *cf.* Michaelowa & Greiner, *supra* note 63, at 231 (containing figures showing that ODA from OECD countries decreased between 1992 and 1993). The 1996 Norway/Costa Rica AIJ Agreement specifies:

The contribution from the Norwegian Ministry of Foreign Affairs is provided from a separate budget line, the Norwegian Climate Fund, which has been established in addition to, and separate from, Norway's Development Assistance Budget. The contribution will not be reported as part of Norway's ODA, which for more than 15 years has exceeded the United Nations target of 0.7% of GNP target for ODA.

Agreement Between the Royal Norwegian Ministry of Foreign Affairs and the Costa Rican Ministry of Environment and Energy Regarding Reforestation and Forest Conservation AIJ Pilot Project, Oct. 29, 1996, Nor.-Costa Rica, Annex I, § II(I) [hereinafter 1996 Norway/Costa Rica Agreement]. This interministerial agreement was preceded by a Memorandum of Understanding (MOU) signed on July 2, 1996 by the two ministries, the Costa Rican National Power and Light Company, and Consorcio Noruego, confirming their agreement to participate in the AIJ Project. See Memorandum of Understanding Between the Costa Rican National Power and Light Company and Consorcio Noruego, signed July 2, 1996; see also *infra* Part III.E.1.

¹²⁹ Michaelowa & Greiner, *supra* note 63, at 231.

entered into force). For instance, the U.S. criterion states that “if federally funded, [the project] is or will be undertaken with funds in excess of those available for such activities in fiscal year 1993.”¹³⁰ Although this “at least as much” approach cannot fully avoid ODA-to-JI shifting if the ODA flow would otherwise have grown, it fits best with the text of Article 1(e).

With regard to the FM, the extent of the Annex II countries’ obligations under the FCCC’s Article 4(3) is uncertain. Article 4(3) indicates that “[t]hey shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article.”¹³¹ The concept of “agreed full incremental costs” is clearly a compromise between developing (“full”) and developed (“agreed”) countries. Although it has been argued that “full” would point in the direction of “gross,” it will eventually be a matter of negotiation to define the extent of Annex II countries’ obligations under Article 4(3).¹³² This will constitute the baseline against which the additional character of AIJ (and later JI) funding will be assessed.¹³³

One difficulty in practice arises in the case of projects that have been financed partially through ODA or through the GEF (e.g., for preparation costs). Can such projects still qualify as AIJ projects? The Canadian Guidelines, for instance, state that “a project 100% financed by the Canadian International Development Agency (CIDA) would . . . not qualify as a JI project. However, CIDA funding for activities which do not directly relate to a particular JI project, such as feasibility studies and management training, would not disqualify an ensuing project for JI status.”¹³⁴ In practice, the USIJI also seems quite flexible with respect to financial additionality.¹³⁵

¹³⁰ USIJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,444.

¹³¹ FCCC, *supra* note 1, art. 4(3), 31 I.L.M. at 858.

¹³² See Jordan & Werksman, *supra* note 121, at 251-54.

¹³³ See also Kyoto Protocol, *supra* note 7, art. 11(2), 37 I.L.M. at 37.

¹³⁴ CANADIAN JOINT IMPLEMENTATION INITIATIVE OFFICE, CANADIAN JOINT IMPLEMENTATION INITIATIVE ON CLIMATE CHANGE, GUIDELINES 4 (1996); see also Niederberger, *supra* note 40, at 14 n.7.

¹³⁵ See MICHAEL DUTSCHKE & ALEX MICHAELOWA, JOINT IMPLEMENTATION AS A DEVELOPMENT POLICY—THE CASE OF COSTA RICA § 3.1.2 (HWWA Discussion Paper 49, 1997) (providing an example of the Costa Rican CARFIX that received funding from GEF and USAID).

C. *Kyoto and the Clean Development Mechanism (1997)*

Beyond the definition of firmer substantive obligations for Annex B countries¹³⁶ and other changes, the Protocol adopted at COP 3 in Kyoto in December 1997 defines four different JI regimes. The first two are quota-based—specifically, a “bubble” regime between Annex I countries (Article 4) and an emissions trading regime between Annex B countries (Article 17). The other two regimes are project-based—specifically, JI between Annex I countries (Article 6) and JI with non-Annex I countries under the Clean Development Mechanism (CDM) (Article 12).¹³⁷

1. *Two Quota-based JI Regimes*

The first quota-based JI form, referred to as “bubble” or “joint fulfillment,”¹³⁸ is defined at Article 4(1):

Any Parties included in Annex I that have agreed to jointly fulfill their commitments under article 3 shall be deemed to have met those commitments provided their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases . . . do not exceed their assigned amounts The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.¹³⁹

A bubble agreement of this sort must be notified to the FCCC Secretariat when the Parties deposit their instrument of ratifica-

¹³⁶ There are a few differences between the FCCC's Annex I and the Kyoto Protocol's Annex B. Monaco, Lichtenstein, Croatia, and Slovenia are in Annex B, but not in Annex I. Czechoslovakia becomes the Czech Republic in Annex I and Slovakia in Annex B. Turkey and Belarus are present in Annex I, but not in Annex B. See Farhana Yamin, *The Kyoto Protocol: Origins, Assessment and Future Challenges*, 7 REV. EUR. COMMUNITY & INT'L ENVTL. L. 113, 127 n.29 (1998).

¹³⁷ See *id.* at 113 (giving an excellent presentation of the Kyoto Protocol); Missfeldt, *supra* note 74, at 128 (introducing its “flexibility mechanisms”). As it appears in this paragraph and others, JI in this Article has three meanings: (1) very broad, referring both to quota-based and project-based JI; (2) broad, referring to FCCC Article 4(2)(a) JI; (3) narrow, referring to one of the three precise forms of project-based JI: AIJ, Article 6 JI, and JI under the CDM.

¹³⁸ See, e.g., Yamin, *supra* note 136, at 115 (“bubble”), 121 (“joint fulfillment”). The expressions “jointly implement,” see FCCC, *supra* note 1, art. 4(2)(a), 31 I.L.M. at 856, and “jointly fulfill,” see Montreal Protocol, *supra* note 42, art. 2(8)(a), 26 I.L.M. at 1553; Kyoto Protocol, *supra* note 7, art. 4, 37 I.L.M. at 34, should not be regarded as having a priori distinct technical meanings.

¹³⁹ Kyoto Protocol, *supra* note 7, art. 4(1), 37 I.L.M. at 34.

tion.¹⁴⁰ Under Article 4(5), each party to such an agreement “shall be responsible for its own level of emissions set out in the agreement.”¹⁴¹ On June 17, 1998, the European Union countries reached agreement on the burden-sharing within the EU bubble, allowing, e.g., Portugal to increase its emissions by 27% while requiring Denmark to reduce its emissions by 21%.¹⁴² Imagine, for example, that the EU, as a whole, fails to achieve an aggregate reduction of eight percent compared to 1990 levels during the first commitment period (2008-2012). Were this to occur, each Member State would only be responsible to the FCCC for its respective assigned amounts as defined in the bubble agreement (assuming that the agreement had been notified to the FCCC Secretariat), rather than those that can be deduced from the figures of Annex B of the Kyoto Protocol.¹⁴³

The other quota-based mechanism is called “emissions trading.” It is mentioned in Article 17 of the Protocol and is open to Annex B Parties.¹⁴⁴ Article 3 specifies that emission reduction units (ERUs) acquired by one Party from another Party under Article 17 shall be added to the former’s assigned amounts.¹⁴⁵ The ERUs transferred by a Party to another Party shall be subtracted from the former’s amounts.¹⁴⁶ Only one criterion is already in place: “[A]ny such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under [Article 3].”¹⁴⁷ The regime of emissions trading will have to be designed by the COP. For instance, it will have to be decided whether non-state actors will be allowed to participate in emissions trading.

¹⁴⁰ See *id.* art. 4(2), 37 I.L.M. at 34.

¹⁴¹ *Id.* art. 4(5), 37 I.L.M. at 34.

¹⁴² Compare EU Council (Environment), Community Strategy on Climate Change, Brussels, June 19, 1998, 9702/98 (Council conclusions) (containing a table representing the internal burden-sharing commitments of the Member states, adding up to an 8% reduction by 2008-2012, compared to 1990 levels, for six gases), with EU Council (Environment), Community Strategy on Climate Change, 1990th mtg., Brussels, Mar. 3, 1997, 6309/97 (Presse 60) (Council conclusions) (containing a table representing the internal burden-sharing commitments of the Member states at that time, adding up to a 10% reduction by 2010, compared to 1990 levels, for three gases: CO₂, CH₄ and NO₂).

¹⁴³ See Yamin, *supra* note 136, at 121.

¹⁴⁴ See Kyoto Protocol, *supra* note 7, art. 17, 37 I.L.M. at 40.

¹⁴⁵ See *id.* art. 3(10), 37 I.L.M. at 33.

¹⁴⁶ See *id.* art. 3(11), 37 I.L.M. at 33.

¹⁴⁷ *Id.* art. 17, 37 I.L.M. at 40.

2. *Two Project-based JI Regimes*

More interesting for the purposes of this Article are the two project-based forms of JI—one for projects between Annex I Parties (Article 6) and the other for projects between Annex I and non-Annex I Parties (Article 12). Article 6(1) states:

For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy¹⁴⁸

The text makes clear that it refers to project-based JI (“resulting from projects”) solely between Annex I Parties (“any other *such* Party”). With respect to the CDM, Article 12 (2)-(3) states:

2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism: (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol [(COPMP)].¹⁴⁹

The CDM is a rich mechanism that originates mainly from a Brazilian proposal.¹⁵⁰ It clearly consists of project-based JI (“from

¹⁴⁸ *Id.* art. 6(1), 37 I.L.M. at 35.

¹⁴⁹ *Id.* arts. 12(2)-(3), 37 I.L.M. at 38. When the Protocol refers simply to the COP, it refers to COP 4 and onwards, whereas when it refers to the COP serving as the meeting of the Parties to the Kyoto Protocol (hereinafter COPMP), it refers to, at the very earliest, the first COP taking place after April 1999. *See id.* arts. 13(6), 23(1), 24(1), 37 I.L.M. at 38, 41.

¹⁵⁰ *See generally* Jacob Werksman, *The Clean Development Mechanism: Unwrapping the ‘Kyoto Surprise’*, 7 REV. EUR. COMMUNITY & INT’L ENVTL. L. 147, 151 (1998). The Kyoto Protocol requires the COPMP to “ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.” Kyoto Protocol, *supra* note 7, art. 12(8), 37 I.L.M. at 38.

project activities”), but between Annex I and non-Annex I Parties. Significantly, in the CDM context, the concept of “certified emission reductions” (CERs) replaces the ERU concept in Article 6 JI. While Article 6(2) merely envisages reporting and verification, Article 12(5) states that “emission reductions resulting from each project activity shall be certified by operational entities to be designated by the [COPMP].”¹⁵¹

While both the Article 6 and Article 12 regimes leave various practicalities for the COPMP to decide,¹⁵² some broad criteria have already been established. In both cases, the project must have the approval of the countries involved;¹⁵³ only part of Article 3 commitments may be implemented abroad;¹⁵⁴ and the reductions must be additional.¹⁵⁵ In both cases, private or public entities may be involved in the process.¹⁵⁶ Moreover, Article 6(1)(c) allows acquisition of emission reduction units only under the condition that the state complies with its obligations under Article 5 (requiring the establishment of a national system for the estimation of anthropogenic emissions by sources and removals by sinks in place) and Article 7 (requiring the annual submission of a national communication containing an inventory of emissions and removals). On the other hand, Article 12(5)(b) stresses that the emission reductions achieved by the project shall be certified on the basis of “real, measurable, and long-term benefits related to the mitigation of climate change.”¹⁵⁷ Finally, there is no requirement of financial additionality in Article 12.

With respect to crediting under project-based JI, the Kyoto Protocol contains some interesting elements. First, it specifies that ERUs (Article 6) or CERs (Article 12) acquired by one Party from another shall be added to the former’s assigned

¹⁵¹ Kyoto Protocol, *supra* note 7, art. 12(5), 37 I.L.M. at 38.

¹⁵² *See id.* arts. 6(2), 12 (3)(b), 12(5), 12(7), 37 I.L.M. at 35, 38.

¹⁵³ *See id.* arts. 6(1)(a), 12(5)(a), 37 I.L.M. at 35, 38.

¹⁵⁴ *See id.* arts. 6(1)(d) (“shall be supplemental to domestic actions”), 12(3)(b) (“compliance with part of their commitments”), 37 I.L.M. at 35, 38. “Supplemental” should not be confused with “additional.” The former refers to the need to achieve at least part of the reductions at home, whereas the latter refers to the need not to recognize, under the JI/AIJ concept, projects or funding that would or should have taken place anyway. *See supra* Part II.B.3-4.

¹⁵⁵ *See* Kyoto Protocol, *supra* note 7, arts. 6(1)(b), 12(5)(b), 37 I.L.M. at 35, 38.

¹⁵⁶ *See id.* arts. 6(3), 12(9), 37 I.L.M. at 35, 38.

¹⁵⁷ *Id.* art. 12(5)(b), 37 I.L.M. at 38.

amounts,¹⁵⁸ and that the ERUs (Article 6) transferred shall be subtracted from the latter's assigned amounts.¹⁵⁹ This is clearly a modification of the Parties' international commitments, and not merely a change at the implementation level. Second, not only does the Protocol allow for banking of emissions reductions achieved at home,¹⁶⁰ but it also allows for banking of reductions achieved abroad from the year 2000 onwards: "Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period."¹⁶¹ One way to interpret this provision is to say that it does not allow for banking reductions achieved before 2000 (*a contrario* argument). Still, the text is unclear as to whether "obtained . . . from the year 2000" refers precisely to "emission reductions" (i.e., to the moment when the reductions are achieved) or to "certified emission reductions" as a whole (i.e., to the moment when certification is obtained, which would not exclude pre-2000 reductions from being certified after 2000).¹⁶² While banking is an option under the CDM regime, there is no specific paragraph on banking with regard to Article 6 JI. In light of the presence of a banking provision in Article 12, the absence of such a provision in Article 6 can be read as excluding the banking option from the Article 6 JI regime.¹⁶³

¹⁵⁸ See *id.* arts. 3(10), (12), 37 I.L.M. at 33.

¹⁵⁹ See *id.* art. 3(11), 37 I.L.M. at 33.

¹⁶⁰ See *id.* art. 3(13), 37 I.L.M. at 33.

¹⁶¹ *Id.* art. 12(10), 37 I.L.M. at 38.

¹⁶² Interestingly enough, a 1998 Swiss/Costa Rican Memorandum of Understanding states "that if the implementation of the AIJ project(s) is compatible with the modalities and procedures to be elaborated under Art. 12(7) of the Kyoto Protocol, the Swiss Government may use the [CERs] accrued through the project(s) to contribute to compliance with part of Switzerland's commitments under Art. 3 of the Protocol." Memorandum of Understanding Between the Swiss Federal Office for Foreign Economic Affairs AIJ Pilot Program Secretariat and the Costa Rican Ministry of Environment and Energy Office on Joint Implementation, Switz.-Costa Rica, Feb. 27, 1998, para. 11 (signed in Bern, Switzerland by the Swiss Secretary of State and the Costa Rican Minister of Environment and Energy) [hereinafter 1998 Swiss/Costa Rica MOU]; see *infra* Part III.E.1.

¹⁶³ See Catrinus J. Jepma, *Banking*, JOINT IMPLEMENTATION Q., June 1998, at 1 (arguing that the banking option has not been introduced for Article 6 JI and arguing in favor of such an introduction). Compare the position on banking in the Kyoto Protocol (excluding banking between Annex I Parties) with the apparently reverse position in Decision 5/CP.1 (excluding banking of emissions reductions achieved during the pilot phase in non-Annex I parties). See *supra* Part II.B.2.

III
EXPERIMENTAL LAW IN ACTION:
THE PRACTICE UNDER THE PILOT PHASE

Projects of varied natures (e.g., fuel switching or sink enhancement) are currently being carried out.¹⁶⁴ Many configurations of actors and of agreements are possible,¹⁶⁵ and it is part of the Pilot Phase's purpose to explore various legal and institutional routes. The challenge is to design an architecture of legal arrangements that will allow both state and non-state actors to work together. This Part analyzes what is currently being done in this respect.

A. *The U.S. and Canadian Statements of Intent*

One approach towards inter-state relations is illustrated by the U.S. and Canadian situations. The U.S. government has signed statements of intent (SOIs) in the field of JI and/or AIJ with the governments of Costa Rica (Sept. 30, 1994 and Oct. 23, 1995), seven Central American states (Costa Rica, Nicaragua, Guatemala, Honduras, El Salvador, Panama, and Belize) (June 9, 1995), Bolivia (Oct. 30, 1995), South Africa (Dec. 5, 1995),¹⁶⁶ the Russian Federation (July 16, 1996), and Argentina (Oct. 16, 1997).¹⁶⁷ The U.S. Department of Energy has also signed SOIs

¹⁶⁴ See, e.g., Center for Clean Air Policy & SEVEN, *The Energy Efficiency Center, Joint Implementation Projects in Central & Eastern Europe* (1996) (conference proceedings, Regional Conference on Joint Implementation: Countries in Transition, Prague, Apr. 17-19, 1996); United Nations Framework Convention on Climate Change, *Activities Implemented Jointly: List of Projects* (last modified Oct. 13, 1998) <<http://www.unfccc.de/fccc/ccinfo.aijproj.htm>>.

¹⁶⁵ See MICHAELOWA, *supra* note 62, at 38 tbl.

¹⁶⁶ This 1995 U.S./South Africa SOI is more specifically aimed towards the investigation by pilot studies of the feasibility of the JI/AIJ project's development. See Statement of Intent Concerning Cooperation in Sustainable Energy Development and the Mitigation of Greenhouse Gases Between the Government of the Republic of South Africa and the Government of the United States of America, S. Afr.-U.S., Dec. 5, 1995 (signed at Pretoria by the South African Minister of Mineral and Energy Affairs and the United States Secretary of State).

¹⁶⁷ Interestingly enough, this 1997 U.S./Argentina SOI ends with the following clause: "When, in the future, both governments have emissions targets under the UN Framework Convention on Climate Change, the governments could also pursue action under this Statement to focus on cooperation with respect to an emissions trading system." Statement of Intent by the Governments of the Argentine Republic and the United States of America Concerning Cooperation for Sustainable Development, Joint Implementation, and Activities Implemented Jointly to Reduce the Emissions of Greenhouse Gases, Arg.-U.S.,

with the Environment and Urban Affairs Division of Pakistan (Sept. 24, 1994) and the National Energy Commission of Chile (Mar. 7, 1995).¹⁶⁸ In Canada, SOIs have been signed between the Canadian Department of Natural Resources and the Chinese Ministry of Water Resources (Aug. 15, 1996), between the Canadian Government and the Government of the Republic of Korea (Jan. 13, 1997),¹⁶⁹ and between the Canadian Ministry of Natural Resources and the Latvian Ministry of Environmental Protection and Regional Development (Oct. 1997).¹⁷⁰

It is unclear whether these SOIs can legally bind the states involved. First, the ability of a signatory to bind her entire state is limited by the extent of each signatory's mandate. Second, one must assess, on the basis of the SOIs' content or some other indicators, whether the signatories actually intended to bind their respective states. The U.S. SOIs use phrases such as "intend to facilitate the development of JI projects"¹⁷¹ or "intend that the forms of cooperation . . . may include."¹⁷² Areas of cooperation may include the designation of a government office in the host

Oct. 16, 1997, para. 21 (signed at Buenos Aires by representatives of the Republic of Argentina and the United States Secretary of State).

¹⁶⁸ Some of the SOIs have been published in *JI Online* (visited Oct. 22, 1998) <<http://www.ji.org>>.

¹⁶⁹ The 1997 Canada/S. Korea SOI envisages Canadian-Korean cooperation on activities implemented jointly in third countries. See Statement of Intent Between the Government of Canada and the Government of Korea to Cooperate on Climate Change Initiatives Including Activities Implemented Jointly, Can.-S. Korea, Jan. 13, 1997, art. IV (signed at Seoul by the Canadian Minister of International Trade and the South Korean Minister of Trade, Industry, and Energy) [hereinafter 1997 Canada/Korea SOI].

¹⁷⁰ In addition, an SOI to Cooperate on Climate Change and Joint Implementation between the Governments of Canada, of the United Mexican States, and of the United States of America has been adopted as Council Resolution 95-6 of the North American Commission for Environmental Cooperation. See North American Agreement on Environmental Cooperation, Sept. 14, 1993, 32 I.L.M. 1480 (signed at Washington, D.C. Sept. 9 & 14, 1993; signed at Ottawa Sept. 12 & 14, 1993; signed at Mexico City Sept. 8 & 14, 1993). The Resolution calls for cooperation on various issues relating to climate change generally and to JI in particular. Because this last SOI has such specific status, the following analysis of existing SOIs will not discuss it.

¹⁷¹ Statement of Intent for Bilateral Sustainable Development, Cooperation and Joint Implementation of Measures to Reduce Emissions of Greenhouse Gases Between the Government of the United States of America and the Government of the Republic of Costa Rica, U.S.-Costa Rica, Sept. 30, 1994, para. 7 (done at Washington, D.C. by the Vice-President of the United States and a representative of the Republic of Costa Rica).

¹⁷² Statement of Intent for Sustainable Development Cooperation and Joint Implementation of Measures to Reduce Emissions of Greenhouse Gases by the

country, the design of the host country's criteria in accordance with the USJI Groundrules and the host country's priorities, the design of methodologies and mechanisms to establish procedures for the monitoring and external verification of reductions, and the protection of intellectual property or confidential business information. Similarly, the three Canadian bilateral SOIs state the intention of the Parties to "achieve the economic and environmental benefits associated with the reduction of greenhouse gas emissions through joint cooperation" in the fields of energy efficiency, renewable energy, and the like.¹⁷³ Interestingly enough, in the case of these three SOIs, the Parties state that they "will," "seek to," or "wish to" develop a "formal" or "proper" arrangement "under which they will cooperate in these areas and investigate . . . the possibilities that these activities be formally recognized under the joint implementation initiative" of the FCCC.¹⁷⁴ This reference to the need to adopt a more formal instrument suggests that the three bilateral Canadian SOIs cannot, standing alone, be regarded as legally binding.¹⁷⁵ Given their

Government of the United States of America and the Government of Bolivia, U.S.-Bol., Oct. 31, 1995, para. 10.

¹⁷³ Statement of Intent Between the Ministry of Environmental Protection and Regional Development of the Republic of Latvia and the Ministry of Natural Resources Canada to Cooperate on Climate Change Initiatives Including Activities Implemented Jointly, Can.-Lat., Apr. 3, 1997, para. 1 [hereinafter 1997 Latvia/Canada SOI]; see also 1997 Canada/Korea SOI, *supra* note 169, para. 1; Statement of Intent Between the Canadian Department of Natural Resources and the Ministry of Water Resources, People's Republic of China to Cooperate on the Renewable Energy and Energy Efficiency Technologies Including Joint Implementation Initiatives Under the Framework Convention on Climate Change, Can.-P.R.C., Aug. 15, 1996, para. 1 (signed at Ottawa by the Deputy Minister of Canada and the Vice-Minister of China) [hereinafter 1996 Canada/China SOI].

¹⁷⁴ 1997 Latvia/Canada SOI, *supra* note 173, para. 1; see also 1997 Canada/Korea SOI, *supra* note 169, para. 1; 1996 Canada/China SOI, *supra* note 173, para. 1. Each of these three SOIs states that "the Parties will negotiate a Memorandum of Understanding, or other formal arrangement between them, which will provide for cooperation" in a listed series of areas (exploration of opportunities to enhance trade and technology exchanges, joint research and information exchanges, etc.). 1997 Latvia/Canada SOI, *supra* note 173, para. 2; see also 1997 Canada/Korea SOI, *supra* note 169, para. 2; 1996 Canada/China SOI, *supra* note 173, para. 2. An interesting question is, if an MOU were adopted, to what extent could the qualification of the latter as a "formal arrangement" in the SOI be used when examining the legal status of the MOU?

¹⁷⁵ See Michel Virally, *Le Distinction Entre Textes Internationaux de Portée Juridique et Textes Internationaux Dépourvus de Portée Juridique* [The Distinction Between Legally Binding and Non-Legally Binding International Texts], 60 ANNUAIRE DE L'INSTITUT DU DROIT INT'L 166, 217 (1983).

form and, more importantly, their content, these U.S. and Canadian SOIs do not carry much legal weight.

As JI develops, agreement on the organization of AIJ/JI cooperation should take the form of more formal, legally-binding instruments. Although the best forum for this is the FCCC, bilateral instruments can also be effective in allowing the Parties to set up more specific regimes compatible with the FCCC instruments. One question, however, is what instrument is appropriate to translate, in a legally-binding way, the host state's approval to transfer to another country part of the emissions reduction or sequestration achieved through specific projects in its own territory. The Dutch and Costa Rican practices are interesting in this respect.

B. *The Project-Specific Dutch Letters of Intent*

The Dutch Government has made a practice of using Letters of Intent (LOIs), each covering one or a few specific projects. First, the Dutch Ministry of Housing, Spatial Planning, and the Environment (hereinafter Ministry of VROM)¹⁷⁶ has signed LOIs on simulation projects (i.e., monitoring studies of ongoing or new projects as if they were AIJ/JI projects)¹⁷⁷ with the Hungarian Ministry of Environment and Regional Policy (Mar. 9, 1995), the Russian Federal Service for Hydrometeorology and Environmental Monitoring (Feb. 1995), and the Bhutanese Ministry of Planning (Oct. 1995).¹⁷⁸ In each of these LOIs, the obligations of both the host and the investing states are quite precise, either in terms of funding (e.g., USD \$410,000 made available to the Bhutanese) or in terms of identification of the consultants or other entities involved. Given their content, such LOIs may well be regarded as legally binding. Whether they are intergovernmental or merely interministerial does not preclude them from

¹⁷⁶ This acronym is taken from the Ministry's Dutch title: Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer.

¹⁷⁷ See generally HENK MERKUS & COEN PEELLEN, AN OVERVIEW OF THE NETHERLANDS' JOINT IMPLEMENTATION POLICY IN PRACTICE 8 (Ministry of VROM, CCD Paper 14, 1995); Andrasko et al., *supra* note 103, at 19; Center for Clean Air Policy & SEVEN, *supra* note 164, at 3.

¹⁷⁸ The Bhutanese Project is twofold since it consists of a simulation study on a proper AIJ project. See Letter of Intent Between the Ministry of Housing, Spatial Planning and the Environment of the Netherlands and the Ministry of Planning of the Royal Government of Bhutan, Neth.-Bhutan, 1995, para. 10 (distinguishing between "small hydropower project" and "study project").

being agreements in simplified form.¹⁷⁹ In addition to the simulation project LOIs, the Ministry of VROM has signed LOIs on true AIJ projects with the Ugandan Ministry of Tourism, Wildlife, and Antiques (Nov. 29, 1995), the Czech Ministry of the Environment (June 6, 1997), and the Romanian Ministries of Waters, Forests, and Environmental Protection and of Industries and Trade (Mar. 26, 1997).¹⁸⁰

On July 24, 1997, the Ministry of VROM's Joint Implementation Registration and Certification Procedure entered into force.¹⁸¹ It specifies that LOIs must be issued for each project.¹⁸² A Letter of Intent is defined as

[a] declaration by the government of a host country, also signed by the Netherlands government, stating that: 1) the host country accepts the project as a Joint Implementation pilot project; 2) the project agrees with the priorities of the development strategy and environmental strategy of that host country; 3) the Parties agree to report jointly to the Secretariat of the UN Framework Convention on Climate Change.¹⁸³

From this definition, it appears that the Dutch perceive new LOIs as intergovernmental (as opposed to merely interministerial). The fact that they are presented as unilateral declarations by the host government "also signed by the Netherlands government" should not be viewed as overly significant.¹⁸⁴ The actual LOIs contain obligations on both sides and are clearly phrased as

¹⁷⁹ See PHILIPPE GAUTIER, *ESSAI SUR LA DÉFINITION DES TRAITÉS ENTRE ÉTATS: LA PRATIQUE DE LA BELGIQUE AUX CONFINS DU DROIT DES TRAITÉS* [TOWARDS A DEFINITION OF INTERSTATE TREATIES: THE BELGIAN PRACTICE AT THE MARGINS OF TREATY LAW] 211, 241-42 (1993); J. Van Den Brandhof, *Administratieve Overeenkomsten in het Internationaal Publiekrecht* [Administrative Agreements in Public International Law] 61 NEDERLANDS JURISTENBLAD 1277 (1986); see also E.W. Vierdag, *Administratieve Overeenkomsten* [Administrative Agreements] 62 NEDERLANDS JURISTENBLAD 243 (1987) (reacting to Van Den Brandhof's article).

¹⁸⁰ The 1997 Dutch/Romanian LOI was also signed by the Dutch Ministry of Economic Affairs.

¹⁸¹ See Ministry of VROM, *supra* note 96, art. 16.

¹⁸² See *id.* art. 5(a).

¹⁸³ *Id.* art. 1(i).

¹⁸⁴ It seems that the reason why the Certification Procedure has been so phrased is that only the host government can decide upon the two following points: whether it accepts the project as a JI pilot project and whether the project agrees with the priorities of its development and environmental strategies. These two questions, given their objects, do not need to be subject to any bilateral agreement. See Telephone Interview with Walter Ruijgrok, Senior Consultant, KEMA (Jan. 21, 1998).

being bilateral LOIs. Since the procedure entered into force, LOIs have been signed between the Dutch Ministries of VROM and of Economic Affairs and, respectively, the Russian Federal Service for Hydrometeorology and Environmental Monitoring, the Interagency Commission of the Russian Federation on Climate Change Problems, and the Leningrad Regional Government (Sept. 11, 1997), the Hungarian Ministries for Environment and Regional Policy, and of Industry, Trade, and Tourism (Nov. 25, 1997), the Bulgarian Ministry of Environment and Water (July 9, 1998), the Ukrainian Ministry of Environmental Protection and Nuclear Safety (Sept. 11, 1997), and the Polish Ministry of Environmental Protection, Natural Resources, and Forestry (Sept. 24, 1998).

An even more interesting development is the project-specific Memorandum of Understanding (MOU) between the Dutch Minister for Development Cooperation and the Costa Rican Minister of Environment and Energy (Nov. 17, 1997).¹⁸⁵ The project consists of “the installation of anaerobic reactors in four [Costa Rican] coffee mills before the end of 1997 in order to reduce the organic load of process water *below* new legislative standards.”¹⁸⁶ Under this 1997 Dutch/Costa Rican MOU, the Dutch Minister for Development Cooperation provides USD \$372,257 to the Dutch-based Biomass Technology Group, which transfers technology (a modular reactor) to the Costa Rican-based Amanco, which “is responsible for the contracts with the coffee mills under Costa Rican law.”¹⁸⁷ The Parties agree that the methane emission reductions will be documented with Costa Rican certificates.¹⁸⁸ It is stated that the Parties agree that “[f]rom the date the Conference of Parties to the FCCC agreed upon, the certified offsets would be used for the fulfillment of the Netherlands’ commitments under the convention.”¹⁸⁹ Furthermore, they agree

¹⁸⁵ See Memorandum of Understanding Between the Minister for Development Cooperation of the Netherlands and the Minister of Environment and Energy of Costa Rica, Neth.-Costa Rica, Nov. 17, 1997 (signed at San José by the Ambassador of the Netherlands in Costa Rica and the Costa Rican Minister of Environment and Energy) [hereinafter 1997 Dutch/Costa Rica MOU].

¹⁸⁶ *Id.* para. 14 (emphasis added).

¹⁸⁷ *Id.* para. 16; see also paras. 13, 15, 19.

¹⁸⁸ See *id.* para. 21.

¹⁸⁹ *Id.* para. 22.

[t]o accept a 50% share of the certified amount of greenhouse gas emissions reduced for both the coffee mills and the Netherlands. The potential net emissions of greenhouse gases to be reduced by the project is 127,034 metric tons equivalent of carbon dioxide during the project life time (10 years).¹⁹⁰

There is a similar MOU between the Dutch Minister for Development Cooperation and the Honduran Minister of Natural Resources and Environment (Jan. 26, 1998).¹⁹¹ This MOU refers to a project to be presented as AIJ to the FCCC Secretariat and which consists of the introduction of 400,000 Compact Fluorescent Lamp (CFL) bulbs in Honduras.¹⁹² The MOU states that “the National Electricity Company of Honduras, ENEE, is willing to carry out demand side management measures,”¹⁹³ that Philips International Sales Lighting (Eindhoven) “is providing the CFLs through Philips Inpelca,”¹⁹⁴ that Eurotrade “is responsible for the distribution of the CFLs,”¹⁹⁵ and that the Minister for Development Cooperation is willing to provide USD \$1,210,000 for the project.¹⁹⁶ Interestingly enough, the Parties agree “to accept a 50% share of the certificates quantifying the amount of greenhouse gas reduced for both ENEE and the Netherlands Minister for Development Cooperation.”¹⁹⁷

Both the 1997 Dutch/Costa Rican and the 1998 Dutch/Honduran MOUs contain a fifty percent benefit sharing. What is being shared is phrased in terms of either “certified amount of greenhouse gas emissions reduced”¹⁹⁸ or “certificates quantifying

¹⁹⁰ *Id.* para. 23.

¹⁹¹ See Memorandum of Understanding Between the Minister for Development Cooperation of the Netherlands and the Minister of Natural Resources and Environment of the Republic of Honduras, Neth.-Hond., Jan. 26, 1998 (signed in Tegucigalpa, Honduras by the Honduran Minister of Natural Resources and Environment and a representative of the Dutch Minister for Development Cooperation of the Netherlands in Costa Rica) [hereinafter 1998 Dutch/Honduran MOU].

¹⁹² See *id.* para. 14.

¹⁹³ *Id.* para. 15.

¹⁹⁴ *Id.* para. 16.

¹⁹⁵ *Id.* para. 17.

¹⁹⁶ See *id.* para. 20. Philips ISL, ENEE, and Eurotrade are not parties to the MOU as such. However, there is a Business Plan attached to the MOU, which contains the “parameters for the final terms of agreement for the project among and the responsibilities of the parties, being” ENEE, Philips ISL, and Eurotrade. *Id.* para. 13.

¹⁹⁷ *Id.* para. 24.

¹⁹⁸ 1997 Dutch/Costa Rica MOU, *supra* note 185, para. 23.

the amount of greenhouse gas reduced.”¹⁹⁹ The fact that they are shared between a non-state actor (the coffee mills or ENEE) and a state actor (the Netherlands) raises questions about the legal status of what is being shared, namely “certificates.” The Dutch/Costa Rican MOU states that the emission reductions from the project will be certified “by the Costa Rican Office on Joint Implementation (OCIC), in agreement with the Dutch based Joint Implementation Registration Centre (JIRC)” and that they will be documented with “Certificate[s] of Mitigation of Greenhouse Gases Emissions,”²⁰⁰ namely domestic Costa Rican certificates known as CTOs.²⁰¹ The Dutch/Honduran MOU states that certification will be performed “*jointly* by the Dutch based Joint Implementation Registration Centre (JIRC) and a designated Honduran institution” and that “these certificates only quantify the emission reduction and cannot function as credits.”²⁰² While certificates exist under the Dutch domestic regime,²⁰³ it is unclear whether the certificates referred to here are Dutch or whether they will be recognized under both Dutch and Honduran laws. ENEE and the coffee mills might be interested in domestic certificates from their respective home countries, i.e., CTOs or Honduran certificates. The fact that certificates under the Dutch/Honduran MOU are not “credits” as such does not preclude the possibility of their future use, either to obtain “credits” (e.g., fiscal exemptions) in Honduras on the basis of the certificates or to sell them to foreign companies or states who may use them for domestic and international crediting under the CDM.

Costa Rican CTOs can also be acquired by state actors intending to use them in the CDM context in the future. The Netherlands, therefore, may be interested in CTOs. Similarly, the “joint certificates” under the Dutch/Honduran MOU will only be of interest to the Dutch State if they are recognized under Honduran law, unlike “classical” domestic Dutch certificates. Hence, if we are to make sense of Paragraph 24 of the Dutch/Honduran MOU, such “joint certificates” must be interpreted as entailing, as it is the case with CTOs, an international

¹⁹⁹ 1998 Dutch/Honduran MOU, *supra* note 191, para. 24.

²⁰⁰ 1997 Dutch/Costa Rica MOU, *supra* note 185, para. 21.

²⁰¹ *See id.*; *see also* discussion *infra* Part III.E.

²⁰² 1998 Dutch/Honduran MOU, *supra* note 191, para. 22 (emphasis added).

²⁰³ *See infra* Part IV.B.

recognition by the host state (here, Honduras) of the “additional contribution [of the Netherlands] as financing associate in the execution of an AIJ project.”²⁰⁴ Incidentally, while the Dutch/Honduran MOU states that “the implementation of the . . . project will not change present Netherlands and Honduran commitments under the UNFCCC,”²⁰⁵ it does not mean that the project could not change their commitments under Article 3(11) of the Kyoto Protocol were “joint certificates” to be internationally recognized as CERs by the CDM authorities. If this argument proves valid, following the respective development of the “joint certificate” and CTO concepts will be of great interest.

Finally, the Dutch Ministries of VROM and of Economic Affairs have signed an LOI with the Romanian Ministry of Waters, Forests, and Environment (Feb. 2, 1998).²⁰⁶ This LOI deals with two projects in Tirgu Mures involving energy efficiency in drinking water supply and improvement of the waste water infrastructure. It contains, among others, a clause by which the Ministries “agree to facilitate the crediting of the CO₂ emissions reduced in Romania to the Netherlands as a result of the realisation of these projects, and agree that 65% of the emission reduction units of the projects in the period 2008-2012 will be transferred to the Netherlands.”²⁰⁷ Like the 1997 Dutch/Costa Rican MOU and the 1998 Dutch/Honduran MOU, the Dutch/Romanian LOI goes beyond the content of LOIs as defined in Article 1(i) of the VROM procedure. The clause clearly indicates the sharing of ERUs at the interstate level, in line with Article 4(1) of the Kyoto Protocol.

Looking at the 1997 Dutch/Costa Rican MOU, the 1998 Dutch/Honduran MOU, and the 1998 Dutch/Romanian LOI, it seems clear that the authorities signing such agreements in the future, especially on the host country side, will have the capacity to bind their states. The transfer of CTOs (Dutch/Costa Rican MOU), “joint certificates” (Dutch/Honduran MOU), or ERUs

²⁰⁴ 1997 Dutch/Costa Rica MOU, *supra* note 185, para. 21.

²⁰⁵ 1998 Dutch/Honduran MOU, *supra* note 191, para. 25.

²⁰⁶ Letter of Intent Between the Ministry of Housing, Spatial Planning and the Environment and the Ministry of Economic Affairs of the Netherlands and the Ministry of Waters, Forests and Environmental Protection of Romania, Neth.-Rom., Feb. 2, 1998 (signed in Bucharest, Romania by the Dutch Minister of Housing, Spatial Planning and the Environment (also on behalf of the Dutch Minister of Economic Affairs) and the Romanian Minister of Waters, Forests and Environmental Protection).

²⁰⁷ *Id.* para. 14.

(Dutch/Romanian LOI) clearly modifies the international obligations of the states involved. Insofar as the respective domestic legal systems would refer to them, the terms “LOI” and “MOU” can both satisfactorily be used to identify such instruments. The titles of these agreements do not matter much if their content makes clear that the parties’ intentions are to bind their respective states internationally.

C. *The Face Memorandum of Understanding*

Projects launched by the Dutch Face Foundation are backed by an MOU with the government of each of the host countries.²⁰⁸ This creates yet another arrangement: an agreement between the investing company and the host state. The Face Foundation was set up in 1990 by the Dutch Electricity Generating Board to finance projects aimed at sequestering carbon dioxide through afforestation. Article 2 of the MOU provides that

[t]he government will support Face in pursuing the Projects by using its best endeavours: (a) To maintain and promote legislation in favour of the rehabilitation and establishment of lands in [the host country]; (b) To maintain a government policy in favour of rehabilitation of forest lands and establishment of supplementary forest lands in [the host country]; . . . (f) To ensure that the sequestration and offset of CO₂ under any of the Projects will be exclusively for Face or its assignee; . . . (h) To apply a favourable regime of taxation with respect to the Projects; . . .”²⁰⁹

Given the use of phrases such as “best endeavours” and “favourable regime of taxation,” the extent of the government’s obligations under Article 2 is unclear. Interestingly, the MOU contains the following dispute resolution clause:

Any dispute which may arise between Face and the Government out of [the MOU] shall be resolved by mutual consultation. Any issue that cannot be resolved in this manner shall, at the request of either Party, be resolved before the International Centre for Settlement of Investment Disputes pursuant to the Convention on the Settlement of Investment Disputes

²⁰⁸ See Face Foundation, *Memorandum of Understanding*, in CONTRACT DOCUMENTS FOR CO₂ OFFSET § 4 (Nov. 2, 1992). “Face” is itself an acronym for “Forests Absorbing Carbon dioxide Emission.”

²⁰⁹ *Id.* art. 2.

between States and Nationals of Other States, Washington, 18 March 1965.²¹⁰

The presence of such a dispute settlement clause provides a strong argument for recognizing this MOU as a legal instrument. The MOU does not contain any choice of law clause. However, it follows from the dispute settlement clause that, in the absence of agreement between the Parties, Article 42.1 of the Convention on the Settlement of Investment Disputes Between States and Nationals of Other States (ICSID) will apply.²¹¹

D. *The Project Contracts*

Contracting issues are crucial, since the allocation of international credits between the states might depend on the allocation decided upon by the project partners. This Section will compare the agreements entered into in two pilot projects (Saratov and Decin),²¹² as well as the standard contractual documents used by the Face Foundation. For the purpose of the analysis, this section will refer to the Investor(s) state as *Investland*, to the Host state as *Hostland*, to the investing company as *Investco*, and to the host company as *Hostco*, regardless of whether the host company is a local public/semi-public body or a private company. This Section discusses AIJ/JI project contracts between Investco and Hostco.

The Saratov project, also called RUSAFOR-SAP, is a re-forestation project on Russian territory financed by Oregon State University (OSU), the latter being funded by EPA.²¹³ At the end of 1993, OSU entered into three agreements (hereinafter the “Saratov Agreements”) with the Saratov Forest Management District (SFMD),²¹⁴ the International Forestry Institute (Mos-

²¹⁰ *Id.* art. 7; *see also* Convention on the Settlement of Investment Disputes Between States and Nationals of Other States, *opened for signature*, Mar. 18, 1965, 17 U.S.T. 1270, 575 U.N.T.S. 159 [hereinafter ICSID].

²¹¹ *See* ICSID, *supra* note 210, art. 42, 17 U.S.T. at 1286, 575 U.N.T.S. at 187.

²¹² *See* Center for Clean Air Policy & SEVEN, *supra* note 164, at 7-12, 77-81.

²¹³ *See* Cooperative Agreement #CR-821578-01-0 Between the U.S. EPA Climate Change Division and Oregon State University, Oct. 1, 1993 (on behalf of the State of Oregon).

²¹⁴ Agreement Between Oregon State University and Saratov Forest Management District (Russian Federal Forest Service), Oct. 29, 1993 [hereinafter OSU/SFMD Agreement], *reprinted in* RUSAFOR—Saratov Afforestation Project, app. A (Nov. 1, 1994) (proposal submitted to the Evaluation Panel for the USIJI).

cow) (IFIM),²¹⁵ and the International Forestry Institute (Volga Regional Branch) (VRB).²¹⁶

The Decin project aims at financing a new and more efficient gas heating plant in the Czech city of Decin, replacing the lignite coal-fired boilers and including co-generation (production of hot water). An Agreement on Loan and Transfer of Emission Reductions Company (hereinafter “Decin Agreement”) was entered into on Sept. 18, 1995 by the City of Decin and three utilities, namely NIPSCO Development Company, Inc., Wisconsin Electric Power Company, and Commonwealth Edison.²¹⁷ The three U.S. utilities agreed to partially finance the project through interest-free loans of USD \$200,000 per utility, in exchange for carbon dioxide emissions reductions.²¹⁸

Finally, in addition to the MOU with the host state’s government,²¹⁹ the Dutch Face Foundation has also elaborated a standard contractual document: a Form of Agreement for CO₂ Offset²²⁰ and General Conditions of Contract for CO₂ Offset²²¹ to be agreed upon with the local forest companies involved in the various projects.

1. *Choice of Law and Dispute Settlement Clauses*

These agreements must also include provisions on the forum for adjudication as well as the substantive and procedural law that will apply in case of dispute. In the Saratov project, each of the three Russian partners

agrees to comply with all Russian and United States federal, state, county, and local laws ordinances, and regulations appli-

²¹⁵ Agreement Between Oregon State University and International Forestry Institute (Moscow), Oct. 29, 1993 [hereinafter OSU/IFIM Agreement], reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. B.

²¹⁶ Agreement Between Oregon State University and International Forestry Institute, Volga Regional Branch, Oct. 29, 1993 [hereinafter OSU/VRB Agreement], reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. C.

²¹⁷ Decin Agreement on Loan and Transfer of Emissions Reductions, Sept. 18, 1995 [hereinafter Decin Agreement].

²¹⁸ See *id.* arts. 1-2.

²¹⁹ See *supra* Part III.C.

²²⁰ See Face Foundation, *Form of Agreement for CO₂ Offset*, in CONTRACT DOCUMENTS FOR CO₂ OFFSET, *supra* note 208, § 2 [hereinafter Face Form of Agreement].

²²¹ Face Foundation, *General Conditions for Contract for CO₂ Offset*, in CONTRACT DOCUMENTS FOR CO₂ OFFSET, *supra* note 208, § 3 [hereinafter Face General Conditions].

cable to this Agreement. This Agreement is entered into under and is to be construed in accordance with the laws of the State of Oregon. All Parties agree to be subject to the jurisdiction of Oregon Courts should any dispute arise under this Agreement.²²²

Thus, the Oregon courts are the proper forum for resolution of project disputes and the procedural law of Oregon is to apply. As to the applicable substantive law, the clause explicitly recognizes the potential applicability of both U.S. and Russian law (one provision explicitly refers to Russian law),²²³ but the issue will ultimately turn on Oregon's conflict of laws rules.

The Face General Conditions of Contract for CO₂ Offset provide that

[t]he contract and any disputes . . . shall in all respects exclusively be governed by and construed in accordance with the law of the Netherlands, without regard to its conflict of law rules, except as provided in any document forming part of the contract with respect to a specifically defined matter.²²⁴

In contrast with the Saratov Agreements, the Face General Conditions make Dutch law the applicable substantive law, unless otherwise indicated by the contract. With regard to procedural law, Article 43.1 of the General Conditions provides for the application of the arbitration rules of the United Nations Commission of International Trade Law (UNCITRAL). Three arbitrators will be appointed by the International Court of Arbitration of the International Chamber of Commerce and the place of arbitration will be The Hague.²²⁵

In certain circumstances, it may make sense to locate the forum within a third party's territory or in Hostland, in order to facilitate accessibility for local witnesses and, if Hostland's judicial system is utilized, enforceability without the need for recog-

²²² OSU/SFMD Agreement, *supra* note 214, pt. I, art. XII, *reprinted in* RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. I, at 5; OSU/IFIM Agreement, *supra* note 215, pt. I, art. XII, *reprinted in* RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. B, pt. I, at 5; OSU/VRB Agreement, *supra* note 216, pt. I, art. XII, *reprinted in* RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. C, pt. I, at 5.

²²³ See, e.g., OSU/SFMD Agreement, *supra* note 214, pt. I, art. VIII, *reprinted in* RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. I, at 4.

²²⁴ Face General Conditions, *supra* note 221, art. 42.

²²⁵ See *id.* art. 43.2-4.

inition of a foreign decision. Thus, the Decin Agreement provides that

[t]he Parties hereto shall attempt to settle any dispute under this agreement amicably by mutual agreement. Any such dispute which cannot be resolved by mutual agreement within the period of 60 days shall be resolved by arbitration before and under the rules of the Arbitration Court of the Economic Chamber of the Czech Republic and the Agrarian Chamber of the Czech Republic. The place of dispute settlement shall be Prague. The negotiating language shall be English. The award of the Arbitration Court shall be binding and final.²²⁶

Although it may be sensible to choose such a forum and procedural law, the decision about whether to choose Hostland's substantive law is especially dependent on the stability of the host state. The Decin agreement provides that it "shall be governed by Czech law."²²⁷

In fact, this analysis shows that a whole range of solutions is used. With respect to dispute settlement clauses, the parties have chosen either the judicial system of Investland (Saratov), an arbitration institution in Hostland (Decin), or an *ad hoc* arbitration panel using the UNCITRAL rules and operating in Investland (Face).²²⁸ With respect to the applicable substantive law, the parties have chosen either Hostland's law (Decin), Investland's law (Face), or one of the two, based on Investland's conflict of laws rules (Saratov).

2. *Benefits Sharing*

Another aspect of JI agreements is how they assign GHG reduction or sequestration benefits.²²⁹ Even though no international credits are offered during the Pilot Phase, this in no way precludes the possibility of domestic credits. Moreover, both domestic and international credits will be available after the Pilot Phase. So, how do the partners share the reduction units or credits? In the Saratov project, the "partners in the United States and

²²⁶ Decin Agreement, *supra* note 217, art. 10.1.

²²⁷ *Id.* art. 11.3.

²²⁸ While the Face MOU involved the use of ICSID in the context of relationships between Investco and Hostland, *see supra* Part III.C, the present discussion deals with Investco-Hostco relationships.

²²⁹ *See* Soren Varming et al., *Jl Credit Sharing: A Concrete Example*, JOINT IMPLEMENTATION Q., Sept. 1997, at 8, 9.

Russia will receive an equal share of all carbon offset credits that are produced in the afforestation project(s).”²³⁰

It may turn out that one partner (generally the investor) is mainly interested in emissions reductions/sequestration or credits, while another is more interested in a monetary equivalent.²³¹ Notice that if Investco receives all the credits while Hostco receives all the other profits, this might have some significance in the assessment of the project’s additionality.²³² In the Decin project, although the aggregate contribution of the U.S. investors to the capital costs only amounts to twelve percent (twenty-five-year loans without interest), the parties have agreed that “all Emission Reductions relating to the Heating Plant are transferred to the Utilities until the later of the following takes place: (a) the end of 2025 or (b) the last day of life of the heating Plant.”²³³

Similarly, in the Face Contract, Face pays Hostco a contribution to the costs, defined in terms of Netherlands guilders per hectare of reforestation/afforestation.²³⁴ In exchange, as in the Decin Agreement, it is agreed that all the rights flowing from the sequestration will accrue to Investco:

Before the Completion Date [i.e., the end of the three years of implementation phase], the Company shall, to the satisfaction of Face, enter into the appropriate public registry in the Country the exclusive entitlement of Face to any and all CO₂ sequestration and offset in the Contract Area for the remaining term of the contract.²³⁵

3. *Credits or Emission Reductions Sharing?*

It is not enough to ask how much is being allocated to each partner. *What* is being shared matters as well. In the three con-

²³⁰ OSU/SFMD Agreement, *supra* note 214, pt. II (Statement of Objective), reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. II, at 2; OSU/IFIM Agreement, *supra* note 215, pt. II (Statement of Objective), reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. B, pt. II, at 2; OSU/VRB Agreement, *supra* note 216, pt. II (Statement of Objective), reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. C, pt. II, at 2.

²³¹ This would matter less if credits or emission reductions/sequestration were tradable.

²³² See Niederberger, *supra* note 40, at 15.

²³³ Decin Agreement, *supra* note 217, art. 4.1.

²³⁴ See Face Form of Agreement, *supra* note 220, art. 4.

²³⁵ Face General Conditions, *supra* note 221, art. 23.2.

tracts above, the objects of the transfers are, respectively, “emissions reductions” (Decin), “CO₂ sequestration and offset” (Face), and “carbon offset credits” (Saratov).²³⁶ It is significant that the agreements use the words “CO₂ sequestration” (Face) or “emissions reductions” (Decin), as opposed to “sequestered CO₂” or “reduced emissions.” The former terms refer to actions (sequestration and reduction), while the latter terms refer to tangible or intangible objects (carbon in the trees and absence of carbon dioxide in the air). The contracts do not transfer property-like rights to tangible or intangible commodities; they transfer the right to be recognized, wholly or partially, as the author of the reduction or sequestration. This recognition may, in turn, give rise to rights under domestic law, namely credits under Investland and/or Hostland law. However, the entitlement to be recognized as the author of the reduction or sequestration and the entitlement to credits are distinct, even though the former may prove useless in the absence of the latter.

Consequently, transferring emissions reductions or sequestration (Decin/Face) or credits (Saratov) will not necessarily yield the same outcome. The word “credit,” as used in the Saratov agreements, clearly does not refer to international credits, which would be offered *to* the states under the FCCC, but it may possibly refer to domestic credits, which would be offered *by* the states (e.g., to their electric utilities). Domestic crediting is understood here in a broad sense, ranging from allowances to emit carbon dioxide in a tradable allowances program to tax relief. Although the allocation of credits agreed upon by the project partners will entail a corresponding allocation at the interstate level, credits will only be available to the project partners if there is a crediting regime in the domestic law of at least one of the states involved. However, in the Saratov case, it is not certain that “credits” should be construed in the strict sense above. The use of the phrase “credits that are produced” might imply a reference to emission reductions, since credits are not, strictly speaking, “produced.” It is necessary to define “credit” precisely. There might also be problems of applicable law. If U.S. law is applicable, one possible interpretation would be that it is U.S.

²³⁶ Decin Agreement, *supra* note 217, art. 2.1; Face General Conditions, *supra* note 221, art. 23.2; OSU/SFMD Agreement, *supra* note 214, pt. II (Statement of Objective), *reprinted in* RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. II, at 2.

credits that are at stake. Half of the U.S. credits in the Saratov case, then, would be allocated to the Russian partner. However, these credits might prove useless to the Russian partner (as, for instance, in the case of domestic tax relief).

Sharing “emissions reductions” may differ from sharing domestic credits. The difference arises when there is a domestic crediting system in only one of the countries involved, a situation that is likely to occur. Let us imagine that an electric utility from Investland (Investco) invests in Hostland. The project generates 4000 units of reduction, and domestic crediting exists only in Investland. In such a context, how should a clause providing that the partners on each side receive “an equal share of all carbon offset credits that are produced in the project” be interpreted? If the only credits produced are from Investland (say 4000 Investland units), it would be sensible to construe the contract as envisioning Investco transmitting 2000 (possibly tradable) Investland units (or the monetary equivalent thereof) to Hostco. On the contrary, if the clause designates “an equal share of the *emission reductions* that are produced in the project,” then it is up to each partner to claim credits in its own country. Thus, if Hostland has no domestic crediting system, Hostco will not receive any credits, and the contract will not bind Investco to transfer half of its credits, nor their monetary equivalent, to Hostco.

4. *Transferability*

The option, in some agreements, to transfer one’s right to credits or emission reductions to a third party raises another issue. Here again, domestic crediting and international crediting should be distinguished, although we shall see below that international transfers raise issues of parallelism between interstate and inter-company transfers.²³⁷ Moreover, it is not each party’s credits, themselves, which are transferable, but either “the right to their share of the carbon offset credits”²³⁸ or “all or any part of the emission reductions.”²³⁹ Thus, in both cases, Investco may transfer its share to another company.

²³⁷ See *infra* Part III.E.4.

²³⁸ OSU/SFMD Agreement, *supra* note 214, pt. II (Transfer of Carbon Offset Credits), reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. II, at 7.

²³⁹ Decin Agreement, *supra* note 217, art. 2.1.

The right to transfer may or may not be restricted depending on the contract. The Decin Agreement provides that “each Utility shall have the absolute and unconditional right at any time to convey, transfer, sell or trade all or any part of the emission reductions transferred to it under and pursuant to” the agreement.²⁴⁰ By contrast, “the City . . . covenants not to transfer the achieved emission reductions . . . to a third party.”²⁴¹ The Saratov Agreements provide that, with respect to a transfer by one partner to a third party, the selling partner has an obligation to provide prior notification of the sale to the other partner, although the other partner’s consent is not required.²⁴² The other partner does “retain[] the first right of refusal to purchase the excess carbon credits at the sale price,”²⁴³ which must be exercised within thirty days of receipt of written notification.²⁴⁴

5. Risks

Insurance mechanisms are especially important in the context of afforestation projects. Not only can the sequestration process be slowed down (e.g., by insect infestation) or stopped (e.g., by acid rain), it can even be reversed (e.g., by forest fire). In the Vologda project, a back-up project is being carried out in the event that the main project fails.²⁴⁵ The Saratov Agreements provide that

[i]n the event of loss or destruction of the seedlings or established trees in the plantation owing to severe frost, insect infestations, disease, fire or other natural or anthropogenic events, SFMD will replant and reestablish the plantation at no additional cost to OSU. The costs incurred by SFMD for any required plantation restoration activities can be recovered through the sale of existing or future carbon credits that are produced under the project(s). SFMD, at their sole discretion, may elect to exercise this option to recover their plantation restoration costs providing the sale is at the prevailing market price. The carbon credits that are sold to recover the costs incurred by SFMD for any required plantation restoration ac-

²⁴⁰ *Id.*

²⁴¹ *Id.* art. 2.5.

²⁴² See OSU/SFMD Agreement, *supra* note 214, pt. II (Transfer of Carbon Offset Credits), reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. II, at 7.

²⁴³ *Id.*

²⁴⁴ See *id.*

²⁴⁵ See Center for Clean Air Policy & SEVEN, *supra* note 164, at 90.

tivities reduce by an equal amount the carbon credits that are available to OSU and SFMD under this agreement.²⁴⁶

This provision offers the host partner a strong incentive to implement the project properly: First, by allocating part of the credits to the local partner and, second, by deciding that, in case of the project's failure, "SFMD will replant and reestablish the plantation *at no additional cost to OSU.*"²⁴⁷ Instead of leading to the contract's termination, such natural disasters give rise to an additional obligation for the host partner. However, the text adds that the money invested by SFMD in this re-establishment may be recovered by selling part of the project's credits. This offers an interesting interaction between insurance problems and the possibility of transferring credits. These sold credits would be deducted from the credits of the two original partners.²⁴⁸ Thus, in practice it appears that OSU would bear part of the costs by losing some of its credits.

6. *Long-Term Secural of Reductions*

There also exists a need to secure GHG sequestration or emissions reductions in the long run. Thus, projects involving changes in energy use need to be associated with capacity-building programs to ensure that they will last after the investor leaves. In the context of afforestation projects, problems include slow rate of forest growth and investors' need to ensure that harvested wood will be used in long-lasting products (e.g., in building or furniture construction). Therefore, a "product life cycle" approach is needed. Crediting with a longer periodicity or the availability of replacement credits is not enough. If, even after 100 years, the wood were burned, CO₂ would again be released in the atmosphere, and no sequestration will have been achieved. Thus, the Saratov Agreements provide that

[c]ommercial timber rights on the plantation are reserved by SFMD. At the conclusion of the project, following the period of carbon accumulation, at the election of SFMD, the commercial timber on site may be harvested. The commercial timber extracted must be used for residential and/or commercial construction that would preserve the carbon for at least one

²⁴⁶ OSU/SFMD Agreement, *supra* note 214, pt. II (Seedling and Plantation Insurance), *reprinted in* RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. II, at 7.

²⁴⁷ *Id.* (emphasis added).

²⁴⁸ *See id.*

hundred (100) years after harvest, and the non-commercial timber and slash debris must be substituted for fossil fuels that are scheduled for energy and heat production.²⁴⁹

Still, if afforestation projects start to accumulate, it will become increasingly unlikely that the wood will only be used for construction work or another durable use. Even so, a leakage problem might be created by a shift in the use of other forests. Forests that would otherwise have been used to produce construction wood might now become used for other non-durable purposes, with the result that there would not be any net capture of CO₂. This might be a fatal problem for carbon sequestration.

The Saratov, Decin, and Face contracts suggest that many patterns of arrangement are possible. The content of dispute settlement and choice of law clauses will vary with the confidence in, as well as the stability and content of, each state's legal system. The nature of what is transferred (credits or emission reductions) may depend on whether a domestic crediting systems exists in one or both of the countries involved. Whether or not one of the parties is exclusively interested in credits will obviously influence the allocation of the credits or emissions reductions. Moreover, the transferability of credits or emissions reductions to third parties could make JI more attractive to the project partners. Finally, dealing with forests creates specific problems related to risks, reversibility, and long-term security of reductions.

E. *Dealing with Costa Rican Certifiable Tradable Offsets*

The Costa Rican situation provides us with still another interesting concept: Certifiable Tradable Greenhouse Gas Offsets. CTOs resulted from the mission given to the Costa Rican OCIC by Executive Decree No. 25,067-Ministeria del Ambiente y Energía (MINAE) to design an economic mechanism that would be "nominative, transferable and negotiable in the international financial markets."²⁵⁰ Instead of setting up projects in Costa Rica, foreign investors (be they states or private persons) may now acquire CTOs directly, based on projects already set up by Costa Rican authorities. This is more flexible, both for the host

²⁴⁹ *Id.* pt. II (Uses of the Project Site), reprinted in RUSAFOR—Saratov Afforestation Project, *supra* note 214, app. A, pt. II, at 8.

²⁵⁰ Executive Decree No. 25,067-MINAE (Mar. 21, 1996), LA GACETA, Apr. 22, 1996, at 6, 9-10.

country (which can design projects according to its own priorities) and for foreign investors (who can be large or small emitters, governments, etc.), since they can purchase exactly the amount of CTOs they need. The money is transferred to the MINAE Greenhouse Gas Fund, which finances projects. OCIC issues numbered and dated Greenhouse Gas Emissions Mitigation Certificates, by which

[t]he [OCIC] certifies that the bearer . . . has contributed to the improvement of the global climate by providing additional financial support to specific national sustainable development projects in Costa Rica that have mitigated a quantity of greenhouse gases in carbon dioxide (CO₂) equivalent units of 1000 metric tons of carbon. Through the emission of this certificate, the Government of the Republic of Costa Rica commits itself to maintain the validity of the amount of greenhouse gas emissions offsets specified in this certificate during the next 20 (twenty) years, and guarantee replacement offsets if it is demonstrated that the offsets here certified have not been produced in the amount indicated on the certificate.²⁵¹

1. *The Practice*

So far, CTOs have been purchased at a price of USD \$10 per metric ton (MT) by the Norwegian Ministry of Foreign Affairs (170,000 MT of carbon offsets) and by Consorcio Noruego (30,000 MT of carbon offsets), a Norwegian consortium of three companies: ABB Kraft AS, NCC Eeg-Henriksen Anlegg AS, and Kvaerner Energy AS. The purchases occurred through an agreement, signed on Oct. 29, 1996 by the Royal Norwegian Ministry of Foreign Affairs and the Costa Rican Ministry of Environment and Energy, regarding reforestation and forest conservation AIJ projects.²⁵² The Norwegian money is being used exclusively to assist in financing a project aimed at conserving and rehabilitating 4000 hectares of forest in the upper Virilla

²⁵¹ Costa Rican Office on Joint Implementation, Greenhouse Gas Emissions Mitigation Certificate No. 88 (Feb. 6, 1997); *see also* 1997 Dutch/Costa Rica MOU, *supra* note 185, para. 21 (defining the certificate from an interstate perspective as “an instrument through which an Annex I Party can demonstrate its additional contribution as financing associate in the execution of an AIJ project, through the certification of metric tons of carbon dioxide equivalent representing the value of the AIJ investment.”)

²⁵² *See* 1996 Norway/Costa Rica Agreement, *supra* note 128, art. IV(1); *see also* *AIJ Pilot Project Between Costa Rica and Norway*, JOINT IMPLEMENTATION Q., Dec. 1996, at 6.

River Basin.²⁵³ This transfer of CTOs, which is connected to the financing of a specific project and not merely to the financing of the Fund as such,²⁵⁴ clearly remains in the context of project-based JI. Additionally, on May 9, 1997, a U.S. company, the Centre Financial Products Ltd. (acting as a broker), purchased CTOs representing 1000 MT of carbon to be placed on the Chicago Stock Market.²⁵⁵

Finally, on top of the project-specific 1997 Dutch/Costa Rican MOU,²⁵⁶ general MOUs have been signed between the Government of Costa Rica and the governments of Switzerland (Feb. 27, 1998) and Finland (Mar. 2, 1998). Under the 1998 Swiss/Costa Rican MOU, the governments “agree to undertake one or more project activities resulting in [CERs] The details of each individual project activity . . . will be provided in the form of Project Agreement as an attachment to [the] MOU.”²⁵⁷ The 1998 Finnish/Costa Rican MOU does not go so far. In it, the parties agree “to analyze the implications of [Article 12 CDM] . . . and to mutually study the different possibilities given by the CDM in assisting the parties included in Annex I in achieving compliance with part of their quantified emissions reductions commitments under the Kyoto protocol.”²⁵⁸ They also agree that “once the national decisions in Finland on the implementation of the Kyoto Protocol have been made, the Finnish Government will study the possibilities to invest in [CERs] accruing from project activities in Costa Rica in accordance with the Costa-Rican [CTO] instrument.”²⁵⁹

²⁵³ See 1996 Norway/Costa Rica Agreement, *supra* note 128, arts. I(2), III(1).

²⁵⁴ See *id.*; see also *Certifiable, Tradable Offsets in Costa Rica*, JOINT IMPLEMENTATION Q., June 1996, at 2, 2 box 1 (“Each CTO will be denoted as originating from a specific area or project.”).

²⁵⁵ See *Costa Rica Certifiable Tradable Offsets Initiative*, INT’L PARTNERSHIPS REP., July 1997, at 5; see also COSTA RICAN OFFICE ON JOINT IMPLEMENTATION, COSTA RICAN CERTIFIABLE, TRADABLE GREENHOUSE GAS OFFSET (CTO) 3 (1997).

²⁵⁶ See *supra* text accompanying notes 185-90.

²⁵⁷ 1998 Swiss/Costa Rica MOU, *supra* note 162, para 7.

²⁵⁸ Memorandum of Understanding Between the Government of Finland and the Government of Costa Rica, Fin.-Costa Rica, Mar. 2, 1998, para. 6 (signed by the Minister of the Environment and of Development Cooperation of Finland and the Minister of Environment and Energy of Costa Rica).

²⁵⁹ *Id.* para. 8. In an earlier draft of the Costa Rica/Finland MOU, the Parties agreed

to invest during 1998, US\$ 2 million from the Finnish carbon tax fund, and to allow for up to US\$ 8 million from the Finnish private sector investments in AIJ during the years 1998 and 1999, in exchange for certified

Before turning to three specific issues, a distinction must be drawn, in the Costa Rican context, between two national umbrella forestry projects: reforestation, conservation, or sustainable management activities on private land (Private Forestry Project (PFP)), and forest conservation activities accomplished through land acquisition (Protected Areas Project (PAP)).²⁶⁰ With respect to the PFP, the Costa Rican Forestry Law (as amended) sets up a regime of “Forestry Environmental Services Payment” (FESP Program) aimed at small and medium-sized private forest owners.²⁶¹ The Virilla project is part of the Program. For pasture land, twenty-year contracts can be signed with private farmers to promote reforestation activities.²⁶² With respect to the PAP, the CTOs bought in May 1997 by Centre Financial Products and the AIJ project, “Carbon Sequestration through Costa Rican Territorial & Financial Consolidation of Biological Reserves Project” (approved by the USIJI in July 1997), both concern this acquisition effort. If enough funding is provided by the CTO investors, roughly 550,000 hectares of land should be purchased and converted to full protection status.²⁶³

emission reductions to be deductible from the current or future carbon taxes. The certified emission reductions will be achieved by two national scope forestry projects, the ‘Protected Areas Project (PAP)’ and the ‘Private Forestry Project (PFP),’ both already under implementation phase and approved by the UNFCCC Secretariat as AIJ. The details of each individual transaction agreed to by the Participating Governments, including plans for monitoring and independent third-party verification, will be provided as an attachment to this MOU.

Draft Memorandum of Understanding Between the Government of Finland and the Government of Costa Rica, Fin.-Costa Rica, para. 6 [hereinafter 1998 Draft Finnish/Costa Rica MOU]. Hence, domestic incentives were anticipated for Finnish companies and there would have been recognition of the Costa Rican CTOs under Finnish Law.

²⁶⁰ See Executive Decree No. 25,067-MINAE (Mar. 21, 1996), LA GACETA, Apr. 22, 1996, art. 4, at 10 (making the distinction); see also COSTA RICAN OFFICE ON JOINT IMPLEMENTATION, *supra* note 255, at 3.

²⁶¹ See Forestry Law No. 7575, art. 3(k), DIARIO OFICIAL, Apr. 16, 1996, at 1; see also 1996 Norway/Costa Rica Agreement, *supra* note 128, Annex I, § II(A).

²⁶² See 1996 Norway/Costa Rica Agreement, *supra* note 128, Annex I, § II(E)(1).

²⁶³ See E-mail from Adalberto Gorbitz, Costa Rican Office on Joint Implementation, to Axel Gosseries, Junior Research Fellow, Belgian National Fund for Scientific Research (Feb. 5, 1998) (555,052 hectares); E-mail from Duane Lakich, U.S. Initiative on Joint Implementation, to Axel Gosseries, Junior Research Fellow, Belgian National Fund for Scientific Research (Feb. 6, 1998) (530,000 hectares).

2. *After or Before-the-Fact?*

In principle, allowances or permits are allocated (and transferable) before emissions can take place. Could rights based upon emission reductions be traded before-the-fact as well?²⁶⁴ If ERUs transferred through interstate agreements (Article 6 JI) are before-the-fact, then, if Investland emits, at home, a corresponding amount on top of its original quantified commitments and if the anticipated emission reductions of the project turn out never to take place, who should be held internationally liable for violation of the Protocol? It appears to be left to the parties of each JI agreement to define the nature of the transferred rights and the time at which such transfer operates a modification of the parties' quantified commitments under the Kyoto Protocol. It is unlikely that Investland will accept any liability with regard to future reduction obligations for which it would already have paid and would have no power to enforce. The safest option is after-the-fact transfer. With regard to CERs, insofar as they will be guaranteed internationally under the CDM, they should either be after-the-fact²⁶⁵ or be subject to seller-only liability (possibly including the private parties involved) when they are based upon emission reductions still remaining to be achieved.²⁶⁶

²⁶⁴ See Missfeldt, *supra* note 74, at 129-30 (discussing the distinction between *ex ante* and *ex post* trading).

²⁶⁵ See Werksman, *supra* note 150, at 156 (arguing that "there is some basis for this 'ex post' approach in the text of Article 12, which refers to emissions reductions 'accruing from' project activities (suggesting that they must have already occurred to be credited)"). It is unclear whether "accruing from" refers precisely to "emission reductions" (in which case Werksman's argument would hold) or to "certified emission reductions" as a whole (in which case Werksman's argument would not hold). By comparing the expressions used in Article 12(3)(b) ("certified emission reductions accruing from . . . projects activities") and in Article 12(10) ("certified emission reductions obtained . . . from the year 2000"), one could argue that the difference in wording means that "accruing from" refers specifically to "emission reductions" in Article 12(3)(b) (confirming Werksman's thesis), whereas "obtained" refers to "certified emission reductions" as a whole in Article 12(10) (confirming the doubts expressed *supra* Part II.C.2).

²⁶⁶ See Michael Grubb, *International Emissions Trading Under the Kyoto Protocol: Core Issues in Implementation*, 7 REV. EUR. COMMUNITY & INT'L ENVTL. L. 140, 141 (1998). Grubb raises (in the context of emissions trading) an issue of importance for Article 6 JI (project-based JI in a closed context). It may happen that, while having properly achieved the anticipated emission reduction under a specific JI project, a host country would not comply with its global quantified commitment. In order not to encourage such a behavior, one may imagine a "double conditionality" system: a transfer of rights under an Article 6 JI agreement could be recognized internationally only *after* the emis-

The CTO regime illustrates the difficulties of this “after” or “before-the-fact” issue. First, it seems that, at least in the Norway/Costa Rica case, the CTOs are after-the-fact; that is, they correspond to reductions that have already taken place. The system is subtle. It is stated in the Annex of the Norway/Costa Rica Agreement that “the Reforestation and Forest Conservation AIJ Pilot Project *will* sequester or avoid 249,242 metric tons of Carbon over its twenty-five-year life.”²⁶⁷ However, it also states that

each CTO that is issued will be guaranteed against CO₂ sequestration or emissions avoided *that have already taken place* through [the Forestry Environmental Services Payment (FESP) Program that began in October 1995]. OCIC will document these facts by using a CTO denominated in MT of carbon avoided or sequestered by the FESP Program. *These* CTO’s will be transferred by OCIC to the Norwegian partners in the Project in return for their financial contributions to the Project.²⁶⁸

Thus, whereas the Norwegian funding will be used specifically for the Virilla project, the CTOs that the Norwegian partners will receive correspond to reductions that already took place in other areas of Costa Rica. However, CTOs can also be before-the-fact, since, according to OCIC, “[e]ach CTO represents a certification of a specific number of units of GHG, expressed in carbon equivalent units, reduced or sequestered *or to be reduced or sequestered*, by AIJ actions, in which all phases of implementation have already been completed. They are pre-certified and fully

sion reductions of the specific JI project have been achieved, provided that the host country complies with its general quantified commitments for the given commitment period. Instead of making the transfer of rights conditional ex ante upon this twofold requirement, Grubb advocates (in the emissions trading context) “shared liability” (as opposed to “seller-only” or “buyer-only” liability). *See id.* at 141. This means that non-compliance will *retroactively* affect the content and/or existence of the rights transferred: “[T]onnes traded either become invalid in the event of non-compliance, or are discounted in proportion to the degree of non-compliance by the transferring Party.” *Id.* While both options (ex ante conditionality and retroactive conditionality) provide disincentives for trading with unreliable sellers, a suspensive conditionality (suspending the moment of the transfer) appears technically more satisfactory than first having a true transfer and then invalidating it. *Cf.* Kyoto Protocol, *supra* note 7, art. 6(1)(c), 37 I.L.M. at 36 (requiring compliance with procedural obligations of Articles 5 and 7 in order to be allowed to acquire ERUs).

²⁶⁷ 1996 Norway/Costa Rica Agreement, *supra* note 128, Annex I, § I (emphasis added).

²⁶⁸ *Id.* Annex I, § II(A)(1) (emphasis added).

transferable.”²⁶⁹ Before-the-fact CTOs may be problematic at the interstate level if they have to be translated as after-the-fact CERs under the CDM.

3. *Long-Term Secural of Reductions*

The Norway/Costa Rica Agreement again states that each CTO will be guaranteed and certified by MINAE, through OCIC, for a period of 20 years. During the 20 years guarantee period, MINAE, through OCIC, will issue replacement CTO's for any of the CTO's transferred to [Royal Norwegian Ministry of Foreign Affairs] and [Consorcio Noruego] in 1997 and 1998 that may be declared invalid as a result of the monitoring process[].²⁷⁰

The existence of replacement CTOs is made possible by the fact that only part of all possible carbon reductions are being sold as CTOs,²⁷¹ thus creating a form of insurance, as is the case in the Vologda and Saratov projects.²⁷² As OCIC states, it “will build up a bank of unused carbon offsets—a buffer between potential and allowed carbon offsets plus any unsold offsets, that can be used as assurance against other more difficult or less developed projects.”²⁷³ In the case of an USIJI-approved project, “a surplus of 15% of the carbon sequestered would be maintained to guarantee the CTOs sold.”²⁷⁴

Still, one long term aspect does not seem to be addressed in the CTOs regime, namely, what happens after the twenty-year guarantee? This is especially true for CTOs obtained from activities performed on private land (PFP), be it under the FESP umbrella or through twenty-year contracts with farmers. There

²⁶⁹ COSTA RICAN OFFICE ON JOINT IMPLEMENTATION, *supra*, note 255, at 1-2 (emphasis added); *see also* DUTSCHKE & MICHAELOWA, *supra* note 135, § 4.1.

²⁷⁰ 1996 Norway/Costa Rica Agreement, *supra* note 128, art. IV(1). *See generally* U.S. Initiative on Joint Implementation, Costa Rican Consolidation of Biological Reserves Project Added to the U.S. Initiative on Joint Implementation (July 28, 1997) (stating that, in the context of this USIJI-approved project, “each CTO will represent a third party certification of 1,000 tons of carbon the project sequestered the previous year”); 1998 Swiss/Costa Rica MOU, *supra* note 162, art. 10 (“The Government of Costa Rica commits itself to maintain *over time* the validity of the specified amount of emissions reductions indicated within the CTOs.”) (emphasis added).

²⁷¹ *See* DUTSCHKE & MICHAELOWA, *supra* note 135, § 2.2.2 (claiming that CTOs account for 17% of the total potential reduction in carbon).

²⁷² *See id.*

²⁷³ COSTA RICAN OFFICE ON JOINT IMPLEMENTATION, *supra* note 255, at 2.

²⁷⁴ U.S. Initiative on Joint Implementation, *supra* note 270, at 1.

seems to be no provision, either in the Forest Law or in the contracts, that would apply should the forest burn down after the twenty-year period, nor is there any mention of the authorized uses of the wood. The OCIC has said, “according to the Costa Rican legal framework, private owners will be after the twenty years in their rights to decide what to do with their land.”²⁷⁵ However, if the logged trees are used as fuel, then all the CO₂ would be released again. Even when protection is achieved by the state through land acquisition, forests might still burn accidentally after the twenty-year guarantee. Admittedly, replacement CTOs could play a role here. But what about sustainable forestry activities that could take place in the forests acquired under the PAP scheme? Would there be any restrictions on the logged wood? Clearly, a full life-cycle approach is needed to restrict the subsequent uses of the sequestration wood. Specific provisions in the Forest Law and contractual clauses of the twenty-year contracts with farmers, as seen in the Saratov Agreements, might seem appropriate. Still, the preceding remarks on leakage with respect to post-sequestration use of the wood would still hold.

4. *Exchanging CTOs for CERs or Domestic Credits*

Finally, how are CTOs to be used by states or private parties? Investland (e.g., Norway) will have to get the Costa Rican CTOs certificates recognized as international “certified emission reductions” by the CDM. An open question is whether CTOs acquired during and representing reductions achieved during the Pilot Phase will be allowed to be certified under the CDM.²⁷⁶ Investco will have to get the Costa Rican CTOs recognized under Investland Law to get the corresponding domestic credits. The exchangeability of CTOs into CERs also depends on whether “sinks projects” will be allowed under the CDM. The absence of

²⁷⁵ E-mail from Adalberto Gorbitz to Axel Gosseries, *supra* note 263.

²⁷⁶ See 1996 Norway/Costa Rica Agreement, *supra* note 128, art. IV(1) (“[N]o greenhouse gas emission credits will be claimed by Norway during the Pilot Phase.”), art. IV(3) (“RNMFA may decide to claim offset credits for the contributions from the date that the Conference of the Parties to the UNFCCC may decide that such claims can be made to meet commitments under the UNFCCC.”); see also 1997 Dutch/Costa Rica MOU, *supra* note 185, paras. 22, 23 (discussing the issue of banking and retrospective crediting); *supra* Part II.B.2 (discussing banking and retrospective crediting under the Berlin Criteria); *supra* text accompanying notes 158-63 (discussing banking and retrospective crediting under the Kyoto Protocol).

the notion of “sinks” in Article 12 of the Kyoto Protocol, in contrast with its presence in Article 6(1), does not constitute a decisive argument.²⁷⁷ The presence of the notion of “sinks” in Article 6(1) is due to the distinction drawn between “reduction in emissions by sources” and “enhancement of removals by sinks.” The absence of “sinks” in Article 12 is simply due to the fact that the article is phrased in general terms, and it does not contain the notion of “sources” either. Admittedly, Article 12 does use the phrase “emission reductions.” However, the latter should not be strictly construed as excluding carbon sequestration, since, when the term is used in Article 6 as part of the phrase “emission reduction unit,” it clearly covers sinks as well. Nonetheless, it remains to be decided whether any categories of sinks will be allowed under the CDM.²⁷⁸

Moreover, the fact that CTOs are transferable must be accounted for. Here, a two-step model would make sense. First, Costa Rican CTOs could be traded freely between any parties (state or non-state) on any stock market. Notification of the transfers to the FCCC Secretariat would be perfectly sufficient. However, once the CTOs have been used by a state to obtain recognition of CERs under the CDM, or by a company to obtain domestic credits at home, it would make sense that the CTO certificates be kept, respectively, by the CDM’s operational entities or by state authorities. After their “translation” into CERs or domestic credits, CTO certificates could no longer be used, respectively, at the domestic or international level. The state, having provided domestic credits in exchange for the CTOs, could then turn to the CDM entities to “exchange” the CTOs for CERs or to sell the CTOs to another country. What must be prevented is the use of the same CTO certificate twice within interstate, inter-company, or state-company trade channels, either for the purpose of domestic crediting in the same country or for the purpose of obtaining CERs from the CDM entities.

²⁷⁷ Compare Werksman, *supra* note 150, at 155-56, with *SBSTA and SBI Prepare for Buenos Aires*, JOINT IMPLEMENTATION Q., June 1998, at 4 (“The EU emphasized that since the sink option is not included in the current version of Article 12 CDM should not apply to carbon sequestration projects unless the CoP/MoP decides otherwise.”).

²⁷⁸ See Yamin, *supra* note 136, at 118-19.

IV

JOINT IMPLEMENTATION AFTER THE PILOT PHASE

This Article concludes by considering two legal aspects of project-based JI after the Pilot Phase more specifically: baselines and domestic incentives. The questions of legal architecture that would arise from the development of multilateral forms of JI will be left aside.²⁷⁹

A. *Baselines*

The requirement of additionality entails the need to define baselines, i.e., projections of the situation in the absence of JI/AIJ projects (the status quo scenario).²⁸⁰ Just as in the case of AIJ, both Article 6 and Article 12 JIs are required to be additional (i.e., to achieve reductions that would not otherwise have taken place). The possibility of leakages and changes through time must be accounted for when calculating the baseline.

1. *Leakages*

It is necessary to include a country baseline in the assessment of the project baseline, in order to address the so-called “leakages” problem.²⁸¹ For example, in the absence of a state forest policy, the afforestation of a certain piece of land may only transfer the activities that were taking place on that piece of land to another part of the country where deforestation is likely to take place.²⁸² In fact, there would be no net sequestration even though credits would accrue to this project. The host country’s forestry authority may well issue a certificate guaranteeing the

²⁷⁹ See, e.g., Palmisano, *supra* note 32, at 57 (discussing the need for liability rules); Pamela Wrexler et al., *Joint Implementation: Institutional Options and Implications*, in *THE FEASIBILITY OF JOINT IMPLEMENTATION*, *supra* note 41, at 111; Yamin, *supra* note 6, at 232-34 (discussing the issue of expropriation).

²⁸⁰ See, e.g., MICHAELOWA, *supra* note 122, § 3; Carter, *supra* note 123, at 5 (discussing baselines); Dubash, *supra* note 11, at 63-67; Rolf Selrod & Asbjorn Torvanger, *What Might Be the Minimum Requirements for Making the Mechanism of Implementation Under the Climate Convention Credible and Operational*, in *JOINT IMPLEMENTATION OF CLIMATE CHANGE COMMITMENTS*, *supra* note 11, at 1, 5-6.

²⁸¹ See Andrasko et al., *supra* note 103, at 27-29 (distinguishing four types of off-site GHG effects: outsourcing, market effects, demand-based pressures, and life cycle effects); Selrod & Torvanger, *supra* note 280, at 6-7.

²⁸² See M. Ridley, *Ph.D on JI Project Costs at University College London*, *JOINT IMPLEMENTATION Q.*, July 1997, at 10, 11 (arguing that the risk of leakage is lower when a forest planting project is located in areas where there is only low demand for wood and land).

“additional” nature of the forest vis-à-vis other forests existing, planned, or to be planned.²⁸³ However, while this may provide some guarantee of additionality to the host state for the purpose of domestic crediting, it is susceptible to manipulation, especially since the two countries involved have distorting incentives for international crediting.²⁸⁴ Another example of leakage is a case in which “lowered demand for coal brought about by coal-to-gas conversion projects could result in lower coal prices, which would, in turn, stimulate demand.”²⁸⁵ The need for country baselines leads some authors to argue that JI should only be allowed between parties who have substantive reduction commitments under the FCCC.²⁸⁶ Having a target will, in general, entail the need for a national policy aimed at reducing emissions and, consequently, for a comprehensive monitoring of current emissions. However, the risk of leakage will depend on each project’s features (e.g., the financing, or lack thereof, of substitution activities for previous users of afforested land) and may be counterbalanced by the positive effects of the project (e.g., the proliferation of clean technologies). A case-by-case assessment seems more suitable than a complete ban on JI in an open context.²⁸⁷

In addition to intrastate leakage, interstate leakage is also possible and may result in double counting if no proper baseline is defined.²⁸⁸ This would be the case if, for example, Investco, using a technology X, were required to use a more efficient technology under new Investland law. Technology X would still be much more energy-efficient than technology Y, which is used in

²⁸³ See Face General Conditions, *supra* note 221, art. 4(6).

²⁸⁴ See NORDIC COUNCIL OF MINISTERS, EFFICIENCY APPLICATIONS OF THE FCCC JOINT IMPLEMENTATION 37-39 (1994).

²⁸⁵ Niederberger, *supra* note 40, at 18.

²⁸⁶ See Dubash, *supra* note 11, at 78; Pearce, *supra* note 41, at 27.

²⁸⁷ It has also been argued that, in the absence of substantive commitments on the side of the host state, JI would reward countries with the least demanding policies: since their emissions baseline would be higher, the range of opportunities for JI projects would increase accordingly. See Dubash, *supra* note 11, at 64. This might be called the “lowering” incentive, in contrast to the “distorting” incentive mentioned above. The latter relates to a problem of representation of reality (a high emissions baseline), whereas the former is an incentive to lower one’s level of environmental quality requirements. See *id.* However, the extent of the lowering incentive will depend on the relative importance of JI compared to the host country’s global reduction policy.

²⁸⁸ See *id.* at 65-66; Prodipto Ghosh et al., *Perspectives of Developing Countries on Joint Implementation: An Economists’ Approach*, in JOINT IMPLEMENTATION OF CLIMATE CHANGE COMMITMENTS, *supra* note 11, at 20.

Hostland. Thus, Investco could move some of its plants to Hostland in order to replace some local plants using technology Y, and try to register its project as JI under international and Investland law. If this were accepted under Investland law, Investco might be able to trade its newly saved allowances inside Investland and, at the same time, receive additional allowances for the reductions achieved in Hostland. At the interstate level, credits would accrue to Investland for the reduction abroad, and, at the same time, the closing at home of some of Investco's plants would reduce emissions, making compliance easier.

This may be remedied through consideration of the company as a whole. Again, the higher the level of aggregation, the lower the risk of undetected leakage. Therefore, not only a country baseline (avoiding intrastate leakage), but also an inter-plant baseline (avoiding inter-plants leakage within a company), should be taken into account when assessing a project's additionality. Moreover, the combination of domestic and international crediting may be such that the intensity of the problem could be reduced by adding constraints on domestic crediting. In fact, if there were a tradable permits system in Investland, the Investland companies investing in technology innovation to reduce emissions at home would accept that "leaking" companies would be rewarded twice, namely, for both the plant closures at home (since they may trade their unused permits) as well as the reductions achieved abroad (since they would receive additional permits). The pressure on the state to avoid rewarding "leaking" companies twice may thus result in the refusal to regard the transfer of plants as a JI project under Investland law, hence preventing the accrual of credits to Investland at an interstate level for such transfer of plants.

2. *Dynamic and Revisable Baselines?*

In the Decin Agreement, the definition of the baseline is addressed as follows: "The City shall ensure that the amounts of emissions from the Heating Plant are diligently measured or estimated from annual fuel use and carbon contents of the fuel, as certified by the City or the appropriate regulatory authority, for calendar year 1993 (the 'Initial Amounts')." ²⁸⁹

²⁸⁹ Decin Agreement, *supra* note 217, art. 3.1.

The calculation of emission reductions will involve a comparison of annual emissions after the project is in service with those of the 1993 base year.²⁹⁰ Thus, a strictly historical level is used. The baseline is constant.²⁹¹ The assessment of additionality takes no account of possible changes in production that may have occurred after 1993 as a result of exogenous changes.²⁹² Moreover, in such a project, the likely lifetime of the existing plant should be considered in assessing the additionality of the new project. If the plant were so old that it should have been replaced by a new (and probably more efficient) plant in the near future anyway, the additionality of the project may be lower.

So, not only is there a spatial problem associated with leakages, there is also the need to define a baseline through time. A technology that is new today might become widespread in twenty years as a result of technological progress. Moreover, subsequent changes in the regulatory context might affect the additionality of a project. For example, in Costa Rica, given the government's commitment to phase out fossil fuel electricity production by 2001, renewable energy projects will no longer be additional after 2001, since the baseline will have become zero by then.²⁹³ Similarly, with regard to the Russian "RUSAGAS" project:

The sealing of valves on natural gas pipelines takes current emissions as baseline and estimates a lifetime of twenty-five years. This baseline seems very insecure, though, as the regulatory frame is likely to change in the next years. So far, the Russian gas company is paid only for the quantity of gas extracted, but not for the quantity delivered. In case the latter would apply because of regulatory changes, the incentives to seal the valves would be very high for the company. That means that then the baseline would have to be set to zero.²⁹⁴

Thus, a project that is additional today will not necessarily remain additional during its whole lifetime. Therefore, crediting should stop when the emissions baseline curve declines to the level of the project's actual emissions.

²⁹⁰ See *id.* art. 3(2).

²⁹¹ See generally Dubash, *supra* note 11, at 65 (discussing constant baselines).

²⁹² Notice, moreover, that it is a comparison between an input (the 1993 fuel use and carbon content of the fuel) and an output (annual emissions after the new plant starts to operate).

²⁹³ See MICHAŁOWA, *supra* note 122, § 5.1.

²⁹⁴ *Id.*

A distinction exists between a “fixed versus revisable” baseline and a “static versus dynamic” baseline.²⁹⁵ It is clear that the baseline should be based on a scenario integrating expected technology diffusion, policy implementation, and similar considerations, and that the emissions baseline will vary through time. However, if the baseline needs to be dynamic (as opposed to static), does it necessarily need to be revisable (as opposed to fixed from the outset)? In principle, revisability will create some insecurity. The acceptability of revisability will depend, however, upon the lifespan of the project (it is clearly needed for projects with long lifespans), the frequency of revision, and the modality of this revision or the scope of the revisability (e.g., limited margin of adjustment, adjustment formula defined from the outset). It is also important to note that revisability will not necessarily entail lowering the baseline. Hence, in some circumstances, revisability might actually benefit investors.

3. *Operational Methods of Baseline Calculation*

There are numerous dimensions to be considered when defining a baseline. Given the incentives to distort figures, it is clear that those who assess the proposed baselines will need to be independent from the states involved.²⁹⁶ More importantly, the method of assessment has to be decided. One commentator has distinguished between six possible approaches.²⁹⁷ The first consists of defining precise categories of projects (e.g., renewable energy projects) that would automatically be regarded as additional. This would provide some security to project developers and allow for a cheap baseline determination.²⁹⁸ However, not only would there be difficulties in establishing such a list, but many additional projects are likely to be excluded in this option. The second approach consists of defining additionality as overcoming barriers.²⁹⁹ However, this approach might provide an in-

²⁹⁵ See Anne Arquit Niederberger, *Meeting Report—UNFCCC Workshop: Baselines for Activities Implemented Jointly* (last modified June 6, 1997) <http://www.admin.ch/swissaij/in_ws_victoria.html>. But see Kenneth Andrasko et al., *supra* note 103, at 27.

²⁹⁶ See Catrinus J. Jepma, *Editor's Note*, JOINT IMPLEMENTATION Q., Apr. 1996, at 1, 1 (suggesting setting up “international teams of independent technical experts using their best professional judgment.”).

²⁹⁷ See Carter, *supra* note 123, at 5.

²⁹⁸ See *id.* at 6-7.

²⁹⁹ See *id.* at 7-8.

centive to the parties involved to make sure that enough barriers remain so as not to jeopardize the additionality of future projects. The third approach would base the calculation upon sector-specific baselines.³⁰⁰ Admittedly, such an approach may be accurate, but it is likely to be very costly since each host country would have to elaborate and constantly update such sector-specific baselines. The fourth approach would use a general set of guidelines.³⁰¹ This is the route taken by the USIJI, which uses a variety of factors to assess the reasonableness of a baseline. These include: whether the baseline is consistent with the standard of environmental protection in the host country, whether it is consistent with the business practices in the concerned sector of industry and with the trends and changes in those practices, whether a project was altered (before or after being implemented) to take into account considerations related to joint implementation, and whether the contract contains a specific clause allocating the emissions reductions.³⁰² This approach is clearly the most flexible in terms of scope, but it might lack accuracy and consistency. The fifth methodology would consist of limiting the scope or the lifetime of JI projects, or of discounting the credits derived from JI.³⁰³ This is not an additional method, but simply an approach that flows from the assumption of a lack of sufficiently accurate methods. A final approach would combine aspects of the five previous options.³⁰⁴ One possible combination would entail using a list of project types automatically considered as additional in conjunction with the fourth approach for those projects falling outside the list's scope. Another possibility would be to use distinct methodologies for each project type.³⁰⁵ Clearly, agreement will need to be reached on the most appropriate strategy for drawing baselines.

B. *The Need for Domestic Incentives*

The non-availability of international credits during the Pilot Phase does not rule out the possibility of domestic crediting. Besides, if, after the year 2000, JI is to be more than a mere inter-

³⁰⁰ See *id.* at 8-9.

³⁰¹ See *id.* at 9-10.

³⁰² See USIJI Groundrules, *supra* note 80, 59 Fed. Reg. at 28,445.

³⁰³ See Carter, *supra* note 123, at 11-12.

³⁰⁴ See *id.* at 12-13.

³⁰⁵ See, e.g., MICHAŁOWA, *supra* note 122, tbl.1.

state business, it will become essential that companies have incentives at home to enter the game. Domestic crediting relates to the provision of incentives to the investing companies under their domestic law. There are a variety of such incentives: “green” image, subsidies, tax concessions, repercussions on entitlement to tradable permits at home, etc.³⁰⁶

Some such domestic programs are already in place. In the U.S., for example, the “participants in the program with projects approval by the Evaluation Panel are permitted to use USIJI logo in their advertising and public relations activities.”³⁰⁷ This is clearly a “green label” approach. However, as the number of projects increases (and since there are many other such labels), the impact of this logo is likely to be limited. More importantly, Section 1605(b) of the 1992 U.S. Energy Policy Act provides for a voluntary reporting mechanism for emission reductions.³⁰⁸ Utilities taking part in this scheme by investing in JI expect that, if a tradable permits system were put into place, the allocation of permits would take account of their efforts as reported under Section 1605(b).³⁰⁹ In fact, if there were no recognition of such early efforts through registration, the allocation of permits solely with regard to historical pollution levels at the time of the launching of the permit market would provide a disincentive for early reduction efforts by forward-looking industries.³¹⁰

In The Netherlands,

[e]very year the Minister can issue a greenhouse gas certificate for real, measurable and long-term reductions of emissions of

³⁰⁶ See AXEL MICHAELOWA, INCENTIVE ASPECTS OF JOINT IMPLEMENTATION OF GREENHOUSE GAS REDUCTION (1996); Niederberger, *supra* note 40, at 28-29.

³⁰⁷ USIJI Guidelines, *supra* note 97, § V(E).

³⁰⁸ See 42 U.S.C. § 13384(3) (1994).

³⁰⁹ See Vellinga et al., *supra* note 65, at 156-58.

³¹⁰ Notice that the Decin Agreement refers explicitly to Section 1605(b) since it provides that each Utility

shall have the right to demand that the City shall pay to such Utility the amount of USD 200,000 . . . in immediately available funds, in the event . . . the Emissions Reductions shall not be recognized for any reason whatsoever by the designated ministry of the government of the Czech Republic and the U.S. authorities, including pursuant to Section 1605(b) of the U.S. Energy Policy Act of 1992 as amended . . . within six months of a decision by the Conference of the Parties to conclude the Pilot Phase for activities implemented jointly adopted at the First Conference of the Parties or within seven years as of the date of the original Agreement, whichever is earlier.

Decin Agreement, *supra* note 217, art. VI(1)(5) (as amended July 7, 1997).

greenhouse gases achieved by the Joint Implementation pilot project and for the sequestration of greenhouse gases by sinks which would not have been achieved without the Joint Implementation pilot project, if the implementation of the project has been in agreement with the information as provided in the application (art. 2(2)). A greenhouse gas certificate is defined as a 'document in which the Minister determines the size of greenhouse gas reductions due to the implementation of the Joint Implementation pilot project, expressed in CO₂ equivalents, and also describes which rights and obligations are connected with it'.³¹¹

These certificates are to be issued domestically. The first two AIJ projects (Face projects in Uganda and the Czech Republic) were registered in December 1997 and one year was needed before the first certificates could be issued.³¹² The uses to which the certificates might be put are not yet clear. However, they "could play a role in future Long Term Voluntary Agreements on Energy Efficiency Improvement for the period after 2000."³¹³ It remains to be seen whether Dutch companies would be interested in this use, especially if they expect to be able to comply domestically with the emission targets that would be contained in such agreements. If they take part in AIJ/JI, the Dutch State, aware of the possibility of AIJ/JI, may well require more demanding targets in future voluntary agreements. Thus, the articulation between voluntary agreement policy and AIJ/JI is a key problem in the Netherlands.³¹⁴ At the moment, nearly all the Dutch AIJ projects are being funded by the Dutch State (about USD \$51 million for the Pilot Phase) through grants offered by the Dutch Ministry of Economic Affairs (directed towards Central and Eastern Europe)³¹⁵ and the Ministry for Development Cooperation (directed toward developing countries). Other in-

³¹¹ Ministry of VROM, *supra* note 96, art. 1(o).

³¹² See Telephone Interview with Jaap Verhoef, Manager, Joint Implementation Registration Centre (JIRC) (Jan 23, 1998).

³¹³ Wolters, *supra* note 96, at 6.

³¹⁴ See generally ENVIRONMENTAL CONTRACTS AND COVENANTS 1 (Jan M. Van Dunné ed., 1993) (discussing the voluntary agreements in the Netherlands).

³¹⁵ See SENTER, JOINT IMPLEMENTATION: THE NETHERLANDS-POLAND 1997, at 3 (terms of reference). The grants are awarded as part of the PSO Programme.

centives, such as fiscal exemptions for dividends from investments in Green Stock Funds, are also being contemplated.³¹⁶

Costa Rican CTOs provide still another context in which the question of domestic incentives arises. Foreign companies will only be interested in CTOs if at least some countries provide domestic incentives in exchange for them.³¹⁷ Of course, Costa Rican CTOs could also be bought by companies that would not be interested in using them directly, but merely in speculating in and/or selling them to companies that would have domestic incentives.

CONCLUSION

Project-based joint implementation is a theoretically fascinating concept. Since the adoption of the FCCC in Rio in 1992, such JI has been taking shape, especially through the 1995 Decision 5/CP.1 on AIJ³¹⁸ and, more recently, through the 1997 Kyoto Protocol, which distinguishes between two forms of project-based JI.³¹⁹ The mechanism, however, may not survive the test of practice. Many developing countries are still skeptical of JI, even though criteria have been worked out to help overcome their concerns. Legitimate doubts also exist as to whether JI will be environmentally beneficial in the long term. Solving the baseline problem is especially critical to building up a climate of confidence in JI and to ensuring real environmental benefits. Proper certification mechanisms will also have to be designed. Moreover, it is still unclear whether any economically viable project-based JI model will emerge from the Pilot Phase. The problem of transaction costs could be crucial.

Lawyers may facilitate the success of JI by offering solutions to the legal problems arising from it. The Pilot Phase already provides us with a varied practice. This Article has presented

³¹⁶ See SECOND NETHERLANDS' NATIONAL COMMUNICATION ON CLIMATE CHANGE POLICIES 89 (1997) (prepared for the COP).

³¹⁷ In this respect, we have seen that the Draft Finnish/Costa Rican MOU provided that Costa Rican CTOs be "deductible from current or future [Finnish] carbon taxes." See Draft Finnish/Costa Rica MOU, *supra* note 259, para. 6. Notice that, at the European Union level, the introduction of a carbon dioxide tax has been envisioned. Tax relief could then be provided for emissions reductions achieved through JI. See Council Proposal COM (95) 172 Final, art. 9(ii) (May 10, 1995). However, it is unlikely that any such tax will be imposed in the near future.

³¹⁸ See discussion *supra* Part II.B.

³¹⁹ See discussion *supra* Part II.C.

both general and project-specific interstate agreements: the U.S. and Canadian SOIs illustrating the former, and the Dutch LOIs, the 1996 Norwegian/Costa Rican Agreement, the 1997 Dutch/Costa Rican MOU, and the 1998 Dutch/Honduran MOU illustrating the latter. Whether or not such agreements are legally binding needs to be determined on a case-by-case basis. We have also seen an example of a Hostland-Investco agreement (the Face MOU).³²⁰ The project contracts need to contain a variety of clauses dealing with such issues as applicable law, dispute settlement, risks, benefits sharing, and long-term sustainability. Finally, CTOs illustrate the unique Costa Rican approach.

One challenge will be to articulate the legal relationships between state and non-state actors. The nature of what is transferred between the parties (credits from a specific country versus mere entitlement to be recognized as the author of emissions reductions) will depend on the existence of domestic crediting in Hostland and/or Investland. Combining, as well as distinguishing, domestic and international crediting is also critical. Domestic Costa Rican CTOs still need recognition from the CDM's operational entities before becoming CERs that can be used against the commitments agreed upon in the Protocol. Moreover, in the absence of domestic crediting in at least some countries, companies are unlikely to take part in JI. At the moment, domestic incentives are limited. However, in the absence of international crediting, the states might not have an incentive to provide domestic crediting for JI projects in the first place. The Kyoto Protocol has now dealt with the issue of international crediting. Another challenge will be to anticipate how Article 4 "bubbles," emissions trading, and the project-based JI regimes will be bridged into an integrated system.³²¹ The project-based Costa Rican CTOs, for example, could easily be integrated into such a system.

Our times are those of great challenges and complexities. The very idea of a Pilot Phase crystallizes the eagerness of a society desperately looking for solutions, while acknowledging the need for experimentation. Project-based JI is not a final solution, but is a promising mechanism to help address the problem of climate change. Whether it will survive its first steps in the

³²⁰ See discussion *supra* Part III.C.

³²¹ See, e.g., Catrinus J. Jepma, *Kyoto Protocol and Compatibility*, JOINT IMPLEMENTATION Q., Apr. 1998, at 1; see also Missfeldt, *supra* note 74, at 135-36.

real world will depend not only on its intrinsic features, but also on the enthusiasm, imagination, and persuasiveness of those who believe in it, be they politicians, businessmen, environmentalists, or lawyers.