Making JI finance work: a business perspective

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Paul Bodnar
Vertis Environmental Finance

Executive Summary

This paper discusses the diverging perspectives— and interests— of stakeholders involved in the design of regulations governing Joint Implementation (JI). Because JI is a market-based mechanism, but one born of government commitments in the Kyoto Protocol, it is essential that private and public sector players understand one another’s interests so that institutional design can proceed in a cooperative and consultative manner.

Even before considering the interests of the business and NGO communities in crafting legislation, regulators must often resolve considerable differences of opinion within the government. Regulators face difficult trade-offs between environmental and economic interests. On the one hand, JI represents a new structure to boost foreign investment. Indeed, sale of carbon credits is unusually attractive given the lack of direct expected financial return for a JI investor buying only a stream of project credits. When combined with the fact that most EIT countries enjoy a comfortable emissions surplus relative to their Kyoto targets, these factors argue for investment-friendly JI regulations. Equally valid, however, are arguments for adopting stricter rules on government endorsement of JI projects. Naturally, they include concerns about the integrity of provisions regarding environmental additionality. Some regulators also argue that uncertainties about future emissions levels, and the market price of project credits, should lead governments to be risk-averse about carbon trading in the pre-commitment period.
Project developers approach JI with a different set of priorities, in particular the desire to secure cash for their projects at the lowest possible cost of capital. Whether they are large companies (like power generators planning retrofits), service providers like ESCOs, or entrepreneurs pulling together one-off projects, project developers are focused on the material benefit of JI to their particular project. Developers find JI attractive because, unlike a bank loan or equity investor, the JI credit buyer generally has no expectation of direct financial return. The developer’s aim, strictly speaking, will be to extract the maximum cash from the sale of credits. JI is an attractive source of capital only inasmuch as a forward sale of carbon credits can bring cash up front to subsidize investment costs of a project. Any future cash flows that the sale of ERUs might generate in 2008-2012 have little or no positive influence on the bankability of a project. If JI funds require too much time or money to secure, project developers will not pursue them.

The carbon credit buyer, on the other hand, is concerned primarily with hedging against financial exposure and risk. Governments, funds, and corporate buyers alike understand the potential monetary benefits of acting early to acquire claims on high-volume, low-cost credit generation opportunities. Their desire for cheap credits harmonizes with EIT countries’ eagerness for foreign investment. Because the credit buyer’s main goal is risk management, additionality is often just a utilitarian consideration rather than a hard and fast principle. Therefore, as long as the host government considers the project additional, the JI buyer is not motivated to care about the project’s true environmental value. The buyer will generally seek to acquire the largest volume of credits for the lowest total cost.

In summary, the design of national systems for the Flexible Mechanisms is a practical matter involving market incentives and selfish actors seeking to maximize their utility. Project developers want to maximize the cash they raise from the sale of project credits, and will make decisions consistent with this goal. JI investors will generally seek to acquire a large number of credits at a low price, and will push for state guarantees to protect their investment. Regulators have the unenviable task of balancing these considerations with national interests which, in turn, are not always internally consistent.
Introduction: JI from different perspectives

The Kyoto Protocol has proven to be one of the most politically sensitive international treaties of our time, provoking fierce debate about the future of energy, environmental justice, and North-South equity issues. One of the underlying debates concerns the innovative free-market approach the Protocol embraces in promoting the flexible mechanisms as the policy tool of choice to achieve emissions reductions. Many environmental groups are wary of emissions trading because the actors are large corporations, while most Western governments see cap-and-trade as a preferred way to implement the Protocol with minimal economic impact.¹

The diverging perspectives—and interests—that have emerged since the signature of the Protocol are important to understand because they underpin different stakeholders’ approaches to the Flexible Mechanisms. Too often the private and public sectors are at loggerheads over the design of environmental legislation. In the case of Joint Implementation (JI), which is a market-based mechanism, private and public sector players must understand one another’s interests for the institutional design to proceed in a cooperative and consultative manner. This paper seeks to outline these underlying interests, with a focus on project developers and JI investors. It is based on the premise that a frank discussion of stakeholder interests, stripped of lofty rhetoric, is essential to design a functioning JI regulatory regime.²

Competing priorities on the regulatory side

The Kyoto Protocol is a framework document, and even incorporating the addendum of the Marrakesh Accord leaves considerable room to national governments to design domestic regulations relating to the flexible mechanisms. Responsibility for developing these regulations is generally centered in ministries of the environment, economy, and/or energy.³ Most governments make an

¹ Many environmental groups do support the Kyoto Protocol. They recognize that although the Protocol is imperfect, it is already on the border of the politically acceptable and is therefore an important first step in the policy process.
² This paper focuses narrowly on the sale of emissions reductions through the Joint Implementation mechanism. This analysis does not necessarily apply in its entirety to voluntary programs or project-based offsets in the context of national or regional emissions trading systems.
³ As a country’s climate-related policies evolve to focus on the mechanics of JI and emissions trading, there is a tendency for ministries of finance and economy to assume increasing responsibility vis-à-vis environment ministries. This is also
effort to understand the interests of the business and NGO communities in crafting legislation, but often must first resolve considerable differences of opinion within the government.

In designing JI guidelines, regulators face difficult trade-offs between environmental and economic interests. Some view JI as a necessary evil in the climate protection effort, others as a lucrative means to leverage foreign investment. In the countries with economies in transition (EITs), most of which are likely to be net suppliers of credits onto the global market and therefore tend to be JI hosts, such competing interests can be quite stark.

On the one hand, JI represents a new structure to boost foreign investment. A healthy JI market could bring significant foreign capital into Central and Eastern European (CEE) markets that have JI-friendly regulatory regimes. Moreover, JI is an unusual form of financing given the lack of direct expected financial return for a JI investor buying only a stream of project credits. In certain cases, JI funds could even preempt state financial support for a project. These economic factors argue for JI regulations that facilitate investment by streamlining approval procedures and limiting transaction costs. Proponents of investor-friendly JI legislation also emphasize the comfortable emissions surplus most EIT countries now enjoy relative to their Kyoto targets ("hot air") as a justification to develop liberal JI guidelines.

Equally valid are arguments for adopting stricter rules on government endorsement of JI projects. Naturally, they include concerns about environmental integrity. Additionality hardliners insist that the state should agree to transfer emissions reduction units (ERUs) only for projects that would struggle without JI financial support. This viewpoint, which is in line with the "beyond business as usual" spirit of the Kyoto Protocol, has been weakened by the dismissal of financial additionality as a JI criterion in the Marrakesh Accord. Nonetheless, regulators concerned with environmental justice and sovereignty tend to have a cautious approach to the Kyoto mechanisms. Many argue that ERUs are national treasures much like gold or coal, and therefore the government should disburse rights to ERUs very carefully.

true within corporations. Planning usually begins in environmental departments and is taken over by financial or strategic planning management as the business risks become clear.
A more pragmatic viewpoint, but leading to the same conclusion, holds that uncertainties about future emissions levels, and the market price of project credits, should make governments cautious about liberal carbon trading in the pre-commitment period. Some EIT countries, such as Ukraine, are unlikely to feel pressure on their emissions caps for the 2008-2012 period. In others, like Bulgaria, emissions may well approach Kyoto commitment levels by 2012. The uncertainty surrounding emissions projections has led some regulators to adopt a risk-averse strategy. This is especially true in countries like Hungary, which already have healthy levels of foreign direct investment (FDI). Moreover, government officials do understand why JI investors wish to purchase claims on ERUs so early: the price is right. Assuming that a country will cap the total amount of credits it will transfer, it could simply wait until the market price of carbon credits climbs.

These priorities have achieved balance in different ways across Central and Eastern Europe. To cite the well-known examples, Romania and Bulgaria have been proactive in structuring JI guidelines and institutions, while Hungary and the Czech Republic have approached the subject with much more caution.

**Understanding JI in the context of project financing**

Regardless of whether liberal or conservative JI investment rules win out, there usually remains a fundamental disconnect between consideration of national interests and private interests. Government regulators may be experts in atmospheric science or international trade, air pollution abatement or energy liberalization, but they generally tend to have a limited understanding of project finance. JI was conceived as a project-based mechanism partly because a project is a relatively easy unit to work with from a baseline-credit point of view: it is a set of activities with relatively clear boundaries.

The project developer

Joint Implementation looks very different from the project developer’s point of view. Let there be no ambiguity on one point: the primary interest of project developers is to secure cash for their projects, at the lowest possible cost of capital. They view JI as a new source of financing and generally have little concern for the Kyoto environmental scheme. There are exceptions, of course,
but the entrepreneurs driving even the greenest projects are most concerned with simply bringing them into operation and achieving a positive financial return. Whether they are large companies (like power generators doing retrofits), service providers like ESCOs, or entrepreneurs pulling together one-off projects, project developers are focused on the material benefit of JI to their particular project.

Developers find JI attractive because, unlike a bank loan or equity investor, the JI credit buyer generally has no expectation of direct financial return. In return for the JI investment, the project developer merely has to relinquish a newly discovered „asset” of little direct value to him. The developer’s aim, strictly speaking, will be to extract the maximum cash from the sale of credits. This is true whether or not the project has a positive IRR (Internal Rate of Return) without consideration of JI revenues.

Moreover, because the kind of infrastructure projects generally considered for JI involve large up-front costs, the developer will seek to maximize up-front payment for the carbon credits and thereby minimize his own equity contribution and/or maximize his return on equity. Many project developers in CEE struggle with a shortfall of cash needed to get projects up and running. Added to the handicaps of changing regulatory environments and pricing regimes is the lack of available long-term bank financing and the reluctance of banks to secure projects on long-range cash flows. JI can be attractive to project developers, but only inasmuch as a forward sale of carbon credits can bring cash up front to subsidize investment costs of a project. Any future cash flows that the sale of ERUs might generate in 2008-2012 have little or no positive influence on the bankability of a project.

The preference of most credit buyers for payment upon delivery is understandable, but is incongruous with financial realities in Central and Eastern Europe. Financial institutions and governments therefore have an important role in securitizing cash flows from future sale of ERUs. A facility that would allow project developers to access this cash is sorely needed—indeed, it is essential to the development of a truly functional JI project market.
Otherwise the developer will look elsewhere. Because JI financing generally covers a small percent of project costs, the developer will look to minimize the time and transaction costs associated with selling the project credits. This includes minimizing the time necessary to grasp the history of international climate politics and the intricacies of this specialized form of finance. Speculative expenditures on baseline studies to attract investors, and taxation of JI funds after they have been secured, are both major disincentives. In short, if JI funds are too difficult to secure, project developers will not pursue them (particularly if their financial benefit is only marginal).

There is evidence to suggest that regulators do not always take the developer’s viewpoint into consideration. In one EIT country, draft JI legislation would have taxed JI investment as a percentage of total project costs. Thus if partially JI-funded projects were taxed at a flat rate of 3 percent, and a given project raised 10 percent of total costs through the sale of credits, the effective carbon credit tax on that project would be 30 percent. Although such a levy might be rational from a government revenue perspective, it would have discouraged almost all project developers from seeking carbon financing.

The JI credit buyer

The basic interests of the JI credit buyer must also be made clear: most buyers seeking credits as compliance tools are concerned with hedging against financial exposure and risk. This is true for government programs such as ERUPT and the World Bank’s Prototype Carbon Fund, as well as corporate programs such as those of Canadian utilities TransAlta and BC Hydro. Governments that have committed themselves to Kyoto, as the European Union has, understand that the benefits of acting early to acquire claims on high-volume, low-cost credit generation opportunities outweigh the risks of making such investments before the Protocol enters into force. Corporations with carbon offset tenders also know that they face a carbon-constrained future in some way, even though the outcome of particular policy debates is now uncertain. These buyers believe that market prices for carbon credits and emissions allowances are likely to rise. Their desire for cheap credits harmonizes with EIT countries’ eagerness for foreign investment.

4 For the purposes of this paper, the terms “JI investor” and “JI credit buyer” are used interchangeably to designate a public or private entity that purchases a claim on emissions reductions resulting from a project, regardless of whether this takes the form of an investment or a commodity transaction between buyer and seller.

5 The PCF is a credit buying vehicle for both governments and corporations.
JI investors evaluate projects much in the same way venture capitalists or banks evaluate investment opportunities. In fact, there are perhaps more similarities than differences between a private equity investment and a JI investment. Technical feasibility and creditworthiness are primary considerations, particularly as the investor is purchasing claims to goods that will not be delivered until 2008-2012. Unlike private equity, however, the host government is an indispensable player, and its approach to JI will determine investors appetite for projects in that country. Given that the host government must authorize and execute the transfer of ERUs during the commitment period, the JI investor will seek to invest in countries with transparent, streamlined JI regulations isolated from political interests. The investor will also seek maximum guarantees on the sell side for delivery of ERUs, including government guarantees if possible.

Because the credit buyer’s main goal is to reduce risk, additionality is often just a utilitarian consideration rather than a hard and fast principle. The key to obtaining valid ERUs is host government approval (and transfer). Therefore, as long as the host government considers the project additional, the JI buyer is not motivated to care about the project’s true environmental value. This minimalist interpretation makes it important for host governments to have clear criteria for environmental additionality.

In planning their investment programs, credit buyers set either budgetary or offset targets. Some target a certain quantity of credits (e.g. BC Hydro’s goal to purchase 5.5 million tonnes of CO$_2$e) and aim to spend the minimum amount of cash necessary. Others commit a certain budget to buying credits (e.g. the PCF’s $180 million capital cap) and will purchase the maximum quantity of credits for that amount. In either case, investors will seek to acquire the largest volume of credits for the lowest total cost. In the context of a particular project, the JI investor will typically want to extract all the credits and negotiate a low per-tonne price.

The importance of letting the investor and the developer (i.e. the buyer and seller) negotiate a price cannot be overstated. Attempts to fix credit prices fundamentally undermine the market-based

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6 This is why Poland has hosted JI projects while the Ukraine has not, despite a far larger number of attractive opportunities for low-cost emissions reductions in the latter.
nature of the flexible mechanisms. Yet here again, regulators have sometimes disregarded the interests of the private parties in developing regulations. In one country, draft JI guidelines made the proportion of credits a JI investor could acquire proportional to the percentage of total project costs the JI investor would contribute. In other words, if JI funds covered $2 million of a $20 million project, the investor could acquire a maximum of 10 percent of the credits generated by the project. This system seems logical from the perspective of national interests, because it creates a proportional relationship between foreign investment received and credits disbursed. In practice, however, it would have eliminated any chance of JI investment in this country. The scheme would effectively fix credit prices at arbitrary levels, since there is no direct relationship between the cost of a given emissions abatement project and the number of ERUs it produces. Moreover, the per-tonne price of credits would be exorbitantly high in almost all cases, and JI investors would pass over this country entirely in seeking credits.8

The regulators who designed this system were well-informed experts in international climate politics, and their proposal reflects a careful consideration of national interests. But because it ignored the interests that drive players in the free market, the proposal was fatally flawed on a conceptual level.

Designing JI regulation that work: suggestions for regulators

It is the government’s responsibility to decide how much JI investment to encourage. This decision should be based on careful consideration of national interests pertaining to economic modernization, foreign investment, and the country's own international commitments under Kyoto and other regimes. But independent of whether a country decides to approve 5 Mt or 50 Mt of ERU transfers between 2008 and 2012, it is in the interest of all stakeholders that JI regulations be designed to work for all actors. From the perspective of both project developers and credit buyers, the following are important elements for any well-functioning JI regime:

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7 Of course, the quality of the credits on offer is factored into the purchase decision.
8 The scheme described here was considered at high levels in the government but ultimately not approved.
Transparency
Regulations should be clear and complete, allowing investors and project developers to understand clearly factors such as additionality, transaction costs, and the project approval process.

Consistency
JI investors are making decisions for the long-term, as they will not fully realize the return on their investment until a decade from now. They must be confident that the rules of the game will remain constant, i.e. that JI regulations written today will not be rendered moot by later revisions and that changing political winds will not invalidate the transaction retroactively.

Proactivity
The government should take an active part in facilitating the interaction of market players. It can educate project developers about carbon financing and give them access to a database of JI investors. Conversely, the government can publish information about prospective projects.

Steamlining—time
Opacity and lack of information can form insurmountable barriers to carbon commerce. The government should coordinate the interest of different ministries and agencies. A single point of contact should be readily available to interact with private and public stakeholders. The process of project approval should be streamlined, with clear submission criteria and deadlines minimizing confusion and unnecessary paperwork.

Steamlining—cost
Actual transaction costs associated with the project evaluation and approval process should be minimized. Taxes levied on JI transactions should be calibrated to cover only government costs associated with project evaluation and management. Furthermore, governments would do well to treat JI funds as an investment rather than as project developer revenues. Otherwise the impact of corporate income tax and VAT would strongly discourage project developers from utilizing a financing mechanism which, from a societal viewpoint, resembles overseas development aid (ODA).
Guarantees
The government, possibly in conjunction with financial institutions, can help establish a facility that allows project developers access more JI cash up front. Regardless of whether it is structured as a guarantee, loan, or insurance product, such a facility would greatly increase the attractiveness of JI financing to developers.

Common sense on additionality and baselines
The government should understand that the power to determine baselines ultimately lies in its hands. Both project developers and JI investors have an incentive to push for lax additionality requirements. Tweaking the strictness of additionality regulations is the easiest way to regulate the quantity of carbon commerce. Taking into account the projected size of its commitment period emissions buffer, the government should determine practical additionality rules that comply with Kyoto guidelines, preserve some measure of environmental integrity, and still promote some foreign investment.

Conclusion
The Kyoto Protocol was written with lofty ambitions for unprecedented international cooperation towards the resolution of a truly global environmental problem. But the design of national systems for the Flexible Mechanisms is a practical matter involving market incentives and selfish actors seeking to maximize their utility. It is therefore important that regulators understand the financial interests motivating JI project developers and JI investors alike, since they are the primary non-governmental players in project-based carbon commerce. Project developers want to maximize the cash they raise from the sale of project credits, and will make decisions consistent with this goal. JI investors will generally seek to acquire a large number of credits at a low price, and will push for state guarantees to protect their investment. Regulators have the unenviable task of balancing these considerations with national interests which, in turn, are not always internally consistent. Creating from this mix a well-functioning system that still promotes the environmental principles of the Protocol is no easy task, but will certainly be aided by a clear understanding of the underlying interests at play.