

## Japan's Bilateral Offset Crediting Mechanism: A Bilateral Solution to a Global Issue?

In order to achieve its long-term emission reduction target following the Fukushima incident, Japan would rely more heavily on international offsetting activities. Concurrent to vigorous proposals to reform the CDM, Japan is also promoting an offset crediting scheme through bilateral agreements with developing countries as a post-2012 market mechanism. Despite potential benefits, issues relating to the accounting rules, environmental integrity and implications to carbon markets warrant further consideration prior to international recognition.

### Background of Japan's climate policies

#### *Current emissions target under the Kyoto Protocol*

Japan's total GHG emissions of 1,209 MtCO<sub>2</sub>eq in 2009 makes it the third biggest emitter amongst the developed countries, following the United States and Russia (UNFCCC, 2011c). As an Annex I country, Japan has a binding target of reducing emissions by 6% below the 1990 level over 2008-2012 but is currently far from achieving it. Although the 2009 emissions fell below the 1990 level, 2010 saw a sharp increase, moving Japan further away from its Kyoto target and closer to the base level (2010 emissions are 5.57% above the Kyoto target).

For the Kyoto commitment period, Japan's strategy has relied on domestic emission reductions through mitigation and forest carbon-sink measures as well as purchases of UN-backed units. As of December 2010, Japan's accounts hold 103 million CERs<sup>1</sup>, 60 million AAUs<sup>2</sup> (private entities) and nearly 2.5 million ERUs<sup>3</sup> making it one of the biggest buyers internationally (UNFCCC, 2010).

#### *Post-2012 emissions targets*

Japan announced it will not participate in the continuation of the Kyoto protocol post-2012 given that major emitters such as the US, China, India... are not subject to binding targets. The 2020 emission reduction pledge it made at the Copenhagen Summit is also facing major uncertainties.

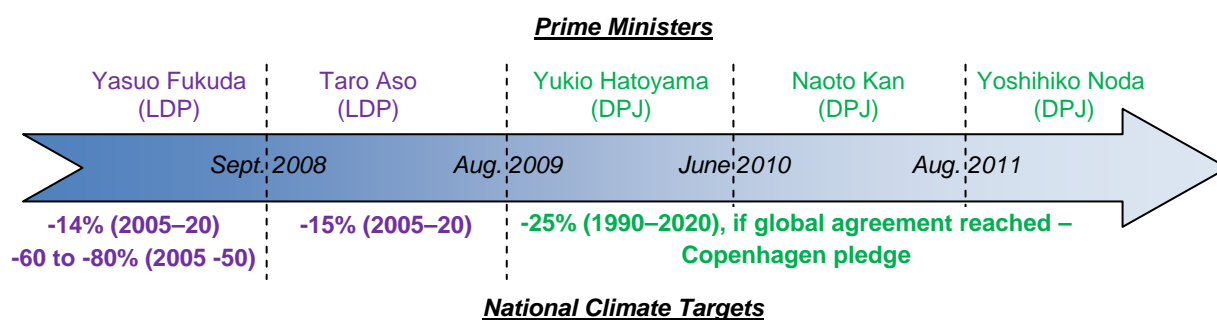
Japan's domestic political environment has been rocky. The current Prime Minister is the fifth in the past four years. Along with the changes in leadership, different long-term targets of emission reductions have been announced (see Figure 1). In addition, these targets have been facing strong backlash from businesses, now intensified with extreme pressures from Fukushima's disaster relief and recovery priorities. It is hence uncertain whether the current 2020 target will stay and be legislated in the near future.

<sup>1</sup> Certified Emission Reduction (units issued under the Clean Development Mechanism).

<sup>2</sup> Assigned Amount Units (received by Annex B Parties to the Kyoto Protocol).

<sup>3</sup> Emission Reduction Units (converted from AAUs and issued under the Joint Implementation mechanism).

Figure 1 – Evolution of Japanese position on climate change since 2008

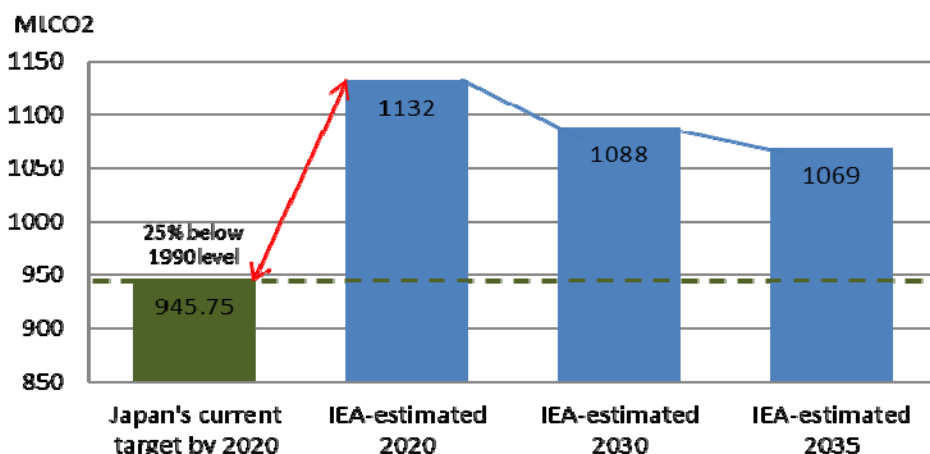


Note: LDP = Liberal Democratic Party; DPJ = Democratic Party of Japan.

Source: Valentine & Sovacool, 2009.

In fact, achieving Japan’s 2020 target would require significant efforts. As shown in Figure 2, Japan’s projected emissions of 2020-2035<sup>4</sup> exceed the 2020 target by nearly 20%. Japan relied much on nuclear power to control its GHG emissions. Now that all of the new nuclear power plants projects have been shelved, the ability for Japan to achieve its emission reduction target is more limited.

Figure 2 – Japan’s projected emissions against the current 2020 target



Source: based on IEA, 2011.

In order to achieve its long-term target, Japan would rely even more on offset opportunities overseas. Therefore, parallel to vigorous proposals<sup>5</sup> to reform the Clean Development Mechanism (CDM), Japan is also proposing a new market mechanism<sup>6</sup> under a post-2012 framework - the bilateral offsets crediting mechanism (BOCM).

<sup>4</sup> The projections are total CO<sub>2</sub> emissions estimated by the IEA in its Current Policies Scenario of the World Energy Outlook 2011.

<sup>5</sup> Japan has raised a number of criticisms against the CDM including having a lengthy and uncertain registration and issuance process, arbitrary additionality requirements, etc. Accordingly, it has, over the years, made reform proposals such as the introduction of Positive List and Standardized Baselines approaches to address the additionality demonstration and baseline measurements (IGES, 2011). Some of Japan’s proposals have been incorporated and implemented in the CDM.

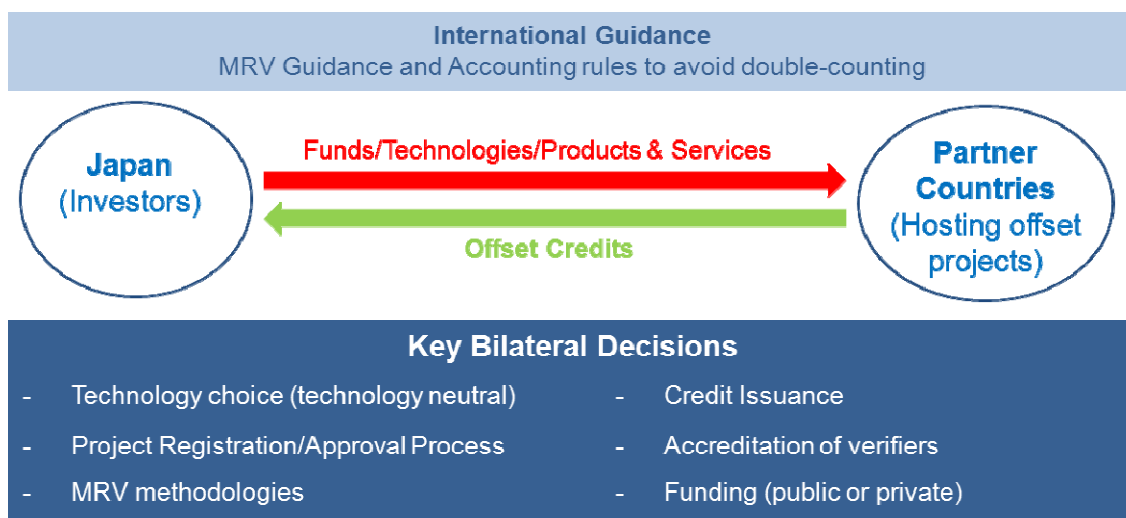
<sup>6</sup> Proposals by other parties include sectoral trading mechanisms, sectoral crediting mechanisms, the Nationally Appropriate Mitigation Action crediting system, etc. (Sepibus & Tuerk, 2011; UNFCCC, 2011b). Details related to the modalities and procedures of new market mechanisms are to be discussed at COP18 in Qatar.

## An overview of the Bilateral Offset Crediting Mechanism

### Snapshot of the concept

Japan’s BOCM is similar to the CDM in that a funding country (Japan) invests in emissions reduction projects – and potentially programs - in developing countries and gain offsets credits. The key difference lies in a simplified procedure which stays mostly at the bilateral level (see Figure 3) whereas the CDM is administered by the international body UNFCCC. International oversight under the BOCM is minimised to the function of providing guidance for emissions monitoring, reporting and verification (MRV) and accounting rules only.

**Figure 3 - A snapshot of the BOCM**



Source: based on MOEJ, 2011c and Ninomiya, 2011.

Another difference with the CDM is that no low carbon technology is a priori excluded<sup>7</sup>. Similarly, BOCM intends to cover a wider range of sectors and activities from transport, waste management, to energy efficiency, renewable energy and also include REDD+ projects. That said, the BOCM is expected to utilize existing methodologies that have been developed under the CDM where possible.

Japan argues that the BOCM is expected to deliver projects much faster and easier than in the CDM, which would reduce transaction costs and entice more private sector investment. It is also considered to better accommodate for the specific and strategic needs of the parties than the CDM. In addition, bilateral cooperation would potentially pave the way for more engagements by developing countries in global emission reduction efforts in the future.

### Japan’s current initiatives under the BOCM

Since 2010, Japan has initiated the development of the BOCM by engaging in over 100 feasibility studies, the objectives of which are to identify potential emissions reduction projects to be implemented and to develop MRV standards and methods, especially for those activities that currently do not exist in the CDM (MOEJ, 2011d).

The feasibility studies are funded and supervised by the Ministry of Economy, Trade and Industry and the Ministry of the Environment of Japan and conducted by Japanese private companies. The total budget of 8.3 billion yen (approx. US\$108 million) was committed for the feasibility studies in 2011 (MOEJ, 2011e; METI, 2011).

<sup>7</sup> Not all low-carbon technologies, for example nuclear power, are accepted under the CDM. Even carbon capture & storage (CCS) was only recently permitted and no CDM project using CCS technology has been approved.

The studies are distributed across different continents from Asia to Africa and South America, with a particular focus on South and Southeast Asia (e.g. India, Vietnam, and Indonesia) - Japan's strategic trading area.

Besides the feasibility studies, Japan has also established an information platform and a new registry which will record emission reductions. Capacity building programmes are also underway in partner countries.

Japan aims at starting the actual investments in BOCM projects, leading to the first issuance of credits, in 2013. While the Executive Secretary of the UNFCCC has reportedly expressed some doubts<sup>8</sup> about the scheme, Japan appears determined and is to provide detailed modalities and procedures of the scheme at COP18.

### **What are Japan's objectives?**

The purpose of the BOCM is to help Japan achieve its 2020 target at least cost, as well as to develop export markets for Japanese firms.

### **Cheap emission reductions to meet the pledge**

Politically and culturally speaking, Japan is likely to commit to its international promises even though its 2020 pledge at Copenhagen Summit still needs to be turned into law. To limit cost however, Japan would need cheap(er) abatement opportunities and of greater volume than what the CDM currently offers.

The BOCM, as currently proposed, covers more sectors including supposedly lower abatement cost sectors such as REDD+. Moreover the possibility to adopt programmatic approaches and the simplification of the registration and approval procedure are also expected to limit the transaction costs related to the administrative processes, although similar reforms are underway in the CDM itself.

### **First-mover advantage**

Japan would have a first-mover advantage through BOCM by engaging with its partner countries in emissions reduction projects or programs which will in turn not be available for other international market mechanisms such as CDM, programmatic CDM and potentially NAMAs. Japan is exploring at both project-based and sector-based activities. For example, the transport feasibility study in Laos and the waste management study in Thailand examine emission reductions in the whole sector whilst the energy efficient project in South Africa or the peat management project in Indonesia is site-specific (MOEJ, 2011b). Quick progress under the BOCM may limit the ability for other developed countries to engage in offset projects which would have been already covered by Japan's bilateral agreements.

### **Sale of Japanese technologies**

The BOCM projects would also provide for the export of Japanese firms' technologies, products and services. This feature explains the immense support for the scheme by the Japanese private sector such as the electric power industry, the steel makers and even the information and communication technology sector (UNFCCC, 2011a). It is unclear at this stage whether there is an explicit exclusion of foreign firms' participation in the scheme. If it is the case however, it would arguably constitute preferential treatments to Japanese companies, which would in turn question Japan's compliance with the WTO rules.

---

<sup>8</sup> Christiana Figueres was reportedly skeptical about the bilateral scheme, saying: *"I'm not going to say it's impossible but I think it's very complicated to do that.... It probably unnecessarily complicates the life of those countries."*(Reuters, 2011)

## A consideration of the BOCM

Even though current Japanese targets are voluntary, Japan is committed to gain international recognition of its BOCM scheme. In this regard, despite the benefits of the scheme claimed by Japan, there remains to be a suite of outstanding issues which require careful consideration.

### *Accounting rules for international emissions reduction and financial commitments*

Following the Copenhagen Summit in 2009, developed countries have agreed to voluntary emissions reductions by 2020 and engaged in mobilising climate funds for developing countries (100 billion dollars per year by 2020), which should be additional to previously committed financial support such as Official Aid Development (ODA).

The BOCM is mostly designed to help Japan achieve its emissions targets. Can it also be used to fulfil Japanese international financing commitments? Currently some funding towards the BOCM feasibility studies is sourced from Japan’s contributions to the Fast Start Finance initiative. Future funding of BOCM projects would also be counted as Japan’s contribution towards this climate fund initiative. This issue of cumulating emissions reductions and fulfilment of financing commitments is also pertinent to other countries and will need further international guidance.

Another issue to be clarified in the next negotiations will be the potential double-counting if the hosting country would also count the emission reductions generated under the scheme towards their own pledges (Prag, Hood & Aasrud, 2011). A study conducted by the Stockholm Environmental Institute in 2011 concluded the implication could be significant, leaving up to 1.1 GtCO<sub>2</sub>eq of abatement potentially doubled counted (Erickson & Lazarus, 2011).

### *Environmental integrity*

Japan recognises the importance of ensuring environmental integrity if it wants to receive international recognition of the offset credits. Therefore, it is proposing general international guidelines while trying to retain as much flexibility as possible to accommodate national priorities.

### **Additionality of emissions reduction projects**

Additionality means proving that an emissions reduction project would not have occurred without the carbon financial incentive. It is an important requirement of the CDM and more broadly of offset mechanisms. However no clear explanation is given as to how the BOCM projects will prove their additionality. The Japanese proposal is to have international guidelines but to leave the definition of more precise criteria and verification for additionality to the bilateral level.

### **MRV requirements**

As mentioned above, most of the MRV requirements may be decided by the countries involved, in particular: additionality criteria; verification, monitoring and reporting guidelines; and accreditation of verifiers.

Existing mechanisms such as the voluntary carbon markets or the Green Investment Scheme<sup>9</sup> (GIS) which also have limited international supervision and scrutiny on MRV might provide some useful lessons. In the voluntary sector whilst reputational standards such as

---

<sup>9</sup> Green Investment Scheme is established to address the “hot air” issue in the Eastern European states by way of investing revenues from selling “hot air” AAUs in activities such as energy efficiency or general capacity building.

ISO standards are used for MRV, much of this market is far from being transparent which makes it challenging to ensure its integrity (Michaelowa, 2011).

Under the GIS, MRV is determined by individual countries and largely left unchecked by any international body. The procedures and methodologies developed by the countries are much simplified and sometimes not credible, leaving significant implications regarding the integrity of the scheme (Tuerk, 2010).

Therefore, in order to ensure the environmental integrity of the offset mechanism, extreme caution must be taken when designing MRV guidelines and requirements.

### ***Implications to international carbon markets***

It is understood that for the moment the BOCM credits are purely to contribute to Japan’s achievement of its own target. Whether they are intended to be traded internationally or not still raises some concerns.

### **Double-counting**

Double-counting can occur when financing and emissions reductions are counted towards Japanese targets and when the host country and the financing country both claim for the same emissions reductions (see discussion above).

Double-counting can also take place when the same offset project is counted in different offset mechanisms and credits backed by the same emission reductions are granted to multiple parties. For this reason, regardless whether the BOCM is intended to be linked with other mechanisms or not, tracking of credit flows, similar to what is currently done through the UNFCCC’s International Transaction Log, is critical to avoid double-counting (Prag, Hood & Aasrud, 2011).

### **Price of credits**

If the BOCM credits are to be fungible internationally, there will likely be further downward pressure on carbon prices because of the significant increase in the supply of offset credits, combined with a weak international demand (Bellassen, 2011).

On the other hand, if the BOCM offset credits are reserved for use by Japan only, the Japanese demand for CDM credits will be at least partly replaced by BOCM credits which would in turn decrease the price for CDM credits, all other things being equal. However, the magnitude of price impacts would depend on the demand for CDM credits at the time and the amount of additional CDM credit issuances.

### **Transaction Costs**

The transaction costs of carbon offsets globally would increase in a fragmented world of many bilateral mechanisms if other developed countries are to adopt similar schemes as the BOCM. Many bilateral schemes would create multiple “demand centers” (funding countries) and “supply centers” (hosting countries) and would conversely be more complex and costly to manage (Prag, Hood & Aasrud, 2011). Divergent rules, protocols and registries created under each bilateral scheme would increase the global transaction costs of offsets. In addition, different types of credits generated under different bilateral schemes would make credits trading more costly and complicated. Lastly, having to deal with multiple bilateral partners would inefficiently exhaust the resources and capacity of developing countries.

## Conclusion

Given the challenges in meeting its long-term emission target, Japan would rely more heavily on offsetting opportunities beyond the current CDM. Therefore, in addition to attempts in reforming the CDM, Japan is also keenly promoting the BOCM. However, despite potential benefits, the BOCM, as it currently stands, still has many outstanding issues requiring further considerations such as ensuring additionality, environmental integrity, and measures to avoid double-counting. This explains why the international community has largely remained doubtful about the Japanese proposal, to the exception of potential hosting countries.

If the scheme were to be implemented, international guidelines would need to be adopted to ensure harmonisation of emissions reduction efforts, liquidity and simplicity of international offset markets and environmental integrity.

Nevertheless, it remains to be seen whether the BOCM will actually materialize. Current divergence between environmental and economic ministries might delay the adoption of an official emissions target for 2020. The use of the BOCM will then have to be approved depending on such a target if any.

## References

- Bellassen, V. (2011), *Tendances Carbone No. 64*, CDC Climat Research
- Erickson, P. & Lazarus, M. (2011), *Working Paper WP-US-1106: “Implications of Offsets in GHG Mitigation post 2012”*, The Stockholm Environment Institute
- IGES (2011), *CDM Reform 2011 – Verification of the process and the way forward*
- International Energy Agency (2011), *World Energy Outlook 2011*
- Michaelowa, A., (2011) *Fragmentation of international climate policy – doom or boon for carbon markets?*, A Chapter of the UNEP’s Publication *Progressing towards post-2012 carbon market*
- Ministry of the Environment of Japan (2011a), *National Greenhouse Gas Inventory Report of JAPAN 2009*  
<http://www-gio.nies.go.jp/aboutghg/nir/2011/NIR-JPN-2011-v3.0E.pdf>
- Ministry of the Environment of Japan (2011b), *Japan’s Initiative toward establishing new mechanisms – Lessons Learnt from Case Studies*
- Ministry of the Environment of Japan (2011c), *Presentation on the Bilateral Offset Crediting Mechanism*
- Ministry of the Environment of Japan (2011d), *New Mechanisms EXPRESS*
- Ministry of the Environment of Japan (2011e), Budget Document,  
<http://www.env.go.jp/guide/budget/h24/h24juten-2.pdf>
- Ministry of Economy, Trade and Industry (2011), Budget Document,  
<http://www.meti.go.jp/main/yosangaisan/2012/doc03-2.pdf>
- Ninomiya, Y. (2011), *Presentation at Panama Climate Conference: New Market Mechanisms in a post-2012 regime: what are the issues and possible structure?*
- Prag, A., & Hood, C. & Aasrud, A. (2011), *Keeping Track: Options to Develop International Greenhouse Gas Unit Accounting After 2012*, OECD and IEA
- Reuters (2011), News Article “Japan wants new CO2 offset scheme to complement U.N.”,  
<http://www.reuters.com/article/2011/03/02/us-climate-japan-idUSTRE7211MO20110302>
- Sepibus, J. & Tuerk, A. (2011), *Research Paper 2011/06 New Market-based Mechanisms post-2012: Institutional Options and Governance Challenges when Establishing a Sectoral Crediting Mechanism*
- Tuerk, A. et. al (2010), *Working Paper: Green Investment Scheme: First Experiences and Lessons Learnt*, Central European University and Joanneum Research

- Valentine, S. & Sovacool, B. & Matsuura, M. (2011), *Empowered? Evaluating Japan’s national energy strategy under the DPJ administration*, Energy Policy 39 (2011) 1865–1876
- UNFCCC (2010), Registry Status Report 2010 for Japan [http://unfccc.int/files/kyoto\\_protocol/registry\\_systems/registry\\_status/application/pdf/2010\\_jp.pdf](http://unfccc.int/files/kyoto_protocol/registry_systems/registry_status/application/pdf/2010_jp.pdf)
- UNFCCC (2011a), *The Federation of Electric Power Companies of Japan’s submission to the AWG-LCA on new market mechanism*
- UNFCCC (2011b), *Parties’ submissions to the AWG-LCA on the new market mechanism* <http://unfccc.int/resource/docs/2011/awglca14/eng/misc02.pdf>
- UNFCCC (2011c), *Report on national greenhouse gas inventory data from Parties included in Annex I to the Convention for the period 1990–2009* (FCCC/SBI/2011/9) <http://unfccc.int/resource/docs/2011/sbi/eng/09.pdf>

---

#### Disclaimer

This publication is fully-funded by “Caisse des Dépôts”, a public institution. CDC Climat does not contribute to the financing of this research. Caisse des Dépôts is not liable under any circumstances for the content of this publication.

This publication is not a financial analysis as defined by current regulations. The dissemination of this document does not amount to (i) the provision of investment or financial advice of any kind, (ii) or of an investment or financial service, (iii) or to an investment or financial proposal of any kind. There are specific risks linked to the markets and assets treated in this document. Persons to whom this document is directed are advised to request appropriate advice (including financial, legal, and/or tax advice) before making any decision to invest in said markets.

The research presented in this publication was carried out by CDC Climat Research on an independent basis. Organisational measures implemented at CDC Climat have strengthened the operational and financial independence of the research department. The opinions expressed in this publication are therefore those of the employees of CDC Climat Research alone, and are independent of CDC Climat’s other departments, and its subsidiaries. The findings of this research are in no way binding upon, nor do they reflect, the decisions taken by CDC Climat’s operational investment and broking services teams, or by its subsidiaries. CDC Climat is not a provider of investment or financial services.