Issues to consider when linking Carbon Markets

Australia and Korea's opportunities and challenges

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Author: Anil Bhatta

Carbon & Clean Energy Solutions

Level 2, 696 Bourke Street
Melbourne 3000, Australia

contact@c-ces.com.au

1 Executive summary

Australia and Korea have policies in place to curb greenhouse gas emissions in their respective countries. The Australian government through its "Direction Action Plan" aims to reduce emissions through investment in new and more efficient technologies, whereas, the Korean government has had in place a national cap-and-trade ETS since 1 January 2015.

The existing trading relationships between Australia and Korea can be considered as an important factor when considering carbon market linkages between these two Asia-Pacific countries, as it will not only aid to proliferate climate change mitigation activities in the region but will also assist in addressing leakage concerns (if any) between these two major trading partners.

Article 6 of Paris Agreement is at present a high level article, however its inclusion has provided much more than was expected. The article has the potential to shape the landscape of the global carbon market including carbon market linking opportunities between different jurisdictions.

Linking carbon markets across two different jurisdictions will be more complex and challenging if the underlying principles and fundamentals of best practice ETS designs are not adhered to. For linkages to work, countries like Australia and Korea need to consider many issues, some of which are outlined in this paper.

This background paper has been prepared by Carbon Market Advisory. It aims to encourage discussion on carbon market linkage issues by participants at the Carbon Market Institute's Asia-Pacific Carbon Market Workshop by exploring the opportunities and challenges of market linkage between two-major Asia-Pacific trading partners – Australia and Korea.

2 Background on Australia and Korea carbon market linkage

Australia and Korea are strong economic, political and strategic partners with common values and interests. Korea is Australia's fourth-largest overall trading partner[1] and both of these countries have strong trading links in the Asia-Pacific region.

If a full two-way link, by means of the mutual recognition of carbon units between Australia and Korea can be established, it can be a significant achievement for both countries as it would set an example of strong international cooperation on climate change and will build further momentum towards establishing a robust international carbon market.

The markets provisions, contained in Article 6 of the Paris Agreement (PA) can be seen as a major catalyst for linking markets between Australia and Korea as it open up the opportunities for these trading partners to trade emissions units and achieve their respective emissions reduction targets at a lower cost.

A brief discussion on carbon market provisions in Article 6 of Paris Agreement is outlined in the section below.

[1] DFAT

3 Carbon market provisions in the Paris Agreement – Article 6

The Paris Agreement (PA) calls for national climate change mitigation and adaptation commitments, the establishment of a new emissions reduction mechanism and the development of procedures for establishing links between carbon markets. Article 6 of the PA provides a brief overview of these key changes that will shape the future global carbon market.

Paragraph 6.1: The first paragraph of the PA recognises the right of Parties to cooperate voluntarily in the implementation of their nationally determined contributions (NDCs). It covers the concept that the Parties may choose, on a voluntary basis, to cooperate in the implementation of their NDC and to promote sustainable development and environmental integrity.

Paragraph 6.2 to 6.3: The international transfer of mitigation outcomes (ITMO) is the focus of paragraphs 2-3, which falls under the definition of international cooperation as stated in paragraph 1. These paragraphs specifically allow for internationally transferred mitigation outcomes to be used towards NDCs. Mitigation outcomes that are **transferred internationally will need to demonstrate environmental integrity and transparency, and 'shall apply robust accounting to ensure, inter alia, the avoidance of double counting'**. These measures facilitate the development of strong linkages between carbon markets, which will lead to improved liquidity in the carbon sector and provide additional avenues for Parties to meet their NDCs. It should be noted that while a standard unit of measure is likely, the internationally transferred mitigation outcomes have intentionally not been defined as crediting units (e.g. Certified Emission Reduction; CER), and therefore it is unclear as to how these criteria must be met at this stage.

Paragraph 6.4 to 6.7: Paragraphs 4-7 outline a new 'mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development'. This new mechanism has been unofficially dubbed the Sustainable Development Mechanism (SDM), and is likely to resemble an evolution of the Clean Development Mechanism (CDM). Perhaps the most important aspect of these paragraphs is that there is no distinction between developed and developing Parties, with reference made only to a host Party. The current interpretation of this section is that SDM projects may be hosted in any country, regardless of their development status. This would be a significant change from the CDM, in which only Annex II Parties are eligible for hosting project activities.

The text of paragraphs 4-7 is still very broad given the high level of complexity involved in establishing and operating an emissions reduction mechanism. Paragraph 38(f) of the PA agreement states that the rules, modalities and procedures for this new mechanism will be established on the basis of **'experience gained with and lessons learned from existing mechanisms and approaches adopted under the Convention'**. It is therefore reasonable to assume that the extensive institutional knowledge and evolving framework of previous UNFCCC mechanisms (i.e. CDM, Joint Implementation; JI) will be heavily used as guidance in developing the new SDM.

Paragraph 6.8 to 6.9: The final paragraphs of Article 6 refers to non-market mechanisms for Parties to meet their NDCs through mitigation, adaptation, finance, technology transfer and capacity-building activities as appropriate. However, details on non-market framework have not been spelt out.

In summary, the Article 6 of PA is still quite high level and at present is not enough to ensure that a new tradable commodity can emerge. Nevertheless, it has provided much more than expected which will shape the future landscape of the global carbon market.

4 Carbon market linkage between Australia and Korea – Key issues to consider

Designing an Emissions Trading Scheme (ETS) demands a certain amount of complexity. Linking carbon market across two different jurisdictions will be more challenging if the underlying principles and fundamentals of best practice ETS design are not followed.

Linking occurs when an Emission Trading Scheme allows using units (allowances or credits) issued under another ETS system as valid unit for compliance under its ETS, with or without restrictions. Linking can lower the aggregate costs of meeting emissions targets as it can benefit from wider abatement opportunities across jurisdictions. It can also improve market liquidity, help address leakage and competitiveness concerns (particularly between trading partner counties such as Australia and Korea), and facilitate international cooperation on climate policy.

For a potential linkage to work effectively, Australia and Korea would need to consider many market design issues, some of which are outlined below:

1. Comparability and environmental integrity of the offsets
2. Robustness of Monitoring Reporting and Verification (MRV) and fungibility of offset use
3. Offset supply and demand under each market
4. Linking objectives
5. Type of Linkage
6. Legal instrument
7. Registry

The aforementioned issues are discussed in detail below.

4.1 Comparability and environmental integrity of the offsets

Internationally transferred mitigation outcomes (ITMOs) referred to under Article 6 of the PA will require environmental integrity, transparency and robust accounting measures to prevent double counting. These principles will play a critical role in the development of guidelines and standards for linking international mitigation outcomes. Ensuring the environmental integrity of offsets and their equivalence across emissions reduction mechanisms is likely to present significant challenges. This is particularly important in the case of linking the Australian Direct Action Plan policy and the Korean ETS, which are guided by distinct policy frameworks and project methodologies.

One of the key points to consider while linking Australian and Korean national greenhouse gas mitigation mechanisms is ensuring that each party is satisfied with the environmental integrity of carbon offsets under each scheme and that they are comparable. CERs issued under domestic CDM projects in Korea may be cancelled in exchange for Korean Carbon Units (KCUs). The additionality criteria for these projects follow the rules prescribed by the CDM, which are typically robust and are often subject to a thorough investment analysis to demonstrate additionality. However, under the Australian Emissions Reduction Fund (ERF), project activities must adhere to the 'newness' requirement and 'regulatory additionality'. The newness requirement obliges project proponents to provide evidence that the project activity has not commenced prior to registration with the Clean Energy Regulator. The 'regulatory additionality' requirement ensures that project activities mandated under federal or state law (e.g. minimum energy performance standards for energy efficiency) are not eligible under the ERF. The environmental integrity of Australian and Korean carbon offset units and their interchangeability cannot be assumed and is therefore likely to require careful consideration of specific methodologies.

Ensuring the cross-market comparability of carbon offsets with regard to environmental integrity is likely to be a complex process that will require a detailed analysis of multiple factors across

different schemes. Further guidance on ITMOs under the PA will be available in the near future and may provide further guidance to address such comparibility issues.

4.2 Robust MRV and the fungibility of carbon offsets

The environmental integrity of the system is ensured through requirements for emissions monitoring, reporting and verification (MRV). The methodologies implemented under the Korean CDM projects and Australian ERF projects are subject to extensive expert review, with a strong focus on methodology used, the integrity of sampling, formulae and monitoring parameters used to calculate and reporting emissions reductions.

The scope of carbon offsetting project activities implemented under different national schemes may differ considerably dependent upon regional economic and regulatory circumstances. For example, historically the Australian ERF is somewhat predisposed towards land management and carbon sequestration projects, and renewable energy projects implemented in Korea under the CDM would not be eligible under the ERF to prevent double counting where Renewable Energy Certificates have been issued. This also raises questions with regards to the eligibility of offsets and leakage where there is disparity in national policies mandated by law. For example, minimum energy performance standards that are mandated by the law of one party (and therefore not an eligible project activity) may provide opportunities for project development by another party that has more relaxed regulations. The environmental integrity and comparability of carbon offsets issued via projects that differ in their scope may require further consideration. For example, calculating the avoidance of greenhouse gas emissions for renewable energy projects is relatively simple and robust in comparison with land management and sequestration activities, which need to consider carbon balances and environmental variability over the medium to long term. While the differences in the project activities between Korea and Australia presents challenges and will require careful consideration, there may be potential advantages in such a situation. One potential advantage is that disparity in project activities may minimise the impact of overlapping but distinct methodologies and projects.

4.3 Offset supply and demand under each market

One of the highlighted policy goals of the Direct Action Plan is to ‘develop the ERF in a way that can mesh in with a range of international initiatives to reduce greenhouse gases’. This suggests that international offsets may be used to meet Australia’s emissions reduction targets, however, as yet no official decision on use of international offsets has been made. If Australia allows using international offsets, it would be able to buy CERs from Korean CDM projects. Given that demand is expected to outpace supply under both the Australian ERF and Korean ETS at least on a short term, it would be important to model the potential price impact of changes in supply and demand in a linked market.

4.4 Linking objectives

In order for Australian and Korean carbon markets to link, it would be important to set linking objectives (for example linking objective could be to reduce aggregated compliance cost or to increase market liquidity etc.) and develop mutual strategies to attain those objectives. Linking will typically require clear treaty on greenhouse gas emissions reduction goal of the countries and strictness on key design features. If the market system designs vary, it can make the linking more difficult between the countries.

4.5 Type of linkage

Links between Australia and Korean carbon market can be one-way (unilateral) or two-way (bilateral) based on linking objectives of the partners. The type of linkage is open for discussion. A robust review of the system design would be required in order to ascertain whether the jurisdictions would best benefit from a unilateral or bilateral linkage. Based on the international experience, such as the link between the California and Quebec, it is advised to consider linking at the early stage of ETS system design. By doing so both linking partners can agree on key elements of ETS design and align with each other's system. If linked systems are aligned in ETS key characteristics early in the design stages of one or both systems, then the hurdles to successive linking can be reduced.

For example, in August 2012, Australia and the EU ETS had agreed to an initial unilateral and eventual bilateral linkage. It should be noted that the EU ETS and Australia's Carbon Pricing Mechanism (CPM) had not been designed with an expectation of linkage. In order to align with the EU ETS, the Australian carbon floor price had to be removed and use of Kyoto units in Australian market was restricted.

Just to elaborate further on Australia-EU ETS linkage experience, there were 2 stages of linking negotiated between Australian CPM and EU ETS. In the first stage, Australia-EU ETS linkage was one –way, unilateral link where Australian liability entities under the Australian Carbon Pricing Mechanism (commonly referred as "Carbon Tax") would have been able to purchase EU Allowances (EUAs) for compliance purposes starting from 1 July 2015. The second stage, two-way link was planned to start on 1 July 2018. The bilateral link would have made EU Allowances (EUAs) and Australian Carbon Allowances (ACUs) interchangeable. A maximum limit of 50% of an Australian liable entity's compliance obligations could be met using international units, with a maximum of 12.5% of these being CERs, ERUs and RMUs.

In contrast to Australia-EU ETS experience, California's ETS and Quebec's ETS both adopted the Design Recommendations for the Western Climate Initiative (WCI) Regional Cap-and-Trade Program, to design their ETS systems. This enabled the synchronization of key design features in the two systems more efficiently and linking occurred in1 year after the market was in operation[2].

4.6 Legal instruments

Both Australia and Korea will need to establish legal instruments in order to govern the link. Institutions responsible for market oversight and processes for implementing the link will be required. For instance, both California and Québec (and the RGGI states) have established a single provider for market services and oversight that provides program administration services[3]. These services include administering an allowance tracking system, administering auctions, and monitoring the market for fraud or manipulation. By using a single provider for these services, linked systems are able to create administrative efficiencies and reduce costs[4].

As an ETS is developed in light of national circumstances (influenced by domestic politics of the country), linking partners may be reluctant to revise ETS design elements to increase compatibility at the expense of domestic circumstances. Therefore, a contingency plan for delinking may be required to be developed at the negotiation stage.

4.7 Registry

To avoid double counting, an offset tracking system is required to be developed by Australia and

[2] ADB 2016
[3] PMR & ICAP 2016
[4] Kachi et al. 2015 as cited PMR & ICAP 2016

Korea. For example, any Australian domestic unit could be assigned a serial number when it is first transferred internationally to Korea, which would then serve for purposes of tracking and avoiding double counting. Development of compatible registry systems can greatly facilitate the transfer and tracking carbon units in a linked market.

At the time of negotiation between Australia and EU ETS on market linkage, these linking partners had analysed the linking of their respective registry systems. The Australian government and the European Commission proposed six principles[5] that any link between their registries should abide by that could be useful for Australia –Korea market linkage:

1. Ensures the fungibility of allowances;
2. Ensures environmental integrity;
3. Ensures ease of use;
4. Is complementary to the efficient operation of both registries for domestic purposes;
5. Provides protected access to allowances; and
6. Supports the development of international carbon markets.

5 Conclusion

Existing trading relationships between Australia and Korea can be considered as an important factor in building carbon market linkages between these two Asia -Pacific countries. The markets provisions, contained in Article 6 of the Paris Agreement can be seen as a major catalyst to explore the opportunities to link markets between Australia and Korea as it will open up the opportunities for these trading partners to trade emissions units and achieve their emissions reduction targets.

Linking carbon market across two different jurisdictions will become complex and challenging if the underlying principles and fundamentals of best practice ETS design between linking countries are not adhered to. Linking partners need to consider many issues (some of which are discussed in this report) before linking. There are examples from various parts of the world where carbon market linkages have already been established and valuable experience gained. The lessons learned from these existing ETS links can be useful in exploring and designing a possible Australia –Korea carbon market link.

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Annex

A brief overview of Australia and Korea's climate change policies.

	Australia	Korea
Key Policy Features	Direction Action Plan	Korean Emissions Trading Scheme (KETS)
Policy Brief	Three main elements which frame the Emission Reduction Fund (ERF) Programme; Crediting emission reduction, purchasing emissions reduction and the safeguard mechanism *(In order to purchase emissions reductions at the lowest cost across the economy, the Clean Energy Regulator conducts reverse auctions to purchase emissions reductions at the lowest available cost)*	Cap & Trade Scheme. Cap is set to decrease over time, while the percentage of auctioned allowances will increase over time
Target	Emissions reduction target of 5% below 2000 levels by 2020	By 2020: Unconditional, voluntary target of -30% below business as usual (BAU): 543 million tCO2e.
Sector Covered	Agriculture, building, electricity, fuel combustion, forestry, industry, transport, and waste	23 sub-sectors from steel, cement, petro-chemistry, refinery, power,
CAP	No GHG emissions cap	573 million tCO2e in 2015 *During Phase I of ETS (2015 to 2017) , the cap will decrease from 573 million tCO2e in 2015 to 551 million tCO2e in 2017*
Eligible units	Australian Carbon Credit Units (ACCUs) issued by the Clean Energy Regulator	- Korean Allowance Units (KAUs) - Liable entities can use offsets to meet up to 10% of their surrendering obligation

		- Domestic credits from non ETS sectors and “Korean CERs” are eligible for phase I (2015–2017) & Phase II (2018–2020) - In Phase III (2021-2025), the use of international offset credits are allowed but are limited to half of the offset limitation
Carbon Credit Buyer	Australian government	Liable entities