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SUBMISSION TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC) SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNICAL ADVICE (SBSTA)

(FCCC/AWGLCA/2011/CP.17 [paragraphs 79 to
86]) – elaboration of the modalities and
procedures for new market based mechanisms

The comments contained in this paper are independent to the Institute, and do not necessarily represent the collective views of its Membership; nor does it pre-empt the decisions of its Membership on any related matter.

Introduction

Announced by the Australian Government in September 2008, the Global CCS Institute was formally launched in April 2009. It became a legal entity in June 2009 when it was incorporated under the Australian Corporations Act 2001 as a public company and began operating independently and as a not-for-profit entity from July 2009. The Institute works collaboratively to build and share the expertise necessary to ensure that carbon capture and storage (CCS) can make a significant impact on reducing the world's greenhouse gas emissions.

The Institute welcomes the opportunity afforded by decisions arising from the Durban Platform (FCCC/AWGLCA/2011/CP.17 [paragraphs 79 to 82 – framework; and paragraphs 83 to 86 - mechanism]) to provide its considered views on the role and potential of New Market Based Mechanisms (NMBMs). The Institute hopes its views will positively assist the Ad-hoc Working Group on Long-term Collaborative Action under the Convention (AWG-LCA) in its deliberations on elaborating the modalities and procedures for future NMBMs, especially within the context of it being tasked to make recommendations at the eighteenth Conference of the Parties (COP 18).

Paragraph 79 (framework) emphasizes that various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries, must meet standards that deliver real, permanent, additional and verified mitigation outcomes, avoid double counting of effort, and achieve a net decrease and/or avoidance of greenhouse gas emissions.

Paragraph 83 (mechanism) defines a new market-based mechanism as a mechanism that will enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries, which is guided by decision 1/CP.16, paragraph 80, and which, subject to conditions to be elaborated, may assist developed countries to meet part of their mitigation targets or commitments under the Convention (Draft decision [1/CP.17]).

The institute is pleased to offer its high level observations on a broad range of issues relating to both the establishment of a framework in which to adopt market mechanisms; and the nature of the rules that might underpin any future NMBMs proposed by Parties. At this time, it appears that the two most popular approaches to establishing NMBMs, as discussed by Parties are: sectoral trading approaches (that complement the project based mechanisms); and various crediting arrangements for National Appropriate Mitigation Actions (NAMAs).

Box 1 (below) illustrates that NMBMs can be established for a very broad range of economy-wide, sectoral specific, and/or project and technology specific initiatives. There is essentially a choice of two accounting frameworks that underpins the design of an NMBM, including cap and trade (ie. requiring an allocation of tradable assets sourced from a carbon budget); and baseline-crediting/offsetting arrangements (ie. for abatement outcomes that exceed an agreed emissions baseline). The institutionalisation of these trading mechanisms can be given effect through either a centralised governance model within the jurisdiction of the UNFCCC (such as a subsidiary body, or a non-UNFCCC organisation, or a hybrid of both); or a decentralised governance model based on bilateral or multilateral arrangements.

Box 1



The Institute considers that well designed and efficiently performing markets are essential for mobilising private sector finance to developing countries for mitigation action as well as providing incentives to the private sector for the innovation and diffusion of low carbon technologies such as CCS. It is important that NMBMs are designed in such a way so as to not preclude or create an underinvestment in CCS and other large scale mitigation technologies.

The Institute considers however that global carbon pricing is a necessary but not yet sufficient enabling driver of CCS projects. It is clear that the prevailing level of carbon prices is not sufficiently high enough to drive least cost abatement while simultaneously fostering the development and deployment of large scale low emission technologies such as CCS. There appears scope for parties to establish new mechanisms to complement the existing suite of mechanisms and to strongly support low carbon strategies like the deployment of CCS.

The Institute also believes that establishing the modalities and procedures (M&P) for an overarching UNFCCC framework to accommodate NMBMs can help reduce any uncertainty that governments may face when they set out to design their NMBMs in their national interest; as well as future market participants. Such arrangements will assist governments review, develop, and/or establish new market mechanisms by taking into account the UNFCCC endorsed parameters when finalising their scheme/s design.

The Institute acknowledges and appreciates the substantial discussion by parties and accredited organisations on NMBMs already formally considered by the AWG-LCA. These discussions have proceeded on the basis of the UNFCCC's call for submissions at COP 16 (Decision 1/CP.16 [paragraph 80]); and further informed by a synthesis report adopted at COP 17 (FCCC/AWGLCA/2011/CRP.38 [pages 40 – 57]).

The Institute reaffirms the view it expressed in its submission on the M&Ps for CCS in the Clean Development Mechanism (CDM) – that is, it is very important to avoid overly prescriptive rules for each NMBM. This is why the Institute strongly agrees with the establishment of a common framework to accommodate different NMBMs through the stipulation of the minimum requirements that each mechanism/s must satisfy.

The Institute is not itself a carbon market participant, but is well placed as a UNFCCC accredited observer to provide considered views on NMBMs as it is resourced with substantial policy experience in the design, regulation and performance of market based mechanisms such as emissions trading schemes. It has a diverse membership base with many government members who actively support the establishment of NMBMs in the UNFCCC; other government members who have indicated that they are not so supportive; and private sector members who will ultimately be the participants of NMBMs.

This submission focuses on the specific needs of carbon dioxide capture and storage (CCS) technologies, especially in light of the UNFCCC's acceptance of CCS as an eligible project level

activity in the Clean Development Mechanism (CDM) (Decision 7/CMP.6) and recent endorsement by the CMP 7 of the modalities and procedures supporting CCS projects in the CDM (FCCC/KP/CMP/2011/L.4).

The Institute strongly welcomes the above decisions to institutionalise CCS in the CDM, and believes that its inclusion will greatly assist the delivery of the UNFCCC's objective of stabilising human-induced global emissions at levels that may avoid the dangerous impacts of climate change; as well as provide for a practical deployment of CCS in both developing and developed countries alike by institutionalising the rules that reward related credible abatement outcomes.

The Institute offers its views on the following themes in this submission:

1. the role of CCS as a global mitigation technology;
2. how market based mechanisms can assist the deployment of CCS;
3. general lessons learnt from carbon markets;
4. how NMBMs might interact with existing institutional arrangements; and
5. elaboration of standards for a framework to accommodate NMBMs.

CCS as a global mitigation technology

According to most publicly available forecasts, global greenhouse gas emissions are projected to double from current levels by 2050. The collective scientific wisdom on the potential consequences of these emissions if left unabated is that catastrophic changes to the world's natural environment will inevitably occur (potentially by 2050, and almost certainly by 2100).

As a result of the international climate change negotiations, some 195 countries have settled on an emission reduction ambition to contain the global average temperature increase to 2°C or less from pre-industrial times. This transposes empirically to an atmospheric emissions concentration of some 450ppm CO₂ equivalent (which provides for a 50 per cent likelihood of halting global average warming to the agreed ambition). This is increasingly referred to as the „tipping point“ beyond which is a zone of dangerous climate change (considered irreversible and non-linear in its damage impacts).

The 2005 Intergovernmental Panel on Climate Change (IPCC) Special Report on Carbon Dioxide Capture and Storage (Summary for Policy Makers, page 12 paragraph 19) cites the potential of CCS to contribute to the UNFCCC's objective as:

*In most scenarios for stabilization of atmospheric greenhouse gas concentrations between 450 and 750 ppmv CO₂ and in a least-cost portfolio of mitigation options, the economic potential of CCS would amount to 220–2,200 GtCO₂ (60–600 GtC) cumulatively, which would mean that **CCS contributes 15–55% to the cumulative mitigation effort worldwide until 2100**, averaged over a range of baseline scenarios. It is likely that the technical potential for geological storage is sufficient to cover the high end of the economic potential range, but for specific regions, this may not be true.*

How market based mechanisms can assist the deployment of CCS

The collective emission reduction commitments as agreed under the UNFCCC by parties gives rise to a global carbon budget – which is a volume of emissions that cannot be exceeded within a defined period of time (often referred to as a „commitment period“). The United Nations Environmental Programme (UNEP) estimates that the combined emission reduction obligations of the Kyoto Protocol (from 2008 to 2012), and the current pledges under consideration in the Durban Platform (stretching out to 2020) fall short of the emission reductions that the science indicates is needed.

The overall cost of de-coupling economic activity from emissions growth for a country is largely determined by the nature of its policy settings. For example, a country's emission reduction target establishes the scarcity of allowable emissions and so imposes a cost on managing those emissions according to the mitigation potentials of the options eligible under prevailing regulatory settings. Access to international mitigation through market based mechanisms can reduce the overall costs of meeting any given emission reduction target by allowing a country to source lower cost abatement from outside its own borders (as the impact of emissions/abatement to the atmosphere is spatially indifferent to where it occurs). The corollary is that countries with relatively cheap and/or surplus abatement can sell the rights to those emission reductions and earn additional income.

From a technology perspective, the deployment over time of commercially attractive low emission technologies (such as CCS) can significantly reduce the cost of operating under carbon constraints. When a value is placed on carbon (regardless of whether administratively or market determined), the cost of emission intensive technologies rise relative to lower emission intensive technologies, making the latter more competitive and helping to increase their market share. This is demonstrated in the IEA's modeling that indicates if CCS is not commercially deployed to help meet a 450ppm target by 2050, then overall costs of meeting the target could increase by 70%.

There are strong economic arguments supporting developing countries to readily adopt low carbon strategies as well including: substantial scope for income transfers due to changes in the terms of trade between regions; the opportunity to sell low cost abatement which can also help offset any negative income effects; and changes in foreign interest payments. The Australian Treasury observes for example that the sale of abatement at scale can cause exchange rates to appreciate (strengthening home currency), which can positively affect net foreign interest payments and further boost net income transfers.

Lessons learnt from carbon markets

The World Bank recently estimated the value of the global carbon market in 2010 at about US\$142 billion. It is clear that over time, the global carbon market (including secondary markets) will need to continue to deepen (ie. become more liquid) as other markets emerge such as those listed below. The increased linkages between markets should also provide investors and traders with greater opportunities to hedge their future carbon price risks with greater certainty than is currently possible. The main benefit of internationally linking nationally based schemes is not only to provide liable emitting entities with access to the lowest cost mitigation opportunities regardless of where it takes place, but also help transfer technologies and facilitate flows of public and private funds both to and within developing countries.

An efficiently working global carbon market (consisting of linked national carbon markets with fungible tradable assets) will be essential in mobilising the financial resources needed to adequately address the challenges of climate change.

The Institute notes that developing and developed countries continue to develop a range of new market mechanisms at the national level.

The European Union's (EU) Emissions Trading Scheme (ETS) is the largest carbon market in the world, with the World Bank estimating that the EU's share of the global carbon market is around 97 per cent. The EU ETS (a cap and trade framework) clearly demonstrates that while a low and volatile carbon price can support least cost abatement outcomes, it cannot singularly and simultaneously adequately foster the development and deployment of novel low emission

technologies (such as CCS). As such, the EC is complementing the private sector's current low propensity to invest in CCS projects (as driven by current market forces) with a CCS directive that outlines national regulatory requirements for power plants; and supplementing it with potentially billions of dollars from the sale of a tranche of EU Allowances (EUAs) that can go to support up to 50 per cent of the construction and operational costs of a limited number of CCS projects.

Other existing and/or pre-announced carbon markets include: New Zealand's ETS (started 2008); Australia (carbon price to 2015; then an ETS going forward); the US Regional Greenhouse Gas Initiative (started 2009, electricity sector only); the New South Wales Greenhouse Gas Abatement Scheme (started 2003), and the Western Climate Initiative (WCI) where 7 US States (including California, Arizona, New Mexico, Utah, Montana, Washington and Oregon) and 4 Canadian provinces (British Columbia, Ontario, and Quebec and Manitoba) agreed to participate in an all sectoral ETS in early 2012.

Support for the establishment of national carbon markets is also shared by China, Japan, South Africa, South Korea and Taiwan. In addition to compliance markets, many voluntary carbon schemes exist too. While these markets tend to be relatively modest in size (the World Bank valued their 2010 activity at US\$393 million), most benefit from UNFCCC related market institutional arrangements. One such example is Australia's Carbon Farming Initiative (which commenced in January 2012) which utilises Kyoto standards for measurement and verification to generate tradable offsets, and for which is intended to be linked to a future ETS compliance market.

The Institute welcomes all of these developments as they provide a growing potential to enhance the liquidity and efficiency of global carbon market/s post-2012. The UNFCCC remains in a strong position to encourage the linkages between all of these different schemes through its governance structures (COP; CMP etc).

While there are no CCS projects registered in the CDM as yet, due to the M&Ps only being agreed to in December 2011, there are still substantial lessons that the CDM can provide to project based NMBMs (baseline-credit framework). In essence these include the need for good governance; strong institutions; robust methodologies; credible baselines; and a broad definition of additionality.

A very important consideration in the development of any NMBM is the transition period from design to operation, and the need for a seamless transition to ensure market confidence – especially if a new mechanism is to replace an existing one.

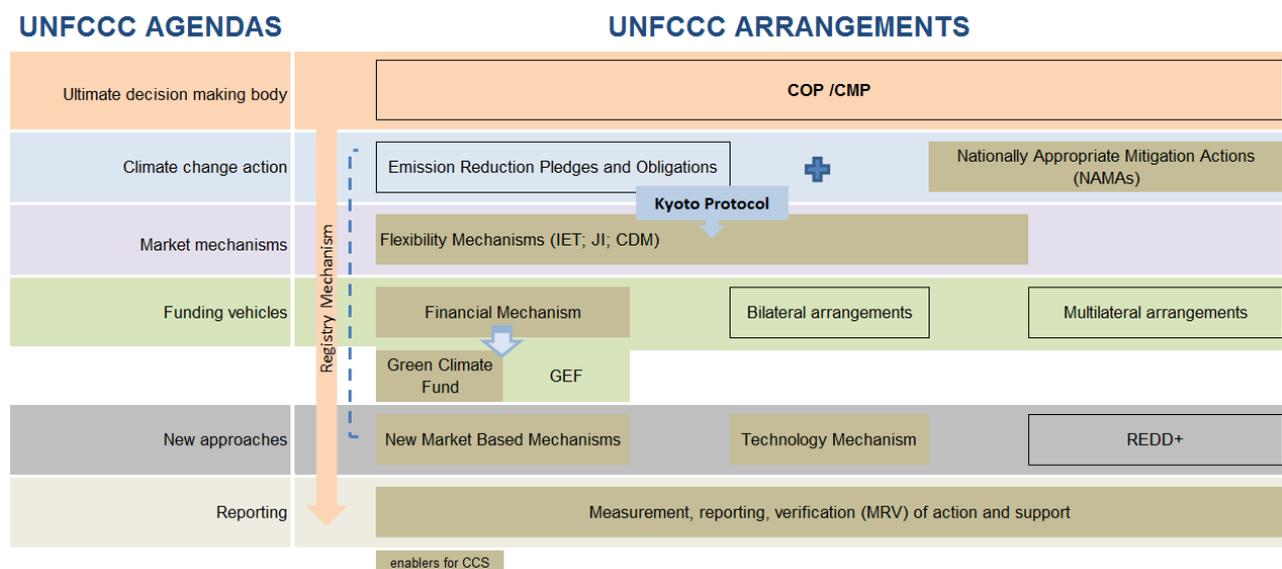
For example, the UNFCCC in establishing M&Ps (ie. standards and rules) for the Flexibility Mechanisms and NMBMs can help maximise the efficiency and environmental integrity of each of these schemes, and establish the conditions by which tradable assets can be used to meet international emission reduction commitments. Further, general acceptance of CCS in a NMBM by the UNFCCC could serve to lower the cost of project implementation by reducing the costs of finance (ie. lower weighted average costs of capital) through changing the perception of the global finance community so that some technologies (such as CCS) should be considered as being relatively more mature than novel (and hence less risky).

The Institute considers carbon markets to be one of the most important policy tools for cost effective emission reductions. A major goal of NMBMs should be to encourage investment – and avoid under-investment – by the private sector in technologies like CCS, which can deliver the lowest cost and level of emissions in the future.

How NMBMs can interact with existing institutional arrangements

There are a number of existing UNFCCC institutional arrangements that lend themselves to market based support for mitigation technologies like CCS, including the Kyoto Protocol's Flexibility Mechanisms (International Emissions Trading (IET) – Article 17; Joint Implementation (JI) – Article 6; and CDM – Article 12); and Nationally Appropriate Mitigation Activities (NAMAs) – although the relationship between NAMAs and NMBMs is still being explored. These mechanisms are additional to the financial arrangements such as the Global Environment Facility (GEF); the newly established Green Climate Fund (GCF) and Technology Mechanism. These are highlighted in diagram 1 below.

diagram 1



COP 13 delivered the *Bali Action Plan*, which established a notion of enhanced mitigation through what is termed *Nationally Appropriate Mitigation Actions* (NAMAs). The prime objective of a country's NAMA (which applies to both developed and developing countries) is to achieve greater emission reductions while supporting mainstream sustainable development.

While a framework to support the implementation of NAMAs is still under formulation by the COP, the extent to which an action is considered nationally "appropriate" falls to the principle of *common but differentiated responsibilities* – which forms the basis for most country level negotiations under the UNFCCC. Essentially this means that each party decides for itself how it will and/or aims to undertake mitigation measures within the context of its own national interest. But the extent to which NAMAs can/will be linked to NMBMs and/or to existing market mechanisms is a live negotiating issue still being explored by parties, and one to which some have expressed opposition.

A NAMA for illustrative purposes might include:

- economy-wide emission targets (expressed in absolute terms or as an intensity variable such as tonnes per CO₂-e per unit of GDP; tCO₂-e per capita; and/or X per cent below BAU projections);
- sectoral emission targets (as defined above); and/or
- specific actions at national and/or provincial levels.

NAMAs might consist of national policies that comprise of:

- a single measure; or
- a suite of measures.

NAMAs might also be implemented:

- unilaterally (within a country with no external country support);
- supported mitigation (ie. funding sourced from say the GCF) enabled by technology;
- financing and capacity building; and
- actions rewarded in carbon markets (ie. sectorally based targets with tradable emission rights within national and/or across international boundaries).

What is clear is that NAMAs will be largely driven by sovereign policies. This creates a challenge of differentiating between what might be considered an enhanced level of mitigation action and what might be considered business as usual (BAU). As required under the CDM, the criterion of additionality becomes an important point of differentiation when generating eligible tradable offsets for the abatement effort that extends BAU.

The establishment of the so-called Flexibility Mechanisms under the Kyoto Protocol essentially provides the framework (including both legal and institutional arrangements) for the global carbon market/s we see today. The Flexibility Mechanisms basically created two different types of carbon markets: allowance/permit trading among Annex I countries (IET); and project level offsets/credits trading for all countries (JI, CDM). It is important to acknowledge that the overall objective of both these types of mechanisms is to reduce emissions at least cost by providing flexibility to Annex I countries in meeting their Kyoto targets.

It seems that the future of the mechanisms (IET; CDM; JI) responsible for generating tradable Kyoto assets (ie. Assigned Amount Units or AAUs; Certified Emission Reduction Units or CERs; Emission Reduction Units or ERUs) are linked to the future of the Kyoto Protocol. While COP 17 secured a 5-8 year second commitment period (2nd CP), the continuance of JI and IET is unknown due to the lack of legally binding emission reduction targets over this period. It is clear however that the CDM can continue, given that it does not need binding emission reduction targets to generate CERs.

The CDM, as the first global carbon market ever established, clearly demonstrates the type of benefits that market approaches can drive for both developed and developing countries alike. For example, it offers developing countries an ability to attract foreign investment in mitigation projects; help facilitate the transfer and/or diffusion of lower emission technologies; and bestow localised economy benefits such as the creation of employment and foster economic activity. It can also offer developed countries an ability to offset their emissions at potentially lower cost than would otherwise be the case by investing in projects in developing countries.

The UNFCCC CDM website indicates that there are over 3,800 registered CDM projects (of which 47 per cent are located in China and 2 per cent in Africa), with another 1,800 projects in the pipeline. This suite of activity is expected to recognise over 2.7GtCO₂-e of abatement in the 1st CP (2008–2012). It is clear from these statistics that the CDM is not only mobilising substantial amounts of public and private sector financial support for projects in developing countries (albeit mostly in a few countries), but also helping to establish value-add service industries to support them.

The Institute acknowledges that the CDM Executive Board is currently overseeing a policy dialogue looking into external forces that could affect the performance of the CDM, as well as future challenges and opportunities. One example might be the implications of the EU ETS rule to

recognise CERs from post-2102 registered projects only located in Least Developed Countries (except where otherwise agreed through future international or bilateral climate agreements). This could see the more advanced emerging economies becoming increasingly reliant on the establishment of new sectorally based market mechanisms – either through the UNFCCC and/or other international arrangements – that enable them to generate and subsequently trade international credits.

In regards to implementing CCS in developing countries, the sequencing of commercial development opportunities is clearly dominated by carbon capture and usage (such as enhanced oil recovery or EOR) in the first instance; and carbon capture and storage over time. As the negotiations on CCS in CDM over the past five years readily reveal, the notion of EOR projects ideologically challenges some parties and their notions of what additionality means in practice, despite there being clear potential for greenhouse friendly outcomes from such projects.

What this might mean for any future NMBMs is that they will require not only good governance and strong institutions to oversee robust methodologies for monitoring, measurement and verification and including baseline establishment (similar to JI and CDM), but maybe also a broader definition of what additionality means in order to encourage a rate of technology transfer needed over the next decade.

Further, the prevailing Kyoto mechanisms alone seem unlikely to be sufficient to drive the level of abatement needed to contain emissions to within the carbon budget the IPCC deems as necessary to avoid dangerous levels of climate change. This indicates that other mechanisms are needed.

The GCF aims to mobilise \$100 billion a year in 2020 for both mitigation and adaptation efforts, and explicitly cites CCS as an eligible activity. The Fund will rely on a combination of both public and private sector financing, and like the NAMAs, it is not clear how either will be made commercially attractive to the private sector – particularly if such actions and/or contributions are not linked in some way to carbon markets (ie. do not generate some form of tradable asset that reflects the associated emission reductions). The confidence of investors may be enhanced if the benefits of related mitigation investments can be monetised via carbon markets – and this may assist the striking of convincing business cases to secure executive board approvals to invest in CCS.

The nature of any support that can be provided to CCS projects under either the GCF and/or NAMAs also need to be carefully examined – and is dependent on the outcomes of future negotiations. For example, CCS projects are typically capital intensive and require (similar to other large scale clean energy options such as solar thermal) substantial upfront capital. In supporting technology deployment, the GCF may lend itself to better assisting the planning stages and upfront capital requirements, while the operating (variable) costs are best managed through market based arrangements over a project's lifecycle. This may mean that while the GCF itself is not a market based mechanism, there needs to be strong links to existing markets and/or NMBMs (via offset crediting arrangements under NAMAs) to reward CCS mitigation.

The Technology Mechanism aims to facilitate the implementation of enhanced action on technology development and transfer in order to support action on mitigation and adaptation to climate change. The Climate Technology Centre has as part of its responsibility the utilisation and financing of existing technologies for mitigation and adaptation as well as facilitating the financing of projects through various sources. While no formal linkage exists between the Technology Mechanism and the GCF, access to as broad a range of financing sources as possible will be essential for the reasons already outlined above – including both funds and markets.

Elaboration of the standards for a framework to accommodate NMBMs

The Institute believes that the ultimate design of NMBMs will depend on sovereign states having a clear picture of costs, benefits, relevant technologies, production relationships and design opportunities of their schemes (ie. emissions trading system; carbon offset trading; clean energy targets; feed in tariffs and the like).

There are broad ranges of national interest cost considerations in demonstrating compliance of NMBMs with any future UNFCCC based M&Ps likely to include:

- emission abatement;
- monitoring and reporting;
- verification and enforcement;
- administration;
- distorted incentives for competition, innovation and production;
- induced emission increases from non-covered sources; and
- additional activities likely to be associated with trading such as brokerage and tracking tradable assets (especially where the nature of the participants are diverse, dispersed and individually small emission sources).

It is important to avoid overly prescriptive rules for each NMBM, and so the Institute strongly agrees with the establishment of a common framework that includes the minimum requirements that each mechanisms must satisfy. The requirements suggested in FCCC/AWGLCA/2011/CRP.38 (page 50 - paragraph 79, and pages 55-56 – paragraphs 108-109) seem a good first step, and include:

- definition of basic forms (trading or crediting);
- rules on how to define sectors and coverage of gases; policies and measures; technologies and other mitigation actions;
- timeframes of the mechanisms;
- rules for double counting;
- methods and criteria for calculating baselines (and review and approvals);
- methods and criteria for determining crediting thresholds and sector targets;
- length of crediting/trading period;
- provision for monitoring, reporting and verification of emissions (complementing relevant processes under the UNFCCC);
- provision for issuance and tracking of tradable assets; and
- accreditation standard for validators and verifiers.

It seems a relatively simple matter to include CCS related mitigation efforts (and other large scale clean energy technology solutions) under all of the above initiatives (ie. NAMAs) to NMBMs, given the institutional ability of CCS (as demonstrated by the CCS in CDM M&Ps) to deliver on all of the criteria agreed to by the COP at COP 16 (Decision 1/CP.16) including:

- (a) ensuring voluntary participation of Parties, supported by the promotion of fair and equitable access for all Parties;
- (b) complementing other means of support for nationally appropriate mitigation actions by developing country Parties;
- (c) stimulating mitigation across broad segments of the economy;
- (d) safeguarding environmental integrity;

- (e) ensuring a net decrease and/or avoidance of global greenhouse gas emissions;
- (f) assisting developed country Parties to meet part of their mitigation targets, while ensuring that the use of such mechanism or mechanisms is supplemental to domestic mitigation efforts; and
- (g) ensuring good governance and robust market functioning and regulation.

At the core of the establishment of any future NMBM will be the availability and generation of transparent, robust and replicable emission reduction data at the project level, and the establishment of robust monitoring, reporting and verification regimes (as per the CDM). It is also important that any future NMBMs are designed in such a way that does not undermine the integrity of existing carbon markets by avoiding the double counting of abatement that may have been supported and/or credited under alternate mechanisms (such as the CDM). Also, to ensure that the supply of related credits reflects enhanced and permanent abatement outcomes will require the development of appropriate institutional arrangements such as qualified personnel and compliance responsibilities.

Sectorally specific NMBMs may allow developers to choose which carbon market/s they will participate in – buyers will tend to choose the mechanism that offers the cheapest credits that suits their purposes, whereas sellers would choose the mechanism which offers the highest returns and where transaction costs are low. This can increase investment uncertainty (depending on information availability) while running the risk of further fragmenting both the supply side (causing transaction costs to potentially rise) and demand side (buyers choosing which projects are acceptable or not; and which may lead to pricing differences between types of credits).

This is primarily due to the voluntary basis of participation by countries, which may drive more bilateral and multilateral arrangements and not truly international ones. In general however national governments are often reluctant to interfere with markets, preferring instead to leave buyers and sellers to choose for themselves which market/s to participate in.

It remains to be seen whether the carbon price from such mechanisms will be global or differential in nature. It seems however that the common point of reference between all of the UNFCCC institutional arrangements is to drive lower carbon signatures by encouraging low carbon technology developments; and NMBMs seem very capable of delivering this.

Conclusions

The Institute strongly supports the development of new, scaled-up market mechanisms to complement the Kyoto Flexibility Mechanisms and to better support the striking of commercially viable business cases to assist the global deployment of CCS. As the future fate of the Kyoto Protocol is unknown post 2017-2020, new mechanism/s that extend beyond this period may be legally required. What seems clear is the need for an increase in both the scale and flow of finance to countries for CCS related mitigation activities, as well as to encourage a faster rate of technology diffusion across all countries.

The Institute does not express a view on whether NMBMs should ultimately replace the existing Flexibility Mechanisms over the longer term, but in the short to medium term, the Institute considers it critical that NMBMs be discussed and designed in such a way that strongly complements and enhances the performance of the existing market mechanisms (IET, JI and CDM).

Establishing the modalities and procedures for any future NMBMs will take time. The Institute firmly believes that many of the concerns leveled at NMBMs can be readily addressed through careful design to accommodate the different national circumstances and capabilities of various

countries. At a minimum however, NMBMs should be designed in such a way so as to not preclude critically important technologies that are capable of delivering the lion's share of the required global abatement within the critical timeframe and for which has institutional legitimacy such as CCS.

The Institute acknowledges however that not all NAMAs (ie. domestic measures and policies) can satisfy all of the needs of carbon markets, and so the compatibility of a NAMA to an NMBM will be dependent on whether the associated abatement can be systematically institutionalised (ie. measured, reported and verified).

It is clear that regardless of whether NMBMs are project based (ie. to generate offsets) or more sectorally based (ie. sectors with emission reduction targets), more ambitious emission reduction targets are needed in order to give a strong demand signal to carbon markets and further motivation to Non-Annex I countries to go beyond UNFCCC funded mitigation actions.

The Institute would welcome participating in the Subsidiary Body for Scientific and Technological Advice work programme in 2012 (including workshops) to further distil the lessons learnt under existing mechanisms, including the flexibility mechanisms under the Kyoto Protocol, regional emissions trading systems, and voluntary mechanisms; the modalities and procedures for the operation of any future NMBMs; and how they may apply to and affect the deployment of a major mitigation technology such as CCS.