



# The Networked Carbon Markets (NCM) Initiative January 2017





**Opportunities for carbon market linkage post-Paris** 

The NCM initiative's objectives and key components

FY17 Work plan

Conclusion



# Linking may be key to a successful and cost effective implementation of NDCs

Linking has a wide range of benefits:

- Cost savings
- ✓ Reducing competitive concerns for the private sector
- ✓ Achieving greater market liquidity
- ✓ Achieving more ambitious targets
- ✓ Technical cooperation
- ✓ Knowledge sharing



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Each country acts alone





Could reduce an additional 1.9GtCO<sub>2</sub> at same cost

Intl cooperation through carbon market by 2050



# Market/price-based mechanisms are proliferating, and are becoming increasingly diverse

- Under the Paris Agreement, a diverse set of market/price-based mechanisms with mitigation outcome have emerged
- These schemes are increasingly diverse in their design, scope and timeframe



# Underlying assumptions of the NCM initiative

An international carbon market is *desirable,* although topdown development of international carbon markets is becoming increasingly challenging

> Governments and market participants need information about schemes that they are linking with, to ensure the environmental integrity of the trade



# The NCM initiative's short, medium and long term vision

The NCM initiative seeks to enhance the transparency, comparability and potential exchangeability of programs/policies with mitigation outcome



# Example: Assessing the Mitigation Value of programs with the NCM initiative's Mitigation Action Assessment Protocol (MAAP)





## The NCM initiative's FY17 work plan





### (1) Country focus: MAAP assessments and scoping studies

MAAP assessments in Mexico: Government of Jalisco's Climate Plan

> MAAP assessments in Ecuador: National Energy Efficiency Plan

> > MAAP assessments in Peru: NAMAs

Scoping Study in India: Exploring opportunities for a networked Renewable Energy (REC) and Energy Efficiency (PAT) market

> MAAP assessments in Thailand: Low Carbon City Programs

Scoping Study in Japan: Exploring linking opportunities in Japan and the Asia-Pacific region

# (2) Data analysis: Climate Transparency consortium

Climate Transparency is a consortium of experts and organizations that have a common goal to enhance assessments of climate action





PHASE	DESCRIPTION OF ACTIVITY	PURPOSE/OBJECTIVE	OUTCOMES/DELIVERA BLES
I	<ul> <li>Basic initial modelling of transaction scenarios</li> </ul>	<ul> <li>Design testing</li> <li>Research specific ideas</li> </ul>	<ul> <li>Devise and run modelling</li> <li>Formulate and test trading rules</li> <li>Report outcomes</li> </ul>
II	<ul> <li>Run and re-run transaction scenarios modelling with various linking rules- setting processes</li> <li>Devise business process flow for trading ensuring market integrity</li> </ul>	<ul> <li>Design testing</li> <li>Research specific ideas</li> </ul>	<ul> <li>Formulate trading rules</li> <li>Run modelling</li> <li>Report outcomes</li> </ul>
III	• <b>Simulation exercise</b> , possibly involving jurisdictions and actual market participants and trading entities	<ul> <li>Design testing</li> <li>Research specific ideas</li> <li>Outreach and stakeholder engagement involving credit rating agencies and market participants</li> </ul>	<ul> <li>Test rules with multiple runs</li> <li>Report outcomes</li> <li>Stakeholders are engaged in the simulation process</li> </ul>

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## (3) Modernizing systems: Post-Paris registry functions

- In collaboration with Xpansiv and WBG's Partnership for Market Readiness,
- Analyse how new technologies and software frameworks (*e.g., smart* sensors, open-source software frameworks, machine learning, smart contracts, blockchain) can better meet the new demands for post-Paris carbon markets





## (3) Modernizing systems: MAAP online interface

Provide a user-friendly interface to help users and decision makers design and implement more robust and "link-ready" mitigation actions

LIST OF RESULTS MAAP CALCULATOR

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#### **New MAAP Calculation**







# (4) Concept Development: knowledge products and outreach



# Conclusion

- NCM responds to the need for reliable and well-synthesized information on the relative performance of actions/policies with mitigation outcome, given the increasing regulatory fragmentation and heterogeneity that is emerging across jurisdictions
- NCM is developing a framework for assessing mitigation efforts and is building the infrastructure to support carbon market related functions
- By doing so, NCM aims to complement other World Bank initiatives in developing more market-ready and finance-ready actions/policies in the short run. The end-goal is to facilitate an inclusive, scalable internationally connected carbon market.





# Thank you!

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For more information on NCM, go to: http://www.worldbank.org/en/topic/climatechange/brief/globally -networked-carbon-markets

# Annex



# The WBG's long term efforts to promote climate actions, including carbon pricing and markets

**PROMOTING THE CASE AND EVIDENCE BASE FOR CARBON PRICING AND MARKETS** e.g., Carbon Pricing Leadership Coalition; State and Trends of Carbon Pricing reports

#### PLANNING, DESIGN AND PILOTS

Innovating and building readiness for climate action, including carbon pricing instruments

Partnership for Market Readiness; Pilot Auction Facility

#### IMPLEMENTATION AND SCALE-UP

Enabling scale-up of climate actions such as carbon pricing mechanisms

Carbon Partnership Facility; Pilot Auction Facility; Transformative Carbon Asset Facility

#### CONNECTIVITY AND GLOBAL TRADE

Enabling cooperation of all types of climate actions, including carbon pricing mechanisms, through internationally connected carbon markets

The NCM Initiative



# Emerging economies may be key beneficiaries of linking

Note: All results are rounded. All results assume full international trading of emissions. Resource flows assume a single global price for emissions.



Source: World Bank Group, 2016

# The World Bank's METRIC Principles can facilitate the development of a post-Paris carbon market

The METRIC Principles are developed by the NCM initiative and the Carbon Pricing Leadership Coalition to ensure a smooth operating networked carbon market



The framework helps policy makers and stakeholders assess the suitability and effectiveness of a linking mechanism in six areas





# How METRIC principles assure an effective linkage

#### Market Integrity

Ensures operational standards and market stability

#### **Environmental Integrity**

 Ensures robust accounting standards and strong monitoring, reporting and verification (MRV) process

#### Transparency

• Ensures communication among stakeholders and transparent presentation of information

#### **Recognize Ambition**

• Recognizes early actions and discourages reduced mitigation efforts

#### Inclusiveness

• Ensures that the system is easily adaptable and enhances international cooperation

#### Cost Effectiveness

• Ensures that the overall cost of mitigation is lower inclusive of administrative and transaction costs



## (2) Data analysis: Climate Transparency's joint assessments and outreach

Bringing together the knowledge and expertise of stakeholders from different sectors and countries to produce more robust, credible and comprehensive assessments on climate action

Partnering with local experts to convene multi-stakeholder workshops in key countries to enhance the legitimacy and reach of climate indices and assessments



Press conference in Mexico on Sep 6 2016



Partners & Strategy workshop in **Germany** on Feb 24 2016



Launch event in China on Sep 1 2016



# Key modules in the MAAP



# **MAAP: Example**





# Piloting the NCM Initiative's tools in Peru

#### NCM ACTIVITIES

- In December 2016, the MAAP was applied in Peru to compare and prioritize Nationally Appropriate Mitigation Actions (NAMAs) for its Partnership for Market Readiness (PMR) proposal.
- Mitigation actions chosen: NAMA Waste, NAMA Cement, and Mitigation Measure of photovoltaic distributed generation.
- The participatory nature of the assessment proved useful to identify areas of improvement.
- Next Step: Explore possibility of using the MAAP as one of the mainstays of a future Mitigation Action Registry in Peru.

#### APPLICATION AS A NAMA SCREENING TOOL



#### THE PROCESS OF SCREENING MITIGATION ACTIONS IN PERU

Shortlisting of 80+ mitigation actions

Customization of MAAP by protocol developers & national experts

Ex ante assessment of 10 prioritized mitigation actions

Selection of 3 mitigation actions for support under the Partnership for Market Readiness: NAMA Waste, NAMA Cement, and Mitigation Measure of PV distributed generation

# Piloting the NCM Initiative's tools in Thailand



#### NCM ACTIVITIES

- In February 2016, the NCM Initiative conducted field visits to the municipalities of Phitsanulok and Pak Kret to apply the MAAP to evaluate and compare Low-Carbon Cities (LCC) programs.
- The MAAP, as well as the findings of the field visits, were presented at a multi-stakeholder workshop in Bangkok organized in collaboration with the Thai Greenhouse Gas Management Organization (TGO).
- Next step: TGO has expressed interest in scaling up the application of the MAAP to 100 low-carbon city activities in Thailand.



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# WORK PLAN

# **Scoping Study in Japan**

#### NCM ACTIVITIES

- In April 2016, the NCM initiative and Institute for Global Environmental Strategies (IGES) jointly hosted a multi-stakeholder workshop in Tokyo. Participants explored the role of 'assessments' and 'transparency' in supporting different carbon market linkages.
- A scoping study was conducted by IGES.
- The objective was to explore opportunities for the NCM initiative to support carbon market linkages in Japan.
- IGES prepared a working paper in July 2016 which described linkage opportunities within and outside of Japan and the Asia/Pacific region. It also provided recommendations for subsequent engagement by the NCM initiative.
- Next step: Workshop with key policy makers and the private sector in Japan to present findings, and explore opportunities to apply the MAAP to Joint Crediting Mechanism (JCM) projects







# Feasibility Study in India

#### BACKGROUND OF GREEN CERTIFICATE AND WHITE CERTIFICATE MARKETS IN INDIA

#### Green certificate market

- Under India's Electricity Act 2003, the State Electricity Regulatory Commission (SERC) assigns targets to utility companies to purchase a certain percentage of their total power from renewable energy sources.
- Entities that are unable to cover the specified share of renewable energy are able to buy tradable **renewable** energy certificates to make up for the shortfall.

#### White certificate market

- Perform Achieve Trade (PAT) system is a marketbased mechanism that aims to enhance the energy efficiency in energy intensive industries, known as Designated Consumers (DCs)
- DCs are subject to energy consumption targets
- DCs with energy savings above the target benchmark are given tradable white certificates (i.e. energy saving certificates)
- All entities who do not meet their targets will need to buy TWCs or pay a penalty fee

#### NCM ACTIVITIES

The NCM Initiative has contracted **TERI** to carry out a **feasibility study** in India to:

- Explore the feasibility of enhancing the comparability and fungibility of domestic green certificate and white certificate schemes through the key components of the NCM Initiative.
- Conduct stakeholder outreach with the aim of introducing and receiving feedback/input on the NCM initiative's key components
- Develop a roadmap for progressing any opportunities revealed by the feasibility study.





## (4) Concept development: Collaboration with over 30 partners

#### Private sector outreach

Partners: Climate Markets and Investment Association (CMIA).

#### MAAP

Partners: DNVGL, Thai Greenhouse Gas Office, Ministry of Environment of Peru, Wageningen University, UNEP-DTU Partnership, Gold Standard, ICAT, IGES

Independent Assessment Framework Partners: DNV, IISD, New Climate Institute, Climate Transparency, Observer to ISO Climate Change Standards Committee

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Institutions (ICAR and International Settlement Platform)

Partners: INFRAS, Grantham Institute, Reed Smith, Xpansiv

NCM Partners

#### Concept Development

\* 'Linking Carbon Markets in Asia – Joint NCM/ADB vision' (Asia Development Bank)
\* Enabling Comparability and Linkage of the REC and PAT Schemes (TERI)
'Explore the relevance and feasibility of the NCM Initiative in Japan' (IGES)
\* 'Comparison and Linkage of Climate Mitigation Efforts in a New Paris Regime' (Harvard/IETA)
\* Achieving compatibility and synargy

- \* Achieving compatibility and synergy between the NCM Initiative and Climate Clubs (Climate Strategies)
- \* 'NCM and its compatibility with a future UNFCCC regime' (Marcu)
- \* 'A model for NCM based on the key elements and principles of Comparative Markets' (Macinante)
- \* 'Options for Operationalizing a Carbon Trading Ratio Mechanism' (Austin)
- \* 'Enabling Comparability of heterogeneous Emissions Trading Systems – Caps, MRV frameworks and non-compliance penalties' (Munnings)
- \* Initial modelling of Transaction Scenarios (Enerdata)
- \* The METRIC for successful linking post-Paris (Vivid Economics)

# The Paris Agreement recognizes the potential benefits of bottom-up internationally connected carbon markets

# Article 6.2 – 6.3 allows countries to cooperate in reducing emissions through **Internationally Transferred Mitigation Outcomes (ITMOs)**

- UNFCCC will not provide governance, it will provide guidance
- ITMOs are <u>generic in nature</u> and may be produced from any mechanism/procedure/protocol
- ITMOs that do not meet this guidance can still be transferred but would not count towards NDCs

