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Partnership for Market Readiness (PMR)

Technical Workshop on

**Paving the Way for NDC Implementation:**

*Analyzing Policy Options and Modeling Carbon Pricing*

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Hosted by the Ministry of Environment and Energy of Costa Rica

San Jose, Costa Rica – 6-8 December 2016

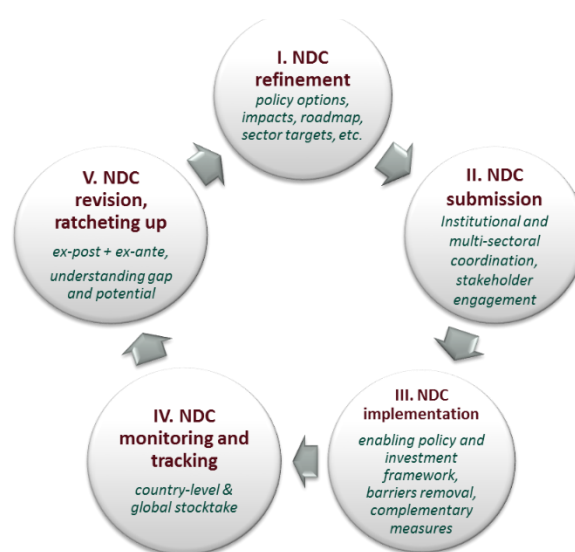
Venue: Real Intercontinental Hotel

## Workshop background and objectives

As countries look to refine and implement their nationally determined contributions (NDCs) according to the milestones and process set out in the Paris Agreement, the needs emerge for technical and analytical capacity to support the NDC cycle through its development and submission, implementation, monitoring and tracking, as well as ratcheting up the ambition level (see figure below). Indeed, the ability to conduct underlying modeling and analytical work is critical to determining the scale, scope and pace of transitioning to alternative low-emission pathways and associated costs and benefits. Such work will also be fundamental to putting together an enabling framework of policies and measures, including carbon pricing instruments, in view of implementing NDCs. Beyond this, under the Paris Agreement countries commit to evaluating how their NDCs perform over time and to what extent and how the NDCs can be strengthened in order to help close the current global mitigation gap.

Against this backdrop, the Partnership for Market Readiness' (PMR) Policy Analysis Work Program aims to support countries in refining the analytical underpinning of countries' NDC target setting and implementation roadmaps, through building technical capacity, developing and sharing relevant analytical approaches and tools, and supporting the modeling and analysis of policy instruments recognizing the crucial role of carbon pricing in achieving effective implementation of NDCs. Activities under the PMR Policy Analysis Work Program are largely catered to country-specific needs depending on the status of their NDCs. The Work Program also facilitates and fosters the exchange of experience and knowledge and to discuss good practices on the establishment of NDC emissions scenarios and carbon pricing modeling.

Figure: NDC cycle and analytical underpinning



The Technical Workshop “Paving the Way for NDC Implementation: Analyzing Policy Options and Modeling Carbon Pricing”, organized by the PMR Secretariat in collaboration with the Ministry of Environment and Energy of Costa Rica, will bring together policy makers and technical practitioners who are involved in the analytics underlying NDC implementation planning efforts in their respective countries, and international experts working on this topic. The objectives of the workshop are to:

- Identify critical gaps and common challenges with respect to analytical/modeling tools and technical readiness at the country- and international levels, taking into account relevant Paris Agreement milestones;
- Share NDC-relevant analytical approaches and modeling tools based on experiences gained under the PMR and through the international research and policy-making communities;
- Provide hands-on and interactive training on such analytical approaches and modeling tools; and
- Further build a network of colleagues, peers, and experts and provide a forum for sharing experiences and perspectives on planning for NDC implementation.

### Agenda overview

Time	Day 1 Refining the analytical underpinning of NDCs	Day 2 Toward effective NDC implementation	Day 3 Ratcheting up NDC ambition
<b>08:30</b> – <b>9:00</b>	<b>Introductory session</b> <ul style="list-style-type: none"> <li>• Opening and welcome remarks</li> <li>• Objectives &amp; agenda overview</li> </ul>	<b>Introductory session</b> <ul style="list-style-type: none"> <li>• Recap of Day 1</li> <li>• Day 2 objectives</li> </ul>	<b>Introductory session</b> <ul style="list-style-type: none"> <li>• Recap of Day 2</li> <li>• Day 3 objectives</li> </ul>
<b>09:00</b> – <b>10:30</b>	<b>Session 1: Gearing up for NDC Implementation</b> <ul style="list-style-type: none"> <li>• An overview of NDCs and relevant Paris Agreement provisions</li> <li>• Support needs for the Implementation NDCs in developing countries</li> <li>• Getting ready for NDC implementation: Tools and Support</li> <li>• NDCs – a stepping stone along deep decarbonization pathways</li> </ul>	<b>Session 5: The role of carbon pricing in NDC implementation: A modeling perspective</b> <ul style="list-style-type: none"> <li>• Case studies: Chile, China, Kazakhstan and South Africa</li> </ul>	<b>Session 9: Tracking and monitoring NDC progress</b> <ul style="list-style-type: none"> <li>• Monitoring Progress toward NDC Goals; Transparency in the Paris Agreement</li> <li>• Ex-post MRV of carbon pricing policies</li> <li>• Tracking energy sector transformation</li> <li>• Framework for assessing transformational change and measuring sustainable development of mitigation action</li> </ul>
<b>Break</b>			
<b>11:00</b> – <b>12:30</b>	<b>Session 2: Analytical approaches and modeling tools to support NDC development and implementation planning</b> <ul style="list-style-type: none"> <li>• Analytical and research gaps in light of Paris Agreement</li> <li>• Mapping of analytical and modeling tools to inform NDC implementation cycle</li> <li>• Case studies: Costa Rica and Peru</li> </ul>	<b>Session 6: <u>Tool sharing and demonstration</u> – Developing roadmap for NDC implementation</b> <ul style="list-style-type: none"> <li>• Interactive/hands-on demonstration and simulation</li> <li>• Based on a tool that can help countries develop NDC implementation roadmap, considering various policy options, priority and timing</li> <li>• Report back by groups/selected participants</li> </ul>	<b>Session 10: <u>Tool sharing and demonstration</u> – Paving the way for deep decarbonization: Assessing NDC mitigation objectives vis-à-vis long-term emissions scenarios</b> <ul style="list-style-type: none"> <li>• Interactive/hands-on demonstration and simulation</li> <li>• Based on a tool that can help countries consolidate sectoral contributions for NDC, as well as assess mitigation gap</li> <li>• Report back by groups/selected participants</li> </ul>
<b>Lunch</b>			

Time	Day 1 Refining the analytical underpinning of NDCs	Day 2 Toward effective NDC implementation	Day 3 Ratcheting up NDC ambition
13:30 – 15:00	<p><b>Session 3: Designing packages of enabling policies in NDCs</b></p> <ul style="list-style-type: none"> <li>• Designing and assessing investment-grade enabling policy packages to achieve NDC targets: a new modeling approach</li> <li>• Case studies: Morocco and Vietnam</li> </ul>	<p><b>Session 7: Understanding the wider impacts of NDCs</b></p> <ul style="list-style-type: none"> <li>• Macro-economic implications of NDCs/climate policies: US and Colombia experiences</li> <li>• Linking NDCs and Agenda 2030: a sustainability analysis</li> <li>• Distributional impacts of climate policies and carbon pricing instruments</li> </ul>	<p><b>Session 11: Regional and international cooperation to reduce cost and increase NDC ambition</b></p> <ul style="list-style-type: none"> <li>• Moving to well below 2C: role of international energy technology collaboration</li> <li>• Modeling international cooperation from an NDC perspective</li> <li>• EVALUATE Tool for international cooperation on carbon pricing policies</li> </ul>
Break			
15:30 – 17:30	<p><b>Session 4: <u>Tool sharing and demonstration</u> – Modeling NDC policy packages to promote low-carbon investment and behavioral change</b></p> <ul style="list-style-type: none"> <li>• Interactive/hands-on demonstration and simulation</li> <li>• Based on a tool that can help countries identify necessary reform and policy packages to support NDC refinement and encourage private sector actions</li> <li>• Report back by groups/selected participants</li> </ul>	<p><b>Session 8: Analysis of Policy Alignment and Policy Interaction</b></p> <ul style="list-style-type: none"> <li>• Exploring policy interaction in NDCs</li> <li>• Reconciling Carbon pricing and Energy Policies in Developing Countries: Lessons and limits from OECD countries experience</li> <li>• The role of moderate carbon pricing in electricity sector decarbonization</li> <li>• Case studies: California</li> </ul>	<p><b>Closing session</b></p> <ul style="list-style-type: none"> <li>• Wrap-up and closing remarks</li> </ul>

## *Detailed agenda*

Day 1 – Tuesday, December 6 <sup>th</sup>	
<b>08:30-09:00</b>	<p><b>Introductory session</b></p> <p><b>Opening and welcome remarks</b></p> <ul style="list-style-type: none"> <li>• Ms. Andrea Meza, Director Climate Change, Ministry of Environment and Energy, Costa Rica</li> <li>• Mr. Christian Peter, Program Leader, Sustainable Development, World Bank Group</li> <li>• Mr. Adrien de Bassompierre, Program Coordinator, PMR Secretariat</li> </ul> <p><b>Objectives of the workshop and agenda</b></p> <ul style="list-style-type: none"> <li>• Mr. Suphachol Suphachalasai, PMR Secretariat</li> </ul>
<b>09:00-10:30</b>	<p><b>Session 1 – Gearing up for NDC Implementation</b></p> <p><b>Moderator:</b> Mr. Marcos Castro, PMR Secretariat</p> <ul style="list-style-type: none"> <li>• <b>An overview of NDCs and relevant Paris Agreement provisions</b> (Mr. Claudio Forner, UNFCCC Secretariat)</li> <li>• <b>Support needs for the implementation NDCs in developing countries</b> (Mr. Cayetano Casado, UNDP Low Carbon Development Capacity Building Program)</li> <li>• <b>Getting ready for NDC implementation: Tools and Support</b> (Ms. Ana Bucher, World Bank Group)</li> <li>• <b>NDCs – a stepping stone along deep decarbonization pathways</b> (Mr. Adrien Vogt-Schilb, Inter-American Development Bank, IADB)</li> <li>• <b>Q&amp;A</b></li> </ul>
<b>10:30-11:00</b>	<b>Coffee break</b>
<b>11:00-12:30</b>	<p><b>Session 2 – Analytical approaches and modeling tools to support NDC development and implementation planning</b></p> <p><b>Moderator:</b> Mr. Adrien de Bassompierre, PMR Secretariat</p> <ul style="list-style-type: none"> <li>• <b>Analytical and research gaps in light of Paris Agreement</b> (Mr. Fernando Miralles-Wilhelm, University of Maryland)</li> <li>• <b>Mapping of analytical and modeling tools for NDC implementation</b> (Mr. Suphachol Suphachalasai, PMR Secretariat)</li> <li>• <b>Costa Rica: developing modeling framework for NDC pathways</b> (Mr. Felipe De Leon, Technical Coordinator, PMR Costa Rica)</li> <li>• <b>Peru: analytical input to inform NDC decision-making process and challenges ahead</b> (Ms. Maria Elena Gutierrez, Libelula, Peru)</li> <li>• <b>Q&amp;A</b></li> </ul>
<b>12:30-13:30</b>	<b>Lunch break</b>
<b>13:30-15:00</b>	<p><b>Session 3 – Designing packages of enabling policies in NDCs</b></p> <p><b>Moderator:</b> Mr. Felipe De Leon, Technical Coordinator, PMR Costa Rica</p> <ul style="list-style-type: none"> <li>• <b>Designing and assessing investment-grade enabling policy packages to achieve NDC targets: a new modeling approach</b> (Mr. Grzegorz Peszko, World Bank Group)</li> <li>• <b>Morocco: the case of energy efficiency in the building sector</b> (Mr. Sam Foster, Element Energy)</li> <li>• <b>Vietnam: low carbon policy package to support private sector action in the power sector</b> (Mr. Grzegorz Peszko and Mr. John Rogers, World Bank Group)</li> <li>• <b>Q&amp;A</b></li> </ul>

<b>15:00-15:30</b>	<b>Coffee break</b>
<b>15:30-17:30</b>	<p><b>Session 4 – <u>Tool sharing and demonstration</u> – Modeling NDC policy package to promote low carbon investment and behavioral change</b></p> <p><b>Moderator:</b> Mr. John Rogers, World Bank Group</p> <ul style="list-style-type: none"> <li>• Interactive/hands-on demonstration and simulation, based on a tool that can help countries identify necessary reform and policy packages to support NDC refinement and encourage private sector actions</li> <li>• Report back by groups/selected participants</li> </ul>

<b>Day 2 – Wednesday, December 7<sup>th</sup></b>	
<b>08:30-09:00</b>	<b>Introductory session: Recap of day 1 and objectives of day 2</b>
<b>09:00-10:30</b>	<p><b>Session 5 – The role of carbon pricing in NDC implementation: A modeling perspective</b></p> <p><b>Moderator:</b> Ms. Maja Murisic, PMR Secretariat</p> <ul style="list-style-type: none"> <li>• <b>Chile case study</b> (Mr. Jacques Clerc, Energy to Business)</li> <li>• <b>China case study</b> (Mr. Jian Zhou, Tsinghua University)</li> <li>• <b>Kazakhstan case study</b> (Mr. Yerbol Akhmetbekov, Nazarbayev University Research and Innovation System)</li> <li>• <b>South Africa case study</b> (Mr. Heinrich Bohlmann, Department of Economics, University of Pretoria)</li> <li>• <b>Q&amp;A</b></li> </ul>
<b>10:30-11:00</b>	<b>Coffee break</b>
<b>11:00-13:00</b>	<p><b>Session 6 – <u>Tool sharing and demonstration</u> – Developing roadmap for NDC implementation</b></p> <p><b>Moderator:</b> Mr. Gary Goldstein, DecisionWare and Mr. Ricardo Delgado, Universidad de Los Andes, Colombia</p> <ul style="list-style-type: none"> <li>• Interactive/hands-on demonstration and simulation, based on a tool that can help countries develop NDC implementation roadmap, considering various policy options, priority and timing</li> <li>• Report back by groups/selected participants</li> </ul>
<b>13:00-14:00</b>	<b>Lunch break</b>
<b>14:00-15:30</b>	<p><b>Session 7 – Understanding the wider impacts of NDCs</b></p> <p><b>Moderator:</b> Ms. Maria Elena Gutierrez, Libelula, Peru</p> <ul style="list-style-type: none"> <li>• <b>Macro-economic implications of the US’ climate policy</b> (Ms. Adele Morris, The Brookings Institution)</li> <li>• <b>Macro-economic impacts of Colombia’s NDC</b> (Mr. Andres Camilo Alvarez, National Planning Department and Mr. Ricardo Delgado, Universidad de Los Andes, Colombia)</li> <li>• <b>Linking NDCs and Agenda 2030: a sustainability analysis</b> (Mr. Francesco Bosello, CMCC/FEEM)</li> <li>• <b>Assessing distributional impacts of climate policies</b> (Mr. Justin Caron, HEC Montreal)</li> <li>• <b>Q&amp;A</b></li> </ul>
<b>15:30-16:00</b>	<b>Coffee break</b>
<b>16:00-17:30</b>	<p><b>Session 8 – Analysis of Policy Alignment and Policy Interaction</b></p> <p><b>Moderator:</b> Mr. Adrien de Bassompierre, PMR Secretariat</p> <ul style="list-style-type: none"> <li>• <b>How can issues of policy interaction be explored?</b> (Mr. Thomas Kansy, Vivid Economics)</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Reconciling Carbon pricing and Energy Policies in Developing Countries: Lessons and limits from OECD countries experience</b> (<i>Mr. Christophe de Gouvello, World Bank Group</i>)</li> <li>• <b>The role of moderate carbon pricing in electricity sector decarbonization</b> (<i>Mr. Peter Janoska, International Energy Agency</i>)</li> <li>• <b>California case study</b> (<i>Ms. Mary Jane Coombs, California Air Resources Board</i>)</li> <li>• <b>Q&amp;A</b></li> </ul>
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Day 3 – Thursday, December 8 <sup>th</sup>	
08:30-09:00	<b>Introductory session: Recap of day 2 and objectives of day 3</b>
09:00-10:30	<p><b>Session 9 – Tracking and monitoring NDC progress</b></p> <p><b>Moderator:</b> Mr. Marcos Castro, PMR Secretariat</p> <ul style="list-style-type: none"> <li>• <b>Monitoring Progress toward NDC Goals; Transparency in the Paris Agreement</b> (<i>Ms. Erin Cooper and Ms. Kelly Levin, World Resources Institute</i>)</li> <li>• <b>Ex-post MRV of energy and carbon pricing policies</b> (<i>Mr. Suphachol Suphachalasai, PMR Secretariat</i>)</li> <li>• <b>Tracking energy sector transformation</b> (<i>Mr. Peter Janoska, International Energy Agency</i>)</li> <li>• <b>Framework for assessing transformational change and measuring sustainable development of mitigation action</b> (<i>Mr. David Ryfisch, UNEP DTU Partnership</i>)</li> <li>• <b>Q&amp;A</b></li> </ul>
10:30-11:00	<b>Coffee break</b>
11:00-13:00	<p><b>Session 10 – <u>Tool sharing and demonstration</u> – Paving the way for deep decarbonization: Assessing NDC mitigation objectives vis-à-vis long-term emissions scenarios</b></p> <p><b>Moderator:</b> Ms. Erin Cooper, World Resources Institute</p> <ul style="list-style-type: none"> <li>• Interactive/hands-on demonstration and simulation, based on a tool that can help countries consolidate sectoral contributions for NDC, as well as assess mitigation gap</li> <li>• Report back by groups/selected participants</li> </ul>
13:00-14:00	<b>Lunch break</b>
14:00-15:30	<p><b>Session 11 – Regional and international cooperation to reduce costs and increase ambition</b></p> <p><b>Moderator:</b> Mr. Pascal Girot, Intersectoral Climate Change Coordinator, MINAE</p> <ul style="list-style-type: none"> <li>• <b>Moving to well below 2C: role of international energy technology collaboration</b> (<i>Mr. Peter Janoska, International Energy Agency</i>)</li> <li>• <b>Modeling international cooperation from an NDC perspective</b> (<i>Mr. Thomas Kansy, Vivid Economics</i>)</li> <li>• <b>EVALUATE Tool for international cooperation on carbon pricing policies</b> (<i>Mr. Christophe de Gouvello, World Bank Group</i>)</li> <li>• <b>Q&amp;A</b></li> </ul>
15:30-16:00	<b>Coffee break</b>
16:00-16:30	<p><b>Session 12 – Closing session</b></p> <ul style="list-style-type: none"> <li>• Wrap-up and closing (<i>Mr. Adrien de Bassompierre, PMR Secretariat</i>)</li> <li>• Closing remarks (<i>Ms. Andrea Meza, Director Climate Change, Ministry of Environment and Energy, Costa Rica</i>)</li> </ul>