Report on the UNFCCC Latin America and Caribbean regional workshop on nationally appropriate mitigation actions
Summary of the proceedings

The Latin American and Caribbean regional workshop on nationally appropriate mitigation actions (NAMAs) took place at the premises of the Economic Commission for Latin America and the Caribbean (ECLAC) in Santiago, Chile, on 14–15 September 2015. Forty-four participants representing 20 countries from the region, the private sector and international organizations took part in the workshop.

Opening of the workshop

The workshop was opened by Mr. Jose Luis Samaniego, Head of Sustainable Development Division, ECLAC. In his opening address, Mr. Samaniego stated that climate change provides countries with significant opportunities to ‘green’ their economies and that countries would need to innovate in order to fully capitalize on this opportunity. He mentioned that the workshop provided a timely platform for countries to share some of the innovation, whether in financing of NAMAs or in setting up national institutional arrangements, already taking place. He added that the workshop also provided a space to further the understanding on the role of NAMAs in achieving INDC objectives among participants. He stressed the importance of sustainable development impacts of NAMAs and the need to consider them while considering the role of NAMAs in contributing towards INDCs.
Mr. Donald Cooper, UNFCCC secretariat, delivered the welcome remarks. He thanked ECLAC for hosting the workshop and for making excellent facilities available. He mentioned that INDCs are governments’ vision for their national economy; therefore, INDCs are, in principle, national development plans. However, INDCs do not include mechanisms for achieving the vision and that is where NAMAs come in, as they provide a vehicle for implementing/achieving the INDCs. Therefore, NAMA implementation is no different from the implementation of national development plans. Mr. Cooper stated that not all countries benefited from the readiness support made available since 2013. The countries that benefited had/have national development plans that were designed to attract that funding, and were able to utilize climate finance to facilitate the investment needed to implement national development plans. He encouraged countries to give priority to putting in place a policy framework, which is critical for attracting private investment, as grants from international donors are expected to be relatively small while private investment has no limits. He cited Ethiopia, a least developed country, as an example of one of the fastest growing economies in the world, mentioning that Ethiopia has been able to attract the investment needed for growth by changing its national development model to a climate compatible one. He stressed that the economic benefits of taking that course of action are real and it is something that countries need to seriously consider as a model to drive their economies and not as an obligation that they need to fulfill under the Convention.

Ms. Tshering Sherpa, UNFCCC secretariat, briefly introduced participants to the agenda and objectives of the workshop. She mentioned that countries that are front-runners in the process understand very well the potential of NAMAs in contributing towards national sustainable development goals while also allowing them to contribute towards global efforts in addressing climate change. The proactive approach of such front-runners has meant that they have benefited the most from the technical support provided by the international community in designing their NAMAs and now many are ready to move to the implementation phase. Therefore, the workshop would focus on various aspects of financing, as one of the primary objectives of the workshop was to facilitate implementation of NAMAs in the region. Implementation of NAMAs is paramount – it provides developing countries with a huge incentive to take action to meet the ultimate objective of the Convention in line with their priorities of sustainable development.
Update on the preparation and implementation of nationally appropriate mitigation actions

Mr. Gerardo Canales, Latin America Projects Manager of the Center for Clean Air Policy (CCAP), presented an update on the status of NAMAs under preparation and implementation and talked about the work of CCAP, including information on its Mitigation Action Implementation Network initiative. The initiative works by identifying the most successful developing country mitigation policies and using the lessons learned to assist other countries in refining their policies and implementation frameworks in order to facilitate the implementation of ambitious mitigation actions.

Mr. Canales mentioned that there are increasing numbers of NAMAs under development (158 developed or in the process of being developed) with energy and transport NAMAs representing more than half of the portfolio. He pointed out that Latin American countries were early movers and are leading the way in the NAMA development and implementation process but added that African countries are catching up, with the largest number of NAMAs under preparation at the moment. Commenting on the status of NAMAs under implementation, he stated that although the number is growing it is still very low. He stressed the important role that climate finance can play to catalyze the implementation of NAMAs and stated that most of the financing for implementation to date has come from the NAMA Facility, while the Green Climate Fund (GCF) presents a major opportunity for the future.

With regard to the criteria for financing NAMAs, one important point highlighted was that the NAMA Facility and the GCF have similar funding selection criteria and are looking to fund NAMAs with strong regulatory frameworks (transformational ambition, country ownership), robust institutional arrangements and innovative financial plans that leverage financing from different sources.
Mr. Canales mentioned Colombia’s Transit-Oriented Development NAMA, Chile’s Self Supply Renewable Energy NAMA, Thailand’s Refrigeration NAMA and Kenya’s Geothermal NAMA as examples of transformational NAMAs.

Ms. Kaisa Karttunen, Food and Agriculture Organization of the United Nations (FAO) gave a presentation on the FAO tool to support NAMA preparation in the agriculture sector. Agriculture contributes around 10–12 per cent of global greenhouse gas emissions and in Latin America emissions from agriculture have increased by 130 per cent in the last 50 years. Therefore, containing emissions from this sector is critical for Latin America to move towards low-emission development. The added advantage of mitigation measures in the agriculture sector is that they deliver important adaptation and other co-benefits, such as strengthening food security and rural income and livelihoods, improving farm efficiency and increasing the potential for scaling up climate-smart agriculture.

The NAMA tool1 aims to help agriculture stakeholders to overcome knowledge barriers and get started with NAMA identification and planning, provide information on the type and quantity of resources (technical, human and financial) needed to develop and implement NAMAs. It also provides advice on how to achieve emission reductions in the agriculture sector while supporting other sustainable development goals, such as food security.

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1. Policy incentives:
   - Feed-in tariffs
   - Tradable certificates
   - Tax incentives
   - Clean energy subsidies

2. Risk management:
   - Guarantees
   - Insurance policies
   - Contract-based instruments

3. Grants:
   - Cash transfers
   - In-kind support

4. Low-cost project debt:
   - Concessional loans

5. Capital instruments at commercial terms:
   - Project-level market rate debt
   - Project-level equity
   - Balance sheet financing

Mr. Vladislav Arnaoudov, Mitsubishi UFJ Morgan Stanley Securities Co. Ltd., spoke about private sector expectations with regard to NAMA financing. He mentioned that the private sector is interested in becoming involved with the NAMA process and should be seen as a key partner from the outset in both the design and implementation of NAMAs. He added that NAMA design should incorporate measures to facilitate the participation of the private sector to stimulate the inflow of private capital and transfer of new technologies. From the private sector's point of view, for a NAMA to be bankable it needs to have a clearly defined cash flow and at least a minimum rate of return on investment.

The private sector can be involved in different ways, as a technology provider, an investor or an initiator of NAMAs. To engage the private sector it is important to, inter alia, create a policy framework and incentives (e.g. feed-in tariffs, tax benefits); have a stable legal framework; develop new financial products (e.g. green bonds); make public funds available to reduce the risks (loan guarantees, insurance products); and involve multilateral and bilateral donors in the establishment of the NAMA financing mechanism.

Mr. Rodrigo Violic, Head of Project Finance at Banco BICE, a Chilean commercial bank involved in NAMA implementation, talked about the role of commercial banks in NAMA design and implementation. He stated that as a general rule, the private sector will be willing to contribute with financing only if there is an adequate balance between perceived risks and returns on its investment compared to other alternatives. Hence, the need to stimulate low-carbon investments and mobilize private sector resources at scale means first finding ways to increase returns and reduce risk to investors. Like the previous presenter, Mr. Violic also highlighted the importance of enabling environments in attracting private finance for scaled-up investment (e.g. policy, technology, finance, de-risking instruments, etc.). The table below shows examples of instruments to hold de-risk investment for the private sector.
**Examples of financial instruments to help to de-risk low-carbon investment for the private sector**

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Risk</th>
<th>Mitigation policy instrument</th>
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<tbody>
<tr>
<td>Grid integration risk</td>
<td>• Curtailment of large-scale intermittent/variable renewable energy (RE) sources (wind and solar) due to grid instability • Nodal price difference due to transmission losses</td>
<td>• Development of a national strategy for grid expansion and continued reinforcement • Development of reserve power plants to provide storage capacity (i.e. hydro, pump storage, etc.) to balance the system • Development of demand-side management instruments</td>
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<tr>
<td>Social acceptance risk</td>
<td>• Postponement of investments in RE projects</td>
<td>• Awareness-raising campaign targeting communities • Optimization of land use through territorial planning</td>
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<tr>
<td>Power market risk</td>
<td>• Hourly mismatch between distribution companies demand and solar/wind generating companies supply</td>
<td>• Design energy auctions to incentivize solar/wind generating companies to group with other non-intermittent RE sources</td>
</tr>
<tr>
<td>Permits</td>
<td>• Delays in permit granting</td>
<td>• More transparent and efficient process • Dedicated one-stop shop for RE permits</td>
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<tr>
<td>Weak domestic capital markets/lack of financial infrastructure</td>
<td>• Limited access to capital at the right cost impacts revenue flow and profitability</td>
<td>• Concessional loans: senior and subordinated debt/loans provided at concessional rates and/or extended maturities • Equity and/or quasi-equity</td>
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<tr>
<td>Weakly scoped energy projects due to lack of human capital</td>
<td>• Longer project development period resulting in crowding out of private investors</td>
<td>• Grants for technical assistance and capacity-building</td>
</tr>
<tr>
<td>Project specific</td>
<td>• Failure to achieve project completion</td>
<td>• First loss partial guarantee</td>
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<tr>
<td>Lack of coherent, long-term predictable and stable political and regulatory framework</td>
<td>• Unrewarded exposure to political and regulatory risk discourages private sector investment</td>
<td>• First loss partial guarantee • Insurance products (e.g. political risk insurance, sovereign risk insurance) complex to deploy</td>
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Mr. Rodrigo Garcia Palma of First Solar, a photovoltaic solar energy producing company, talked about the company’s experience in working in Chile and setting up the Luz del Norte project in the Atacama Desert, which will be the largest photovoltaic solar power plant in Latin America when completed. He also talked about the thin film technology used by First Solar, which he said is more efficient than the best multi-crystal-line module available on the market³.

³ For more information on this project see <http://www.firstsolar.com/en/About-Us/Projects/Luz-del-Norte.aspx>.
NAMA marketplace

The purpose of this session was to facilitate the implementation of NAMAs in the region by bringing NAMA developers and investors to the same table. Argentina, Costa Rica and El Salvador presented NAMAs to a panel of donors representing both the public and the private sector. The panellists provided feedback on those NAMAs along the lines of whether the NAMAs presented are initiatives their organizations would be interested in engaging in; other public/private investors that could potentially be interested in supporting the NAMAs; and what countries could do to improve their NAMAs to attract public and private investors, etc.
Argentina – Probiomasa NAMA for the promotion of energy from biomass

Ms. Moira Achinelli presented Argentina's NAMA, which aims to generate energy using biomass. This is one of the first NAMAs of Argentina and was initiated to boost the production, management and sustainable use of biomass for energy generation. This NAMA involves multiple ministries (Agriculture, Planning and Energy) and was developed with support from FAO.

The domestic energy supply in Argentina is mostly based on fossil fuels, with renewable energy constituting only 1.5 per cent of the total energy mix. Studies carried out by the government and FAO showed great potential for biomass as an energy source; however, it also identified the need to overcome institutional, legal, economic, technical and sociocultural barriers. For example, the commercial banks do not have a tool for the technical evaluation of biomass projects. One of the objectives of Probiomasa is to prepare a methodology tool for the banks so that they can technically evaluate different biomass projects for financing. The NAMA will also develop a multi-criteria methodology that will help to compare the impact of different biomass projects.

The NAMA aims to generate a total of 200 electric MW and 200 thermal MW by 2016. It is expected to have following co-benefits:

Annual savings by replacing imported fossil fuels;
- Creation of a significant number of new jobs;
- Generation of new capabilities focused on renewable energy management;
- Energy security improvement in isolated areas (30 communities in total);
- Reduction of local pollution of soil and water, as well as fire reduction.

The NAMA is expected to require the investment of USD 750 million with the host country contributing to roughly USD 5.5 million.

Panel feedback

- The NAMA demonstrates strong government commitment;
- The government should consider addressing the conflicting policies that are in place. For example, for the feed-in tariff to work well the phased out removal of the fossil fuel subsidy should be considered. Even if the NAMA manages to attract donor funding for implementation, sufficient funds are needed to operate the power plant and to ensure sustained transformational impact;
- Consider the distance between the source of energy and the power plant. The distance has to be manageable for transport costs not to pose an obstacle;
- Different sources of biomass would have different implications on measurement, reporting and verification (MRV). It would be advisable to select one biomass source first and then to prepare an MRV system to track its usage.
Costa Rica – biomass energy NAMA

Mr. Sergio Musmanni presented Costa Rica’s NAMA, which aims to facilitate the use of organic agriculture and forestry residues to generate clean energy with the specific objectives of promoting best practices at the farm level in order to optimize the supply chain, improve the energy efficiency and energy production systems in agroindustry; and promote financing schemes with local and regional partners (public and private banks). The NAMA is integrated into Costa Rica’s National Development Plan for 2015–2018. The NAMA plans to use International Organization for Standardization standards to undertake MRV. As the next step, Costa Rica is looking to access funds for the NAMA from local and regional banks in order to leverage foreign investment.

Panel feedback

- In order to attract investment from multilateral funding agencies, consider bundling a number of projects to generate economy of scale;
- In the NAMA document, group technologies by type (as different technologies have different requirements). Doing so will make the activities to be implemented clearer;
- Include time frame so that it is clear what is expected to be achieved by when;
- Include concrete financing structure/mechanism;
- Consider applying an ESCO type of model of operating;
- Since Costa Rica plans to apply for GCF funding, go through the GCF template to understand the level of detail needed for the funding application.

El Salvador – NAMA to increase energy efficiency of public buildings

Mr. Ignacio Handal presented El Salvador’s National Strategy for Climate Change. As a part of the National Action Plan for the Environment launched in April 2014 by the Ministry of Environment and Natural Resources, the National Strategy for Climate Change aims at addressing mitigation targets and sustainable development benefits. In line with this strategy the National Energy Council (CNE) developed, with the support of the United Nations Development Programme and the Global Environment Facility, a NAMA to increase the energy efficiency of public buildings. The NAMA focuses on three main areas of public energy consumption – street lighting, public buildings and public transport – and is currently going through the preparation phase. Developing scenarios, MRV processes and the identification of financial options are the next steps planned by CNE towards the completion of the preparation phase.

Panel feedback

- This NAMA covers three big sectors of the country. Individual proposals should be developed for them;
- Energy efficiency is profitable in the short term. The NAMA may not need much international support, as savings can be used. International support can be sought for setting up a start-up fund;
- It is important to prioritize activities, starting with activities that are most cost-effective then moving to more complicated ones. The ESCO model could be used and to certain extent self-fund it as there are going to be savings;
- For the public transport component, private sector involvement may not be feasible at this stage as it requires huge financing. It is probably more suited for bilateral and multilateral funding.
This session saw presentations by representatives of Chile and Peru on their efforts in putting in place national MRV systems.

Ms. Jenny Mager, Chile, gave a presentation on the MRV framework for NAMAs in Chile. A summary of her presentation is provided below.

National MRV systems are critical as they allow:
- Monitoring of the progress of implementation and effectiveness of plans and national policies;
- Clarity on what information needs to be developed and reported under the Convention;
- Management and reporting of information related to international support in a transparent manner;
- Avoidance of double counting of emissions;
- Countries to prioritize actions;
- Failures in methodology to be remedied and the support needed for implementation to be identified.

In 2009, Chile stated that it was going to carry out a NAMA to lower its emissions by 20 per cent in comparison with the ‘business as usual’ emissions scenario by 2020. This has been the road map to develop NAMAs in Chile and the basis for developing its INDC. Subsequently, it developed a standardized generic framework for MRV to assess whether Chile was on track to meet its mitigation objectives and whether adjustments were needed. Chile plans to develop an informational information technology platform to gather the necessary information and to track progress on the implementation of its NAMAs.

Mr. Carlos Benavides, Chile, gave a presentation on the status of the MAPS (Mitigation Actions Plans and Scenario) Chile project. The Chilean Government is undertaking the project in order to develop quantitative scenarios and options for mitigation in 2020, 2030 and 2050 and a detailed analysis of potential sectoral mitigation actions.

It is being implemented in three phases; the first phase of laying the groundwork for the process and developing 'business as usual' and 'required by science' scenarios has been completed. The second phase, developing mitigation options and scenarios, is under way. During this phase 96 mitigation actions in all sectors were analyzed to assess their feasibility, abatement costs and other qualitative features, based on which the mitigation scenario (base, medium and high efforts) were developed and has been approved by different ministries. The third phase will consist of policy briefing and outreach.

Ms. Maria Elena Gutierrez Herazo, Peru, presented information on the MAPS project in Peru, known as PlanCC (Planning for Climate Change), and mentioned that Peru was able to develop a solid INDC owing to the MAPS project. The MAPS project has involved all relevant stakeholders from the public sector, the private sector and civil society in analyzing the implications and feasibility of transitioning to a low-carbon economy. This process aims to generate the scientific evidence base to build greenhouse gas emission scenarios, evaluate mitigation options and assess the implementation of mitigation measures. The PlanCC Steering Committee is presided over by the Ministry of Environment and involves the Ministry of Economy and Finance, Ministry of Foreign Affairs and the National Center for Strategic Planning.

PlanCC, which was launched on 26 April 2012 in Lima, Peru, consists of three phases. In the first phase, an independent study on alternative development scenarios and their relationship to climate change mitigation and impacts will be developed. During this phase, the approach and methodology for strategic planning in a climate change context will be defined, working closely with the National Center for Strategic Planning.
Mr. Mauricio Romero, representative of the NAMA Facility, gave a presentation on understanding the transformational change potential of NAMAs. He said that both the NAMA Facility and the GCF have “potential for transformational change” as one of the eligibility criteria for funding. He noted that there is no agreed definition of transformational change. Mr. Romero mentioned that for a NAMA to lead to transformational change it has to have the potential to shift predominant paradigms:

- It disrupts established high-carbon pathways, contributes to sustainable development and sustains the impacts of the change;
- It triggers interventions by actors who innovate low-carbon development models and actions, connect the innovation to the day-to-day practice of economies and societies, and convince other actors to apply the innovation to influence to adopt the innovation process;
- It overcomes persistent barriers to the innovative low-carbon development model.

Ms. Sandra Aparcana, UNEP DTU Partnership, demonstrated and explained to participants how to assess the sustainable development impacts of NAMA intervention or actions and how these actions can be quantified using the NAMA sustainable development tool. She also mentioned that the tool instantaneously provides a report to the user to show the project impacts on sustainable development. Based on this report, the NAMA practitioner will be better informed to take corrective action to maximize or reduce impact. She concluded by drawing attention to the fact that actors have different priorities and challenges in analyzing sustainable development benefits.

Mr. William Kojo Agyemang-Bonsu, UNFCCC secretariat, gave a presentation on quantifying and monetizing sustainable development benefits of NAMAs. He mentioned that NAMAs have great potential to be a powerful driver of sustainable development but forthcoming finance for their implementation remains limited. Developing a framework to identify, quantify and monetize the wider sustainable development co-benefits is an important tool for NAMA developers to attract support. NAMAs developed to date have not systematically taken into account the monetary value of the co-benefits accruing from the NAMA activities. However, at the same time for most developing countries and to a large extent the donor community, the potential of a NAMA to deliver tangible co-benefits actually forms the basis for making investment decisions.

Mr. Agyemang-Bonsu mentioned that the secretariat collaborated with the United Nations Economic and Social Commission for Asia and the Pacific the South Pole Group and Waste Concern in order to determine the value of co-benefits associated with mitigation actions, taking the waste sector as a case study in a recent report. The waste sector was chosen primarily because it presents the greatest opportunities for co-benefits in the short term. Prevailing solid waste management practices typically consist of end-of-pipe solutions, such as open dumping and uncontrolled landfilling, which leads not only to methane emissions from untreated waste streams, but also to significant environmental, social and economic impacts in the local context.

These negative impacts include, for example, the environmental degradation around disposal sites, the spread of disease vectors that may spill over to local populations, and the high costs incurred by municipal governments in collecting and disposing
of waste which could be addressed through composting. Additional co-benefits include green job creation, improved health and improved crop yields (through the use of compost).

The report provides a bottom-up approach, using the case of the waste sector and empirical data from community-based and pro-poor solid waste management projects in a number of countries in the Asia-Pacific region to quantify and monetize a broad set of co-benefits associated with such projects. It calculates co-benefits in the order of USD 100–200 per ton of carbon dioxide equivalent reduced depending on countries’ socio-economic and national circumstances. This example clearly demonstrates how a framework for identifying, quantifying and, to the extent possible, monetizing co-benefits of a NAMA intervention can contribute to making investment decisions. The report argues for a more systematic evaluation of co-benefits and their integration into decision-making and indicates that such an approach holds considerable relevance in the context of both the UNFCCC process and the global sustainability agenda³.

NAMA registry

Mr. Agyemang-Bonsu provided an update on the operational status of the NAMA registry. He noted that the majority of NAMAs recorded in the registry are seeking support for implementation and that energy supply is the most popular sector among them. Most of the NAMA entries are submitted from Latin American and the Caribbean States, although Africa is well represented. Grant funding is the most commonly sought type of financial support. He also highlighted the benefits of the registry as being: an information hub for sharing best practices, technical tools and information on NAMAs; an authentic and official source of information, data and knowledge on NAMAs and support needed and available; and a platform for promoting mitigation actions in developing countries. He mentioned that the registry provides visibility and facilitates matching with sources of available support. He also provided an overview of the support available within the registry and the extent of matching between NAMAs and sources of support to date.

It was further emphasized that the registry so far has been a recording tool and not a tool for accessing finance directly and its use also remains voluntary.

The web-based version has been in operation since 2013, with anyone able to access the online public pages; however, login credentials are required for the closed platform that allows NAMA developers and support providers to record information. The database having two interfaces, for NAMAs for support and those for recognition. They cover four types of users: approver, developer, support editor and the public.

Mr. Agyemang-Bonsu informed the participants about efforts made by the secretariat to support the registry’s users and to ensure the successful use of the registry. He mentioned that the secretariat provides day-to-day technical support for the registry’s users and has also published guidance documents and technical materials to assist countries in using the registry. He also pointed out that workshops and webinars are being planned to further familiarize users with the functions of the registry. He further noted that outreach activities are being undertaken by the secretariat to ensure the provision of registry access rights to countries and to assist users in keeping their entries up to date.

Closure of the workshop

In closing the workshop Mr. Samaniego, ECLAC, expressed his gratitude to the secretariat for the collaboration and mentioned that the workshop had been extremely interesting and allowed participants to have an open dialogue on important issues related to addressing climate change and greening economies. Mr. Cooper, UNFCCC secretariat, stated that he found the experience rewarding. He thanked ECLAC for the partnership. He mentioned that governments have made a significant contribution by putting forward INDCs and that the secretariat stands ready to support all countries in implementing the INDCs.

³ The publication is available at<http://www.unescap.org/sites/default/files/Valuing%20the%20Sustainable%20Dev%20Co-Benefits%20%28Final%29.pdf>.