



## Nationally appropriate mitigation action and measurement, reporting and verification

### Key points

- *Due to the flexible and broad concept of nationally appropriate mitigation action (NAMA), developing countries can pursue projects according to their national preferences and priorities.*
- *Through a NAMA, governments of developing countries can demonstrate and receive international recognition for their mitigation actions.*

### NAMA and MRV explained

The concept of nationally appropriate mitigation action (NAMA) was introduced in the Bali Action Plan at the United Nations Framework Convention on Climate Change Conference of Parties (COP) 13 in 2007 in Bali, Indonesia.

Paragraph 1 (b) (ii)<sup>1</sup> calls for “Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing, and capacity-building, in a measurable, reportable and verifiable manner.” NAMAs are subject for review by an internationally agreed measurement, reporting and verification (MRV) system on their impacts, including emissions reductions, and on the international support that was provided.

### How it works

The general idea is that through nationally appropriate mitigation action, developing countries will voluntarily reduce their CO<sub>2</sub> emissions (deviations relative to business-as-usual emissions in 2020). NAMAs are one method to allow countries to plan and pursue low carbon green growth contrary to following the carbon-intensive growth patterns of industrialized countries.

Since 2010, 44 NAMA proposals have been submitted by developing countries for inclusion in the Appendix II of the Copenhagen Accord.<sup>2</sup> Many developing countries have indicated in their submissions that the NAMAs are conditional on receiving support from the international community. The content of those NAMAs are diverse, ranging from targets and goals for reducing carbon emissions to specific sector-based actions that lead to carbon reductions, such as in energy, energy efficiency, agriculture, forestry, construction and transport sectors. Table 1 at the end of the fact sheet provides details of the NAMAs submitted to the UNFCCC from countries in the Asia-Pacific region.

<sup>1</sup> The Bali Action Plan was the outcome document of the UNFCCC COP 13 in Bali, Indonesia, in 2007. It is a comprehensive plan outlining specific actions to reach an agreement on a post 2012 framework for reducing global greenhouse gas emissions, based on four pillars: mitigation, adaptation, technology and finance.

<sup>2</sup> United Nations Framework Convention on Climate Change website “Appendix II: Nationally Appropriate Mitigation Actions of Developing Country Parties”. Available from [http://unfccc.int/meetings/cop\\_15/copenhagen\\_accord/items/5265.php](http://unfccc.int/meetings/cop_15/copenhagen_accord/items/5265.php) (accessed 15 January 2012).

### **Box 1: Nationally appropriate mitigation actions in the transport sector**

NAMAs in the transport sector can be considered as an upgrade of the Clean Development Mechanism. CO<sub>2</sub> emissions from the transport sector account for 23 per cent of the total energy emissions at the global level. The emissions in this sector are expected to increase by 120 per cent from 2000 levels by 2050.<sup>3</sup> Although the transport sector offers great mitigation potential, it has had challenges in developing CDM projects. Only 26 of 43 developing countries included mitigation in the transport sector as part of their NAMA submission to the Copenhagen Accord.<sup>4</sup> For instance, Mexico listed the development of a public transport system and the use of cleaner vehicles for public buses. Indonesia proposed a BRT system in 11 cities.<sup>5</sup> Although the classification of NAMAs is still under negotiation, the transport sector can provide a window of opportunity for discussing credible NAMAs.

### **No agreement yet on what qualifies as a NAMA**

There is still no consensus regarding what “nationally appropriate mitigation action” will entail, such as the coverage (by sector or economy-wide), the overall institutional framework or the regulatory frameworks that need to be in place. The concept opens the window of opportunity for developing countries to propose, publicize and be recognized internationally for their own voluntary actions that are based on their country context. Although there is no agreement on what can qualify as a NAMA yet, it may include the introduction of policy measures, regulations, standards, targets, incentives and programmes that lead to reductions in greenhouse gas emissions at the national level.<sup>6</sup>

Many types of nationally appropriate mitigation actions have been proposed, which can be broken down to three general categories:<sup>7</sup>

- 1) **Unilateral NAMA** (unconditioned and domestic): Mitigation actions undertaken by developing countries without assistance from developed countries.
- 2) **Supported NAMA** (international, bilateral and conditional): Mitigation actions that are undertaken by a developing country with financial and/or technological support provided by industrialized countries.<sup>8</sup>
- 3) **Credited NAMA** (market-based): Mitigation actions undertaken in a developing country that can generate carbon credits by reducing CO<sub>2</sub> emissions. The excess credits generated against the baseline (business-as-usual levels) can be traded and sold in the international carbon market.

### **The MRV system and registry**

As an outcome of the UNFCCC negotiations in 2010 in Cancun, a registry will be established to match the NAMAs with support from industrialized countries and a fund will be created to finance mitigation and adaptation action in developing countries.

<sup>3</sup> KPMG, “Sharing Knowledge on the Transport Industry”, *Issues Monitor*, vol. 3, May 2009. Available from [www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Issues-monitor-transport/Documents/Issues-Monitor-Transport-May-2009-vol3.pdf](http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Issues-monitor-transport/Documents/Issues-Monitor-Transport-May-2009-vol3.pdf) (accessed 19 March 2012).

<sup>4</sup> Anne Binsted, Adam Davies and Holger Dalkmann, *Copenhagen Accord NAMA Submissions: Implications for the Transport Sector* (Deutsche Gesellschaft für Internationale Zusammenarbeit, Transport Research Laboratory, Institute for Transportation and Development Policy, International Association of Public Transport and Veolia Transdev, 2010). Available from [www.transport2012.org/bridging/ressources/files/1/913,828,NAMA\\_submissions\\_Summary\\_030810.pdf](http://www.transport2012.org/bridging/ressources/files/1/913,828,NAMA_submissions_Summary_030810.pdf) (accessed 19 March 2012).

<sup>5</sup> Bridging the Gap Initiative website “Delegates from Mexico, Columbia, Indonesia and UNESCAP Discuss Transport NAMAs at BtG Event”. Available from [www.transport2012.org/transport-climate-change-news/2011-04-09,transportnamas-bkk.htm](http://www.transport2012.org/transport-climate-change-news/2011-04-09,transportnamas-bkk.htm) (accessed 30 April 2011).

<sup>6</sup> Center for Clean Air Policy, *Nationally Appropriate Mitigation Action by Developing Countries: Architecture and Key Issues* (Washington, D.C., 2009). Available from [www.ccap.org/docs/resources/823/NAMAs%20by%20Developing%20Countries%20-%20Architecture%20and%20Key%20Issues.pdf](http://www.ccap.org/docs/resources/823/NAMAs%20by%20Developing%20Countries%20-%20Architecture%20and%20Key%20Issues.pdf) (accessed 15 January 2012).

<sup>7</sup> *ibid.*

<sup>8</sup> For instance, the Green Climate Fund was launched at the UNFCCC COP 17 in Durban to support mitigation and adaptation efforts in developing countries. The Fund operates independently under the guidance of the UNFCCC COP. Developed countries are to provide financing worth US\$100 billion to this fund by 2020.

A MRV system to track the progress of emissions and emissions reductions, commitments and mitigation actions will be established through national communications, biennial update reports and International Consultation and Analysis.<sup>9</sup> Deliberations during the COP 17 in Durban resulted in an agreement on more regular reporting requirements for developing countries; they will have to submit information on the status of their mitigation and adaptation efforts through their national communications every four years. Additionally, developing countries will be required to submit a biennial update report that includes greenhouse gas emissions inventories, the description of their mitigation policies and information on the international support that is required and received by them. The first reports are to be submitted in December 2014, which will be followed by a review process through International Consultation and Analysis (ICA).

The idea for a domestic MRV system in developing countries is intended to track the progress of emission reductions, promote transparency of the financial flows and the deployment of technological support that are provided to a specific NAMA. It can also help build trust among developing and industrialized countries, provide recognition both for developing countries for their mitigation action and industrialized countries for their international support, identify areas to improve action and enable opportunities for learning and sharing experiences.

Where there is international support, including support from industrialized countries, the MRV results recorded in the registry by developing countries will be crucial for ensuring accountability and transparency to countries or organizations providing the financial, technological or capacity building support.

The greenhouse gas inventory, which is part of the national communications, will be the basis to measure and assess the emissions, emissions reduction and the enhancement of carbon sinks.

### **Strengths with NAMAs and MRVs**

- **Provides developing countries a strategic instrument:** Developing countries can position nationally appropriate mitigation action to showcase their best-bet mitigation options that reduce significant levels of greenhouse gas emissions while receiving technical and financial assistance from international funding sources and donors. NAMAs can be the basis for countries to achieve low-carbon development goals.
- **Facilitates external assistance to developing countries to address capacity building issues:** The nature of the capacity-building support that is required will differ from country to country, depending on the capacity and context. Some developing countries need help to improve their planning and implementing skills, including the prioritizing of NAMAs as well as drafting a policy framework and initiating institutional development. Some countries require support for setting up the basic institutional infrastructure. This may include establishing a MRV system for collecting, measuring, analysing and recording data. Other areas may entail strengthening of existing systems, such as greenhouse gas inventories and training of relevant staff on how to use equipment to measure and analyse greenhouse gas emissions.
- **Helps coordinate the multi-sector response to improve the impact of national mitigation actions:** Only specific ministries have been involved in responding to climate change issues generally. Depending on the coverage, NAMAs can open opportunities for ministries traditionally not involved in climate change mitigation actions, such as transport, construction and planning. In anticipation of large funding and technology transfer support, NAMAs can be a highly political process. Thus, if an efficient coordinating mechanism is in place, it can enable an effective multi-sector response at the national level.

A central coordinating body can be responsible for developing the overall NAMA framework, aligning it with low-carbon development strategies. It can also develop national MRV strategies and install the required institutions and mechanisms, such as the NAMA registry. It can oversee a variety of issues and actions, such as data collection, planning, design, packaging of actions, marketing, attracting resources and technology and setting up or strengthening national data collection and analysis systems.

<sup>9</sup> Steve Winkelman, Ned Helme, Stacey Davis, Mark Houdashelt, Chuck Kooshian, Diana Movius and Anmol Vanamali, *MRV for NAMAs: Tracking Progress while Promoting Sustainable Development*, Discussion draft (Washington, D.C., Center for Clean Air Policy, 2011). Available from [www.ccap.org/docs/resources/1029/MRV%20for%20NAMAs%2011-30-11.pdf](http://www.ccap.org/docs/resources/1029/MRV%20for%20NAMAs%2011-30-11.pdf) (accessed 19 March 2012).

- **Opens opportunities for the business sector to engage in NAMA projects:** Because NAMAs are diverse in nature and cover many sectors, they can create new business opportunities for the private sector through the implementation of projects and programmes.

## Challenges to NAMAs and the MRV

- **Weak institutional capacity:** Existing government institutions may not have the appropriate capacity to coordinate a multi-sector response involving several ministries, such as transport, energy, housing and construction, in the planning process of NAMAs. Additionally, existing institutions may not have the expertise to develop a strategy nor have the appropriate infrastructure to implement NAMAs or the MRV system.
- **Difficulties in attracting finance:** Developing countries may lack the capacity to strategically prioritize and market NAMAs to attract international support and private sector investment. In terms of mobilizing private sector financing, there may also be regulatory obstacles that hinder private sector investment, both domestically and internationally. Adding to that are obstacles to developing public-private partnerships or a lack of incentives for the private sector in the form of loan guarantees, tax incentives or seed money.<sup>10</sup>
- **Lack of technical expertise:** There may be a lack of technical expertise to manage the NAMA and MRV process. This includes the process of developing policy frameworks, carrying out accurate and reliable data collection and analysis for development of statistical data and conducting technical research, project development and management.
- **Lack of awareness of NAMA opportunities within the private sector:** Because the details of what will qualify as a NAMA and how the proposals will be operationalized are still being worked out at the international level, the private sector may not be aware of the potential business opportunities.

## Implementing strategies

**Create a national policy framework:** A national policy framework, ideally in the form of low-carbon development plans, can provide the basis for planning, developing and implementing NAMAs. The low-carbon development strategy can be useful to ensure consistency and links between the individual NAMAs, to plan a number of NAMAs across sectors to achieve the established national emissions reduction targets and goals and to provide guidance in line with national development priorities.<sup>11</sup> Additionally, a NAMA framework and a national MRV strategy also will need to be developed.

**Establish and strengthen legal and financial governance structures and institutions** to support the long-term sustainability of mitigation policies and actions.

**Dedicate a coordinating mechanism or strengthen an existing mechanism** to facilitate a multi-sector response at the national level, such as a national NAMA coordinating committee.

**Build up capacities and awareness at the national level**, especially within ministries not traditionally involved with climate change mitigation actions but regarded as relevant for developing sector-specific NAMAs. Building the institutional, financial and human capacities and skills should also be directed towards the private sector and NAMA project developers through workshops and information campaigns, followed by support for innovative financing schemes and incentives, including private sector investment financing.

<sup>10</sup> KPMG, *Financing Low-Carbon Investment in Developing Countries: Public-Private Partnerships for Implementation of Nationally Appropriate Mitigation Actions* (London, 2010), p. 4. Available from [www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Pages/Financing-low-carbon-investment-in-developing-countries.aspx](http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Pages/Financing-low-carbon-investment-in-developing-countries.aspx) (accessed 30 August 2011).

<sup>11</sup> Center for Clean Air Policy, *Nationally Appropriate Mitigation Actions by Developing Countries: Architecture and Key Issues* (Washington D.C., 2009). Available from [www.ccap.org/docs/resources/823/NAMAs%20by%20Developing%20Countries%20-%20Architecture%20and%20Key%20Issues.pdf](http://www.ccap.org/docs/resources/823/NAMAs%20by%20Developing%20Countries%20-%20Architecture%20and%20Key%20Issues.pdf) (accessed 15 January 2012).

**Set up the internationally agreed system** to measure, report and verify the greenhouse gas reductions resulting from the implementation of NAMAs. The greenhouse gas inventory is an instrument in the MRV process to assess the actual emission reductions compared with the business-as-usual projections. Developing countries have already established inventories through the reporting requirements under the UNFCCC in their National Communications. However, developing countries may need to strengthen the existing national frameworks and mechanisms for data collection, measurement, analysis and monitoring to better carry out the NAMAs and ensure accountability and transparency of their mitigation actions.

**Create enabling conditions for investment:** Although NAMAs are to be supported with international assistance, the financing gap will need to be covered through private sector investments as well as from domestic public financing sources. Governments will need to arrange enabling conditions for private sector funding by removing legal and fiscal barriers, including lowering the debt cost through public guarantee mechanisms, the introduction of feed-in tariffs and providing measures for lowering the risks for investors.<sup>12</sup> Regulatory barriers that impede public-private partnerships will also need to be reviewed.

### **Box 2: J-MRV introduced by the Japan Bank International Cooperation**

Some countries are going ahead to introduce their own measurement, reporting and verifying system. The Japan Bank International Cooperation is introducing the J-MRV, a simple, practical and internationally accepted framework of MRV to promote international projects reconciling greenhouse gas reductions and economic development. It is intended to accelerate low-carbon investment through the measurement of greenhouse gas reductions by the projects. The J-MRV will be used to provide an appropriate investment climate and advanced measurement methodology to trigger public-private financing in developing countries through projects that use the most appropriate and commercially viable technologies. The J-MRV will be applied to projects financed under the Global Action for Reconciling Economic Growth and Environmental Preservation (GREEN)<sup>13</sup> initiative.

Source: Japan Bank for International Cooperation website "Guidelines for Measurement, Reporting and Verification of GHG Emission Reductions in JBIC's GREEN (the "J-MRV Guidelines)". Available from [www.jbic.go.jp/en/about/environment/j-mrv/index.html](http://www.jbic.go.jp/en/about/environment/j-mrv/index.html) (accessed 19 March 2012).

### **Further reading**

*Financing Low-Carbon Investment in Developing Countries: Public-Private Partnerships for Implementation of Nationally Appropriate Mitigation Actions* (London, KPMG, 2010).

"How to Get Nationally Appropriate Mitigation Actions (NAMAs) to Work", *Policy Update*, Issue 11, by Martina Jung, Katja Eisbrenner and Niklas Hohne (Köln, Germany, ECOFYS, 2010).

*Nationally Appropriate Mitigation Action by Developing Countries: Architecture and Key Issues* (Washington, D.C., Center for Clean Air Policy, 2009).

<sup>12</sup> KPMG, *Financing Low-Carbon Investment in Developing Countries: Public-Private Partnerships for Implementation of Nationally Appropriate Mitigation Actions* (London, 2010), p. 4. Available from [www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Pages/Financing-low-carbon-investment-in-developing-countries.aspx](http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Pages/Financing-low-carbon-investment-in-developing-countries.aspx) (accessed 30 August 2011).

<sup>13</sup> GREEN was initiated in March 2010 with a fund of US\$4 billion (over a period of three years), catering to government and financial institution lending. Eligibility criteria are 1) climate change policy of the host country, 2) technology to be used and 3) reduction amount measured by the J-MRV.

**Table 1: NAMAs submitted to the UNFCCC, by developing countries in the Asia-Pacific region, as of January 2012**

<b>Country (date)</b>	<b>Nationally appropriate mitigation actions</b>
Afghanistan <sup>(a)</sup> (22 March 2010)	i) Prepare the Initial National Communication, which will include specific mitigation strategies and activities appropriate for the national context ii) Complete the national greenhouse gas inventory
Armenia <sup>(a)</sup> (29 January 2010)	Implement the National Programme on Energy Saving and Renewable Energy of the Republic of Armenia (2007) <ul style="list-style-type: none"> <li>• Increase the energy production, based on renewable energy sources</li> <li>• Modernize thermal power plants</li> <li>• Improve energy efficiency in all sectors of the economy</li> <li>• Improve energy efficiency in buildings and construction</li> <li>• Decrease loss in methane flow in gas transportation and gas delivery systems</li> <li>• Expand electrical transport and increase the natural gas share in motor transport's fuel supply</li> <li>• Decrease methane emissions from solid municipal waste and waste water</li> <li>• Restore degraded forests, afforestation and reduce the volume of deforestation, sustains oil CO<sub>2</sub> content and ensure its increase</li> </ul>
Bhutan <sup>(a)</sup> (5 February 2010)	i) Ensure that emissions continue to stay below sequestration capacity ii) Declaration of the Kingdom of Bhutan – Land of Gross Happiness to Save our Planet
China <sup>(a)</sup> (28 January 2010)	i) Lower carbon dioxide emissions per unit of GDP by 40–45% by 2020, compared to the 2005 level ii) Increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020 iii) Increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic metres by 2020, from the 2005 levels
Georgia <sup>(a)</sup> (1 February 2010)	i) Achieve a measurable, reportable and verifiable deviation from the baseline (below business-as-usual levels) supported and enabled by technology and capacity building ii) Establish the baseline or reference case against which the action shall be measured, reported and verified iii) Support the Clean Development Mechanism as one of the most important means for further cooperation in the field of NAMAs because of its potential to lead to significant investments, better environmental performance, job creation and poverty alleviation iv) Develop a low-carbon growth plan and low-carbon strategy, in particular through the use of renewable energy investments and global cooperation
India <sup>(a)(b)</sup> (30 January 2010)	i) Reduce the emissions intensity of GDP by 20–25% by 2020, from the 2005 level ii) Target generating 20,000 MW of solar power by 2020
Indonesia <sup>(a)</sup> (30 January 2010)	i) Reduce emissions by 26% by 2020 through: <ul style="list-style-type: none"> <li>• Sustainable peat land management</li> <li>• Reduction in rate of deforestation and land degradation</li> <li>• Development of carbon sequestration projects in forestry and</li> </ul>

	<p>agriculture</p> <ul style="list-style-type: none"> <li>• Promotion of energy efficiency</li> <li>• Development of alternative and renewable energy sources</li> <li>• Reduction in solid and liquid waste</li> <li>• Shifting to low-emission transportation mode</li> </ul>
Iran <sup>(b)</sup> (Durban Conference 2011)	<p>Fifth Five-Year Development Plan (2011–2016)</p> <ol style="list-style-type: none"> <li>i) Raise power plant efficiency to 43%</li> <li>ii) Reduce electric power network losses to 1%</li> <li>iii) Achieve 27.5% growth in hydropower, 90.2% growth in wind power</li> <li>iv) Establish energy labelling</li> <li>v) Extend flare gas recovery plans in oil and gas industry up to 99%</li> <li>vi) Increase carbon sequestration in rangelands by 2% annually</li> <li>vii) Increase forest protection factor from 40% to 90%</li> <li>viii) Increase per capita forest coverage from 1,700 to 2,500 square metres</li> </ol>
Kazakhstan <sup>(b)(c)</sup> (7 November 2011 and 27 January 2010)	<ol style="list-style-type: none"> <li>i) 15% emission reduction until 2020 and 25% until 2050, based on 1992 levels</li> </ol>
Republic of Korea <sup>(a)</sup> (25 January 2010)	<ol style="list-style-type: none"> <li>i) Reduce national greenhouse gas emissions by 30% from the business-as-usual emissions by 2020</li> </ol>
Lao People's Democratic Republic <sup>(b)</sup> (Durban Conference 2011)	<ol style="list-style-type: none"> <li>i) Reduce the vulnerability from natural disasters</li> <li>ii) Increase the use of renewable energy</li> <li>iii) Mitigate emissions from the transport sector</li> <li>iv) Achieve 70% forestry cover by 2020</li> <li>v) Reduce emissions from deforestation and forest degradation</li> </ol>
Malaysia <sup>(b)</sup> (Durban Conference 2011)	<ol style="list-style-type: none"> <li>i) Reduce emission intensity of GDP by 40% by 2020 from 2005 levels</li> </ol>
Maldives <sup>(a)</sup> (29 January 2010)	<ol style="list-style-type: none"> <li>i) Target carbon neutrality by 2020</li> </ol>
Marshall Islands <sup>(a)</sup> (27 January 2010)	<ol style="list-style-type: none"> <li>i) National Energy Policy and Energy Action Plan 2009: 40% reduction of CO<sub>2</sub> emissions by 2020 from 2009 levels</li> </ol>
Mongolia <sup>(a)</sup>	<ol style="list-style-type: none"> <li>i) Energy supply: <ul style="list-style-type: none"> <li>• Increase renewable options:</li> <li>• Photovoltaic and solar heating: implement pilot research projects in the areas along the railways and consider PVs in the Mongolian Gobi desert and steppe areas in the future</li> <li>• Provide wind power generators and wind farms for remote areas and nomadic families</li> <li>• Hydropower Plants: the 220 MW Egiin Gol hydroelectric power generation project</li> <li>• Improve coal quality through coal beneficiation (included in the Mongolian Environmental Action Plan) and coal briquetting</li> <li>• Improve efficiency of heating boilers, household stoves and furnaces and CHP plant</li> <li>• Increase the use of electricity from grid for individual households in cities</li> </ul> </li> <li>ii) Building – Building Energy Efficiency Improvement <ul style="list-style-type: none"> <li>• Improve district heating system in buildings</li> </ul> </li> </ol>

	<ul style="list-style-type: none"> <li>• Install heat and hot water meters in apartments</li> <li>• Make insulation improvements for existing buildings and implement new energy efficient standards for new buildings</li> <li>• improve lighting efficiency in buildings</li> </ul> <p>iii) Industry – Energy Efficiency Improvement in Industry</p> <ul style="list-style-type: none"> <li>• Improve housekeeping practices of Mongolian industries through energy use management</li> <li>• Implement motor efficiency improvements</li> <li>• Introduce dry-processing in cement industry</li> </ul> <p>iv) Transport</p> <ul style="list-style-type: none"> <li>• Use more fuel efficient vehicles: introduce used vehicle import standards and vehicle registration tax</li> </ul> <p>v) Agriculture</p> <ul style="list-style-type: none"> <li>• Mongol Livestock Programme: limit the increase of the total number of livestock by increasing the productivity of each type of animal, especially cattle</li> </ul> <p>vi) Forestry</p> <ul style="list-style-type: none"> <li>• Improve forest management: options are natural regeneration, plantation forestry, agro-forestry, shelter belts and bioelectricity</li> <li>• Reduce emissions from deforestation and forest degradation and enhance forest carbon stocks</li> </ul>
Papua New Guinea <sup>(a)</sup> (2 February 2010)	<p>i) Decrease greenhouse gas emissions by at least 50% by 2030 (75% of target achievement through own capacities, rest is subject to support)</p> <p>ii) Achieve carbon neutrality before 2050</p>
Singapore <sup>(a)</sup> (28 January 2010)	<p>i) Reduce greenhouse gas emissions by 16% by 2020 from business-as-usual levels (Sustainable Singapore Blueprint in April 2009), contingent on a legally binding global agreement in which all countries implement their commitments in good faith</p>
Sri Lanka <sup>(b)</sup> (Durban Conference 2011)	<p>i) Deyata Sevana Programme: annual event of planting 2.1 million trees in one day, which started in 2010</p>
Tajikistan <sup>(a)</sup> (10 February 2011)	<p>i) Inventory greenhouse gas emissions</p> <p>ii) Improve energy efficient technologies in buildings and construction</p> <p>iii) Support adaption and mitigation measures and projects on capacity building and technology transfer</p> <p>iv) Develop low-carbon growth through the introduction of renewable energy sources</p>
Thailand <sup>(b)</sup> (Durban Conference 2011)	<p>i) Reduce energy intensity by 20% by 2020</p> <p>ii) Replace 25% of fossil fuel energy generation by green energy within 10 years</p> <p>iii) 20-year energy conservation plan (2011–2030), 10-year renewable and alternative energy development plan (2012–2021): expected reduction of 205 million tonnes of CO<sub>2</sub></p>
Timor-Leste <sup>(b)</sup> (Durban Conference 2011)	<p>i) Achieve 50% energy production from renewable sources by 2015</p>

(a)UNFCCC website “Copenhagen Accord Appendix II”. Available from [http://unfccc.int/meetings/cop\\_15/copenhagen\\_accord/items/5265.php](http://unfccc.int/meetings/cop_15/copenhagen_accord/items/5265.php) (accessed 26 February 2012).

(b)UNFCCC website “Durban Conference Statements”. Available from [http://unfccc.int/meetings/durban\\_nov\\_2011/statements/items/6584.php](http://unfccc.int/meetings/durban_nov_2011/statements/items/6584.php) (accessed 26 February 2012).

(c ) UNFCCC website “Appendix I: Quantified Economy-Wide Emissions Targets for 2020”. Available from [http://unfccc.int/meetings/copenhagen\\_dec\\_2009/items/5264.php](http://unfccc.int/meetings/copenhagen_dec_2009/items/5264.php) (accessed 26 February 2012).

\* Kazakhstan is a Party included in Annex I for the purposes of the Kyoto Protocol in accordance with Article 1, paragraph 7, of the Protocol, but Kazakhstan is not a Party included in Annex I for the purposes of the Convention.