



Analysis of Intended Nationally Determined Contributions (INDCs)

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Acronyms

ACCSAP	Afghanistan National Climate Change Strategy and Action Plan
ADB	Asian Development Bank
AFOLU	Agriculture, Forestry, and Other Land Use
ALU	Agriculture and Land Use
BAU	Business-As-Usual
BUR	Biennial Update Reports
CAIT	Climate Analysis Indicators Tool
CAPA	Community Adaptation Plan of Action
CAT	Climate Action Tracker
CDKN	Climate and Development Knowledge Network
CDM	Clean Development Mechanism
CCAB	Climate Change Advisory Board (Jamaica)
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
COMAP	Comprehensive Mitigation Analysis Process
COP 21	Conference of the Parties
CSA	Climate Smart Agriculture
DRC	Democratic Republic of the Congo
E&E	Europe and Eurasia
EC-LEDS	Enhancing Capacity for Low Emission Development Strategies
EFLG	Environment Friendly Local Governance
EU	European Union
FLEGT	Forest Law Enforcement, Governance, and Trade
GACMO	Greenhouse Gas Costing Model
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GSGDA II	Ghana Shared Growth and Development Agenda II
GW	Gigawatt
HCFC	Hydrochlorofluorocarbons
HEADS	Highly Effective Adaptation and Development Strategies
HFC	Hydrofluorocarbons
IEP	Integrated Energy Plan (South Africa)
INC	Initial National Communication
INDC	Intended Nationally Determined Contribution
IPAP	Industrial Policy Action Plan (South Africa)
IRP	Integrated Resource Plan (South Africa)
LAC	Latin America and the Caribbean
LAPA	Local Adaptation Plan of Action
LEAP	Long Range Energy Alternative Planning
LEDS	Low Emission Development Strategies
LDCF	Least Developed Countries Fund
LCGG	General Law on Climate Change (Mexico)

LULUCF	Land Use, Land Use Change, and Forestry
MACC	Marginal Abatement Cost Curve
M&E	Monitoring and Evaluation
MRV	Measurement, Reporting, and Verification
MtCO ₂ e	Million Metric Tons of Carbon Dioxide Equivalent
MTP	Medium Term Plan
MW	Megawatt
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action (Malawi, Afghanistan)
NCCAP	National Climate Change Action Plan (Kenya)
NCCIP	National Climate Change Investment Plan (Malawi)
NCCRS	National Climate Change Response Strategy (Kenya)
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NDP	National Development Plan
NFSCC	National Framework Strategy on Climate Change (Philippines)
NGO	Non-Governmental Organization
NGP	New Growth Path (South Africa)
NRREP	National Rural Renewable Energy Programme (Nepal)
NO _x	Nitrogen Oxides
N ₂ O	Nitrous Oxide
PANA	National Programme for Climate Change Adaptation (<i>Programme national d'adaptation aux changements climatiques</i>) (DRC)
PD	Peak and Decline trajectory
PECC	Special Program on Climate Change (Mexico)
PFC	Perfluorocarbon
PNS	National Adaptation Plan for Climate Change (<i>le Plan National d'Adaptation de la RDC aux changements climatiques</i>) (DRC)
PPD	Peak, Plateau, and Decline trajectory
PSGE	National Strategy for Coastal Adaptation to the Effects of Climate Change (<i>Stratégie Nationale d'Adaptation du Littoral Gabonais Face aux Effets des Changements Climatiques</i>) (Gabon)
PV	Photovoltaic
RALI	Resources to Advance LEDS Implementation
RAN-API	National Action Plan on Climate Change Adaptation (Indonesia)
RAN-GRK	National Action Plan for Reducing Greenhouse Gas Emissions (Indonesia)
REDD	Reducing Emissions From Deforestation and Forest Degradation
RM	Ringgit
SAIT	Cross-Cutting Process Agenda (Mexico)
SF ₆	Sulfur Hexafluoride
SNC	Second National Communication
SO ₂	Sulfur Dioxide
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USAID RDMA	USAID Regional Development Mission for Asia
WEM	With Existing Measures
WRI	World Resources Institute

1. Introduction

This white paper provides summaries of the Intended Nationally Determined Contributions (INDCs) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by partner countries in the U.S. Government's Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) program, and other designated priority countries. The white paper is organized as follows:

1. Introduction
2. Summary of Total Pledges
3. African Country Profiles
4. Asian Country Profiles
5. European and Eurasian Country Profiles
6. Latin American and Caribbean Country Profiles
7. Regional Trends
8. Sectoral Trends
9. Opportunities for USAID Assistance
10. References

This white paper was developed for the United States Agency for International Development (USAID) Resources to Advance LEDES Implementation (RALI) Program by ICF International to help summarize information for supporting implementation of the Paris Agreement for the UNFCCC.

2. Summary of Total Pledges

As of February 12, 2016, a total of 161 INDCs have been submitted to the UNFCCC.¹ This analysis includes 37 INDCs for EC-LEDES and additional priority developing countries in Africa, Asia, Europe and Eurasia (E&E), and Latin America and the Caribbean (LAC). The UNFCCC *Synthesis Report on the Aggregate Effect of the Intended Nationally Determined Contributions* summarizes the 147 INDCs submitted as of October 1, 2015. The UNFCCC Synthesis Report found that globally, the INDCs illustrate several trends among countries:²

1. There is a significant increase in the number of countries taking climate action, and a movement from project-, programme-, or sector-based actions towards economy-wide policies and objectives.
2. There is a clear and growing trend towards increasing the prominence of climate change on national policy and political agendas and introducing policies and related instruments for low-emission and climate-resilient development.
3. There is a clear interest among the countries in enhancing multilateral cooperation to achieve climate change goals and to raise ambition in the future.

According to the UNFCCC report, some common challenges in the INDCs include the various methods used to express INDCs (e.g., time frames, reference years, sectors and gases covered) and to

¹ United Nations Framework Convention on Climate Change (UNFCCC). 2016. INDCs as Communicated by Parties. Retrieved from: <http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx>. Accessed February 12, 2016.

² UNFCCC. 2015. Synthesis report on the aggregate effect of the intended nationally determined contributions. Retrieved from: <http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf>. Accessed November 20, 2015.

estimate and project greenhouse gases (GHGs) and land use, land use change, and forestry (LULUCF) emissions.³ Based on the RALI analysis, these challenges were seen amongst the EC-LEDS and priority countries considered for this report. Most countries used base year or business-as-usual (BAU) projections, but there was a lack of consistency in the years selected for the base year or from which the projections were built. For example, countries generally set targets for 2030 but some countries used 2020 (Indonesia) or 2025 (Gabon). India provided its contribution in terms of gross domestic product (GDP) emissions intensity relative to 2005 and South Africa provided its contribution in terms of a peak, plateau, and decline trajectory. Most countries provided incomplete information about the assumptions and methodology used to estimate GHG emissions; some countries did provide some additional detail, such as Ghana’s presentation of sector-level modeling approaches, or referred to other documents or analyses.

2.1. Overview of COP 21 and the Paris Agreement

At the 21st Conference of the Parties to the UNFCCC (COP 21) in December 2015, 195 countries adopted a landmark agreement that introduces the first universal, legally-binding climate deal (the Paris Agreement). The Paris Agreement shifts away from the strict differentiation between developed (“Annex 1”) and developing (“Non-Annex 1”) countries of past efforts by introducing a common framework that commits all countries to put forward their best efforts, as defined in their INDCs. The Paris Agreement will be open for signature until April 21, 2017. The Agreement will enter into force once at least 55 Parties to the Convention representing at least 55% of total GHG emissions have adopted it.

The three key objectives of the Paris Agreement, as defined in Article 2, are to:

1. Hold increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the increase to 1.5°C;
2. Increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low GHG emissions development; and
3. Make financial flows consistent with a pathway towards low GHG and climate-resilient development.

The following section summarizes some of the key outcomes of the Paris Agreement and the associated articles.

Nationally Determined Contributions (NDCs): Parties to the Agreement are legally required to prepare, communicate, and maintain an NDC and provide information necessary for clarity and transparency. Parties are expected to prepare and submit new, more ambitious NDCs every five years and are encouraged to develop long-term low emission, climate resilient strategies. The agreement commits the Parties to “pursue domestic measures with the aim of achieving the objectives” of the NDCs but does not legally bind Parties to their implementation or achievement of their goals. Detailed methodological advice on the preparation of the NDCs to ensure their consistency is planned to be developed. Each successive NDC is expected to be more ambitious than the last so that emission reductions are ratcheted up over time. [Article 4]

Enhanced Transparency: The Agreement establishes a transparency framework with common binding commitments for all parties and built-in flexibility to accommodate national capacities. Parties to

³ Ibid.

the Agreement are required to submit GHG inventories and information to track progress at least every two years. Submitted information will be subject to expert technical review. Developed countries are required to report on support provided and developing countries are encouraged to report on support received. [Article 6 and 13]

Capacity Building: The significant capacity constraints of many Parties to the Agreement is clearly recognized and efforts to enhance capacity will be coordinated by a new Paris Committee on Capacity-building. A bottom-up approach to capacity building is stressed, with Parties requesting support from other Parties, based on their lessons learned to date and as new lessons are learned during implementation. Developed country Parties are asked to enhance their support for capacity-building actions in developing countries. All Parties that are providing capacity building support are required to report on what they are doing while those countries having their capacity built also need to report on what is being achieved. [Article 11]

Adaptation: The Agreement establishes a global goal on adaptation to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change. All Parties to the Agreement are required to engage in adaptation planning processes, such as National Adaptation Plans (NAPs) and also in the implementation of adaptation actions. The Agreement clearly recognizes that the need for adaptation action will be reduced if mitigation actions are successful. The communication of adaptation actions could be included in NDCs, as a standalone NAP, or through other means. [Article 7]

Implementation and Compliance: The agreement establishes a committee of experts to facilitate implementation and promote compliance. The committee is intended to be non-adversarial and no punitive measures will be enacted if a country is under non-compliance. [Article 15]

Financing: Between 2020 and 2025, there will be an annual US\$100 billion floor to finance projects for climate change adaptation and GHG reduction measures. Developed countries are obligated to provide climate finance for developing countries while developing nations can voluntarily donate to help the poorest countries. Countries will meet again in 2025 to further quantify the commitments regarding support to the poorest countries. [Article 9]

Technology Development and Transfer: Technology innovation and transfer will play a critical role in achieving the ambition of the Agreement – particularly in the pathway to 1.5°C. The Convention’s Technology Mechanism will coordinate enhanced support including Parties continuing to draft and update Technology Needs Assessments. [Article 10]

Loss and Damage: The Agreement extends the Warsaw International Mechanism for Loss and Damage, which is tasked with developing approaches to help vulnerable countries cope with unavoidable impacts and slow-onset events. The loss and damage provision does not provide a basis for any liability or compensation. [Article 8]

Regional Carbon Trading Markets: Parties may use internationally transferred mitigation outcomes to achieve NDCs. Accounting guidelines for NDCs will be developed to help ensure that countries do not “double count” emission reductions. [Article 6]

2.2. Mitigation Pledges

Globally, the INDCs submitted to the UNFCCC represent 98.6 percent of global GHG emissions.⁴ The EC-LEDS and additional priority developing countries analyzed for this paper represent approximately 8,407 MtCO₂e, or 19 percent of global GHG emissions.⁵ Globally, the implementation of the INDCs is estimated to result in aggregate global emissions levels of 55 GtCO₂e in 2025 and 57 GtCO₂e in 2030.⁶ These emissions represent a decrease in the rate of growth of emissions by a third from 2010 to 2030 when compared to the rate of growth of emissions from 1990 to 2010.⁷

Accounting for INDC commitments, global GHG emissions levels will decrease by 3 GtCO₂e in 2025 and 4 GtCO₂e in 2030 compared to pre-INDC trajectories to emissions levels.⁸ Aggregate global emission levels resulting from the implementation of INDCs will remain 9 Gt CO₂eq higher in 2025 and 15 Gt CO₂eq higher in 2030 than the least-cost 2°C scenario.⁹

The INDCs for the EC-LEDS and priority countries provided insufficient information for RALI to estimate the total GHG emissions reductions proposed by these countries. Twenty countries provided quantitative information on their unconditional contribution; these countries commit to reducing 2,103 MtCO₂e in aggregate. Twenty-one countries provided quantitative information on their conditional contribution; these countries commit to reducing 3,067 MtCO₂e with international assistance.

There is a consensus that the intended contributions represented in the INDCs are not ambitious enough to meet the 2°C scenario.¹⁰ Climate Action Tracker Partners note that the current commitments would likely lead to global warming exceeding 3°C to 4°C in the 21st century.¹¹ Some industrial countries have proposed goals that are not significantly below 1990 levels while other countries have proposed goals that will require little or no further action by the country than what is already in place through domestic policies.¹² Emissions for most EC-LEDS and priority countries are projected to be higher in 2030 than present levels, with the exception of Albania, Moldova, and Serbia, who have set their targets to a reduction below 1990 emission levels, and Malaysia, which has set its target relative to GHG intensity of GDP for 2005. A number of INDCs do not clarify how countries will reduce emissions across different sectors and do not provide adequate quantitative support for the proposed ambition levels;¹³ the RALI team has seen this same trend within the EC-LEDS and priority countries evaluated for this analysis.

Clean energy plans are included in approximately 80 percent of the INDCs submitted to date.¹⁴ Approximately half of the plans specify clean energy outcomes while a quarter detail specific actions.¹⁵ The INDCs of EC-LEDS and priority countries analyzed for this paper exhibit similar patterns; approximately 80 percent of countries note clean energy as a priority, but the majority do not include

⁴ World Resources Institute. 2016. Climate Analysis Indicators Tool (CAIT): WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed January 15, 2016.

⁵ Ibid.

⁶ UNFCCC 2015.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ World Resources Institute 2015; UNFCCC 2015.

¹¹ Climate Action Tracker. 2015. Rating Countries. Available online at: <http://climateactiontracker.org/countries.html>

¹² Ibid.

¹³ Ibid.

¹⁴ Katherine Ross and Damassa, T. 2015. World Resources Institute (WRI): Assessing the Post-2020 Clean Energy Landscape. Retrieved from: http://www.wri.org/sites/default/files/WRI-OCN_Assessing-Post-2020-Clean-Energy-Landscape.pdf. Accessed November 19, 2015.

¹⁵ Ibid.

detailed actions. The inclusion of clean energy objectives in INDCs across all the regions reviewed by RALI signals that many countries have intentions to transform their electricity mix and increase investment in low-carbon energy sources.

Mitigation opportunities from the transportation sector are included in 76 percent of INDCs.¹⁶ Eleven percent of INDCs have proposed transport sector emission reduction targets, including Bangladesh, Democratic Republic of Congo (DRC), Ethiopia, Gabon, and Moldova.¹⁷ The majority of the proposed targets include technology-focused solutions; incorporating “avoid” and “shift” mechanisms (e.g., urban development, infrastructure investment) that could help to optimize the mitigation potential in this sector.¹⁸ Areas for potential improvement in the transportation sector include supporting fossil fuel subsidy reform, improving country-level transport data collection, and facilitating regional dialogues to implement more comprehensive transportation measures.¹⁹

According to the UNFCCC Synthesis report, 39 countries (27 percent) listed REDD+ in their INDCs representing the bulk of global LULUCF emissions. The inclusion of the LULUCF sector in country INDCs, however, was highly inconsistent and posed major challenges for the quantitative evaluation of the aggregate effect of the INDCs.²⁰ A lack of clarity on the assumptions and approaches taken in the accounting of the LULUCF sector, including the approaches used for estimating, projecting and accounting emissions and removals from the sector, resulted in the need to express the estimated aggregate emissions in 2025 and 2030 as a range.²¹ Issues included the use of specific accounting rules as opposed to full carbon accounting approaches as well as the units in which parties communicated LULUCF targets (i.e., hectares, cubic meters of biomass, or tonnes of carbon).²²

Mitigation in the agricultural sector is included in 80 percent of the Parties’ INDCs.²³ According to the Research Program on Climate Change, Agriculture and Food Security, agriculture appears to be a key strategy for climate change mitigation in a majority of countries. In order to help Parties meet their targets, agriculture will need to be a key sector for support in climate finance, specifically in developing capacities, such as better data collection and systems that are needed to access climate funds.²⁴

There is a lack of consistency in the climate finance discussions of the INDCs. Countries supplied varying levels of detail on the extent to which emissions pledges are conditional upon climate finance. A number of INDCs were unclear about whether climate finance is necessary, the amount of support needed, and the expected sources of the support. For example, globally, 86 percent of the financial support requested was not associated with a specific source.²⁵ In total, globally, the INDCs specified that

¹⁶ Partnership on Sustainable Low Carbon Transport. 2015. Intended Nationally-Determined Contributions (INDCs) Offer Opportunities for Ambitious Action on Transport and Climate Change. Retrieved from: <http://ppmc-cop21.org/wp-content/uploads/2015/06/INDC-Report-Preliminary-Assessment-October-18.pdf>. Accessed November 19, 2015.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ UNFCCC 2015.

²¹ Ibid.

²² Ibid.

²³ Meryl Richards, Gergersen, L, Kuntze, V, Madsen, S, Oldvig, M, Campbell, B, and Vasileoiu, J. 2015. Info Note: Agriculture’s Prominence in the INDCs. Research Program on Climate Change, Agriculture and Food Security. Retrieved from:

https://cgspace.cgiar.org/bitstream/handle/10568/68990/CCAFS_Agriculture_INDCs_COP21.pdf?sequence=1&isAllowed=y. Accessed November 24, 2015.

²⁴ Ibid.

²⁵ Yeo, Sophie. 2015. Paris 2015: Tracking requests for climate finance. Carbon Brief: Clear on Climate. Retrieved from: <http://www.carbonbrief.org/paris-2015-tracking-requests-for-climate-finance>. Accessed November 24, 2015.

US\$81 billion will come from domestic sources and US\$407 billion from international sources.²⁶ However, US\$3,046 billion was not attributed to any sources.²⁷

2.3. Adaptation Component

Of the INDCs submitted and synthesized by the UNFCCC prior to October 1, 2015, 84% include adaptation components. Figure 1 shows by region the number of INDCs that include adaptation. Among the countries RALI analyzed for this report, the same proportion (84%) included adaptation components, namely 31 out of 37 countries.

Despite the optional nature of the INDC adaptation component, the UNFCCC concluded that adaptation is a priority for many Parties, and that adaptation is linked to a variety of national concerns including national development, security, and sustainability.²⁸ Furthermore, the UNFCCC report notes that Parties identified synergies between adaptation and mitigation in creating climate-resilient development strategies.

The UNFCCC report identified priority sectors as water resources, agriculture, health, ecosystems, and forestry. The UNFCCC stated that water was the top concern; however, Figure 2 illustrates that food security, broadly defined to include agriculture, fisheries, and forestry, appears to be the overall priority sector.

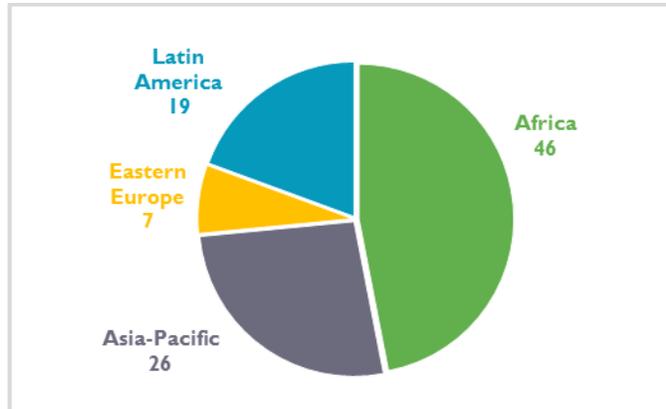


Figure 1. Countries including adaptation sections in their INDCs by region (as of October 30, 2015).

²⁶ Ibid.

²⁷ Ibid.

²⁸ UNFCCC 2015.

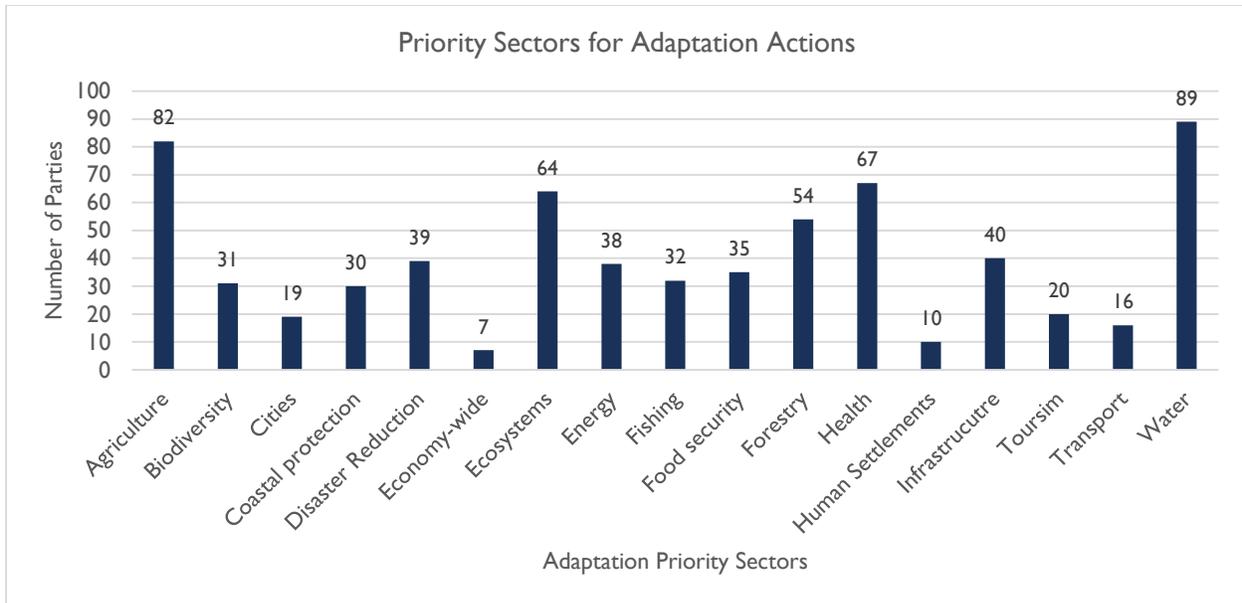


Figure 2. Priority areas and sectors for adaptation actions. Source: Synthesis report on the aggregate effect of the intended nationally determined contributions, UNFCCC (2015)

The INDCs for the EC-LEDS and other priority countries analyzed for this report show a similar breakdown of priority adaptation sectors as the overall pattern shown in Figure 3. The most prevalent of these are food security, water resources, infrastructure, and human health. The two sectors in which the findings of the UNFCCC analysis and the INDCs analyzed by RALI vary significantly are oceans and coastal, and energy, where the portion of countries listing these sectors as a priority in the present analysis is nearly double that of the UNFCCC analysis. However, without obtaining the details of how the UNFCCC undertook its sectoral analysis and defined interest in the oceans and coastal and energy sectors, definitive conclusions on the relative sectoral priorities of the INDCs analyzed for this report versus global trends should not be made.

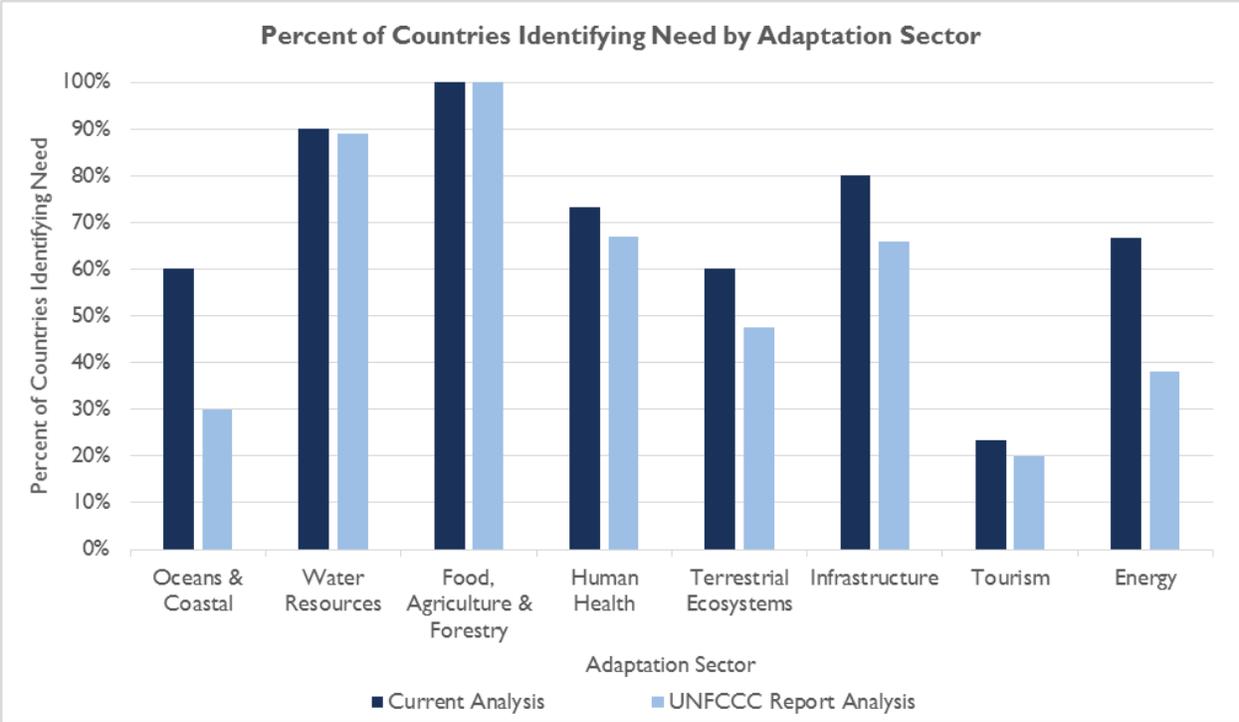


Figure 3. Priority areas for adaptation actions for countries overall and for EC-LEDS and priority countries.

There are clear differences in relative adaptation priorities between regions analyzed for this report (Figure 4). African countries list energy as a priority sector more frequently than countries in other regions. Asian countries indicated oceans and coastal, and assessment and monitoring as priority sectors more frequently than countries in other regions. E&E countries identified priority sectors much less frequently overall relative to other countries. Lastly, countries in LAC frequently identified oceans and coastal and terrestrial ecosystems as priority sectors.

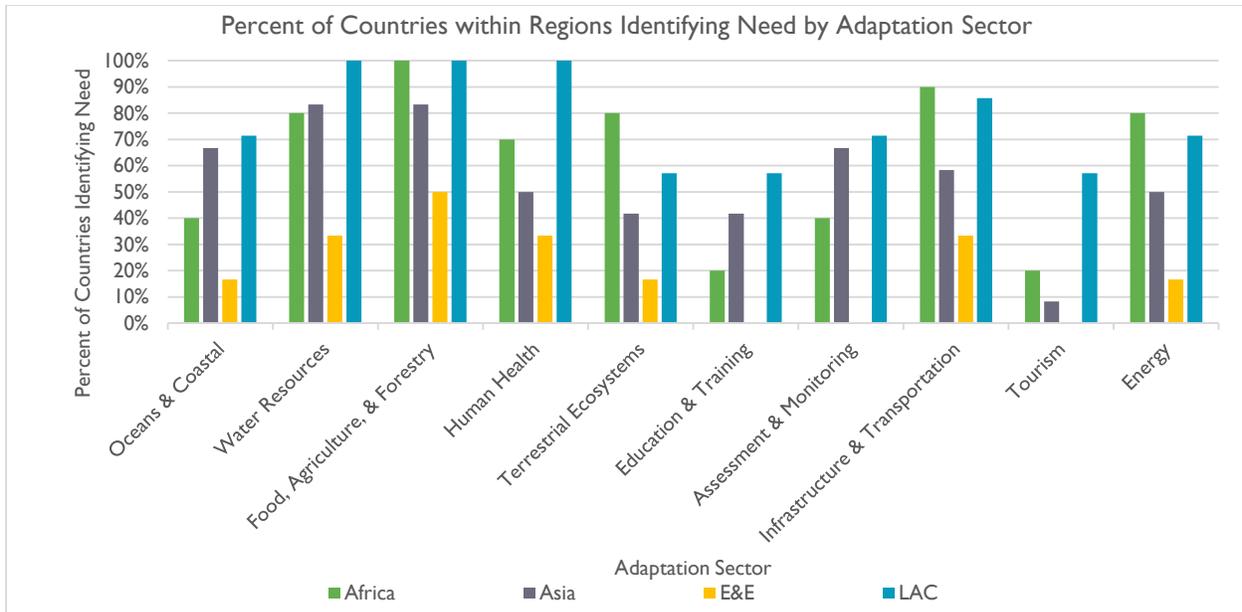


Figure 4. Percent of EC-LEDS and priority countries identifying need by adaptation sector and region

There is a wide variation in both the structure and content of the adaptation sections reviewed by RALI for this report. Some countries provided detailed lists of specific adaptation projects based on vulnerability-based criteria, while others provided broad statements of sectoral priority. Of the countries analyzed, 12 have completed a National Adaptation Plan (NAP) or equivalent national plan or strategy, and/or have begun adaptation implementation. Fourteen countries are in the process of planning (either developing a NAP or equivalent national strategy) or have at least one existing adaptation plan, either sector-specific or does not cover the whole country. The remaining countries have either declared an intention to plan (five countries) or provide no indication of adaptation planning (six countries).

Adaptation progress varies by region in the countries analyzed for this report. African countries report the furthest advances in their INDCs, as all African countries mentioned adaptation: nine are either in the process of planning or have completed planning and begun implementation. Six of seven Latin American countries also mentioned adaptation: four are planning or have completed planning and two intend to plan. In Asia, the majority of countries also report in their INDCs advances in adaptation: 10 have at least begun if not completed planning and begun implementation. However, three have made no mention of adaptation. Eastern European countries have progressed the least, with half making no mention of adaptation and only two in the process of planning or having completed planning. Figure 5 illustrates the phases of adaptation planning and implementation by region for the INDCs analyzed.

Some countries RALI analyzed exhibited exceptional adaptation progress. Malawi has multiple national adaptation strategies and has either implemented, or plans to implement, various adaptation measures. As a consequence, Malawi is exploring monitoring and evaluation to assess these measures. Malawi has also begun a National Climate Change Investment Plan and has begun developing financing mechanisms to fund future adaptation. Mexico is another standout, having created a Special Program on Climate Change Adaptation Policy and other programs at various levels of government. In the Tenth Malaysia Plan, Malaysia invested US\$12.3 billion in enhancing climate resilience. This includes investments in flood risk management, water resource management, health adaption, and coastal management. India has also

developed extensive adaptation plans at national and sub-national levels, and has begun implementation via the National Missions on Climate Change program. Other countries with advanced adaptation efforts include Colombia, the Democratic Republic of Congo, Ethiopia, the Philippines and Vietnam.

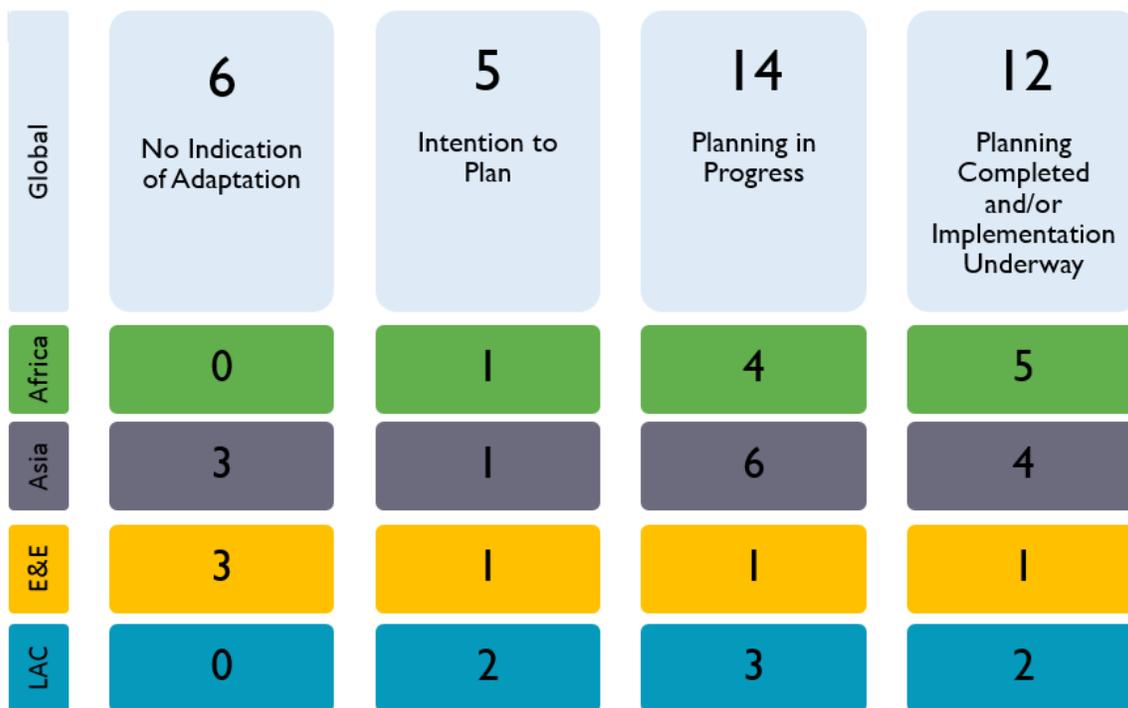


Figure 5. Phases of adaptation planning and implementation by region

The UNFCCC report notes that Parties identified, and in some cases quantified, past and projected impacts associated with climate change.²⁹ Many countries requested financial and technical resources to support their adaptation efforts. Importantly, the report states that Parties estimated a very broad range of adaptation finance requirements. Of the countries analyzed for this report, 38% quantified the cost of adaptation (Figure 6). Projected values of adaptation costs have a very wide range, from US\$68 million to more than US\$200 billion over various time frames.

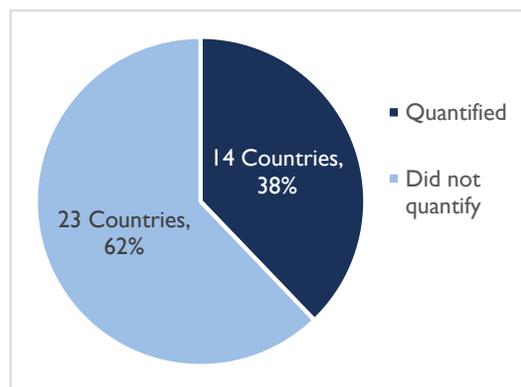


Figure 6. Countries Analyzed that Quantified Adaptation Costs

INDCs also identify non-financial opportunities for international support, mainly capacity building and technology transfer. There also exists the opportunity for ‘South-South’ support and regional sharing of experiences, as noted by a number of INDCs.

The UNFCCC report summarized the methods in which Parties are pursuing adaptation efforts, including climate change laws, national and sectoral adaptation plans and strategies, and NAPs. The

²⁹ UNFCCC 2015.

analysis of select countries also found a broad range of approaches being taken to plan for and implement climate adaptation activities. The UNFCCC concludes that the INDC adaptation components are representative of how Parties intend to address adaptation at the national level, and that there is a strong interest among Parties in strengthening adaptation efforts.

2.4. Technical Needs Identified in the INDCs

Many of the INDCs studied explicitly state needs or priorities for helping the country meet the commitments. Table I provides a summary of technical needs identified by each analyzed country in their INDCs. The most commonly identified needs are for data management and tool/model development, financial analysis or access, and technology transfer. Approximately a quarter of INDCs indicated a need for GHG inventory improvement; a similar proportion indicated a need for adaptation planning or disaster risk management. For context, Table I also notes the year of the latest inventory submitted to the UNFCCC, the type of target set in the INDC, and whether the assumptions, data sources, and models used to develop targets were included in the INDC.

Table 1: Summary of Technical Needs and Priorities Identified in INDCs

Country	Most Recent Inventory ^a	INDC Target Type ^b	Analytical Bases Included			Technical Needs/Priorities Identified by Country											
			Assumptions ^c	Data Sources ^d	Modeling ^e	GHG Inventory	Institutional, Legal, & Policy Support	Data Management, Modeling, & Tools	Financing Mechanisms & Estimating Costs	Technology Transfer & Development	MRV & M&E Systems	Vulnerability & Adaptation Assessment	Risk Management	AFOLU Measures	Clean Energy Measures	Energy Efficiency	Watershed & Water Resources Management
Africa																	
DRC	2010	Baseline					x	x									
Ethiopia	1994	Baseline	x						x								
Gabon	2000	Baseline															
Ghana	2012	Baseline	x	x	x		x		x	x							
Kenya	1994	Baseline	x		x				x								
Malawi	2000	Actions				x		x			x						
Nigeria	2000	Baseline	x		x			x						x	x		
South Africa	2010	PPD				x			x			x	x				
Uganda	2000	Baseline							x	x							
Zambia	2000	Baseline			x				x					x			
Asia																	
Afghanistan	2005	Baseline		x	x			x				x	x	x	x	x	x
Bangladesh	2005	Baseline	x		x	x		x	x		x						
Cambodia	1994	Baseline			x					x	x						
India	2000	Intensity								x				x			

Country	Most Recent Inventory ^a	INDC Target Type ^b	Analytical Bases Included			Technical Needs/Priorities Identified by Country											
			Assumptions ^c	Data Sources ^d	Modeling ^e	GHG Inventory	Institutional, Legal, & Policy Support	Data Management, Modeling, & Tools	Financing Mechanisms & Estimating Costs	Technology Transfer & Development	MRV & M&E Systems	Vulnerability & Adaptation Assessment	Risk Management	AFOLU Measures	Clean Energy Measures	Energy Efficiency	Watershed & Water Resources Management
Indonesia	2005	Baseline	x	x	x												
Kazakhstan	2005	Base Year															
Laos	2000	Actions						x						x			
Malaysia	2000	Intensity					x		x					x			
Myanmar	2000	Actions															
Nepal	2000	Actions									x	x					
Pakistan	1994	PD				x		x		x							
Philippines	2000	Baseline	x	x	x					x		x	x	x	x	x	x
Thailand	2000	Baseline		x				x				x	x	x	x	x	x
Vietnam	2010	Baseline	x	x		x		x	x	x	x	x	x				x
Europe & Eurasia																	
Albania	2000	Baseline	x	x		x											
Georgia	2000	Baseline				x				x	x						
Macedonia	2009	Baseline	x		x	x						x					
Moldova	2010	Base Year							x			x					
Serbia	1998	Base Year				x		x									
Ukraine	2013	Base Year															

Country	Most Recent Inventory ^a	INDC Target Type ^b	Analytical Bases Included			Technical Needs/Priorities Identified by Country											
			Assumptions ^c	Data Sources ^d	Modeling ^e	GHG Inventory	Institutional, Legal, & Policy Support	Data Management, Modeling, & Tools	Financing Mechanisms & Estimating Costs	Technology Transfer & Development	MRV & M&E Systems	Vulnerability & Adaptation Assessment	Risk Management	AFOLU Measures	Clean Energy Measures	Energy Efficiency	Watershed & Water Resources Management
Latin America & Caribbean																	
Colombia	2010	Baseline	x	x			x			x							
Costa Rica	2010	Baseline			x			x				x	x	x			
El Salvador	2005	Actions								x							
Guatemala	1990	Baseline	x	x								x	x				
Jamaica	2005	Baseline	x	x				x				x	x			x	
Mexico	2010	Baseline	x						x	x			x				
Peru	2010	Baseline	x	x						x	x						

Notes

The absence of a checkmark indicates a lack of information presented in the INDCs. A country may have needs or assumptions that have not been indicated.

^a Indicates the inventory year of a country's latest submission to the UNFCCC.

^b Indicates whether the target is: relative to a base year; relative to a baseline; intensity based; peak and decline (PD); peak, plateau, and decline (PPD); or based on mitigation actions.

^c Assumptions may include, inter alia, information provided in the INDCs on historical emissions pathways, and projections about rates of economic growth/GDP (i.e., in the absence of climate change policy), population growth, percentage of population with access to electricity, and an increase/decrease in the size of industry and/or certain sources of energy (e.g., hydropower, nuclear power).

^d Data sources include, inter alia, information provided in the INDCs on previous national GHG inventories and National Communications, national statistics on GDP, population, socio-economic metrics and sectoral activity used to establish contributions.

^e Modeling includes information provided in the INDCs on the use of the LEAP (Long-range Energy Alternatives Planning System), GACMO (Greenhouse Gas Costing Model), COMAP (Comprehensive Mitigation Analysis Process), ALU (Agriculture and Land Use) and MARKAL (Market Allocation) modeling software

3. Africa

The sections below provide detailed information on the contributions made for each of the following countries in Africa:

- Democratic Republic of the Congo
- Ethiopia
- Gabon
- Ghana
- Kenya
- Malawi
- Nigeria
- South Africa
- Uganda
- Zambia

The icons at the top of each profile note whether the country is an EC-LEDS country (ECL), part of Power Africa (PA), and whether it receives Clean Energy (CE), Adaptation (A), or Sustainable Landscapes (SL) funding from USAID.

A summary of common findings for Africa as a region begins in Section 7.1.

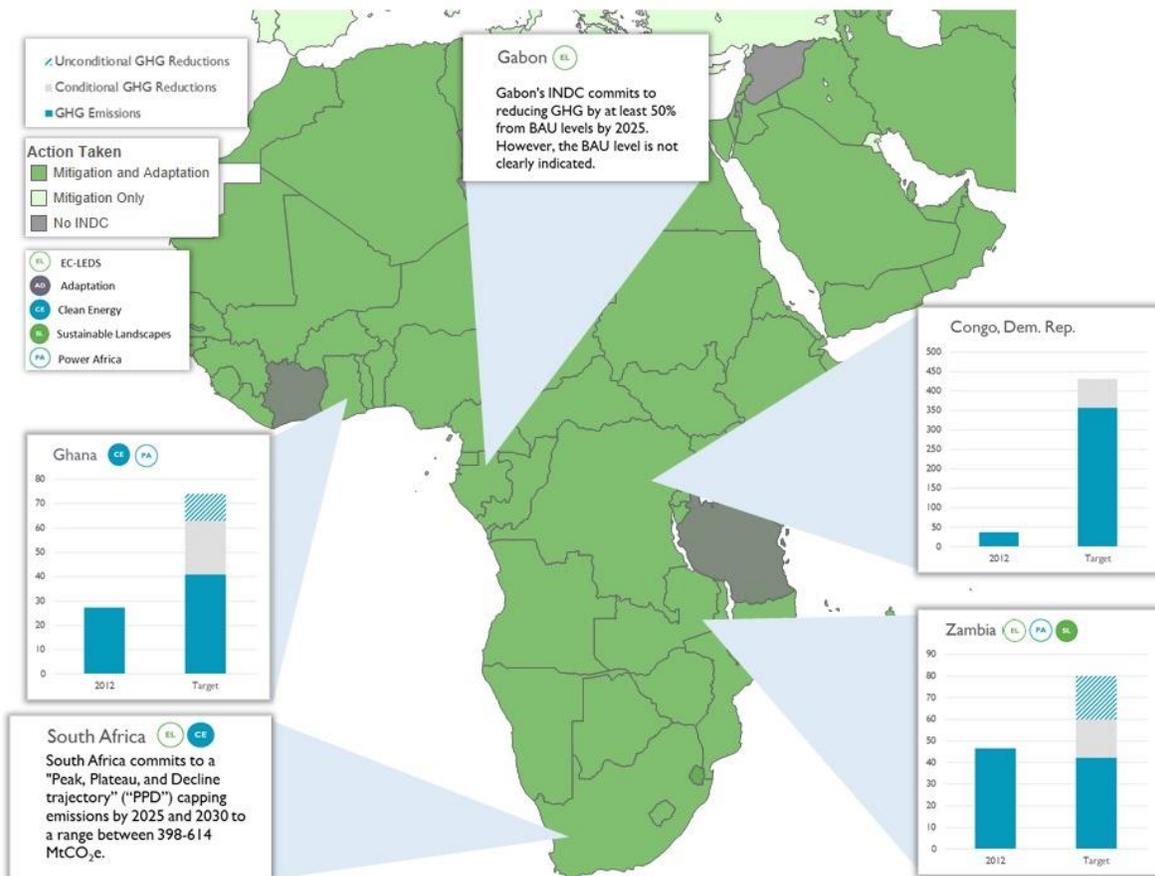


Figure 7: Map of INDCs submitted to date and intended contributions for EC-LEDS and priority countries in Africa (part 1). 2012 emissions data is taken from WRI's CAIT Climate Data Explorer. Business-as-usual emissions is taken from country INDCs, where available.

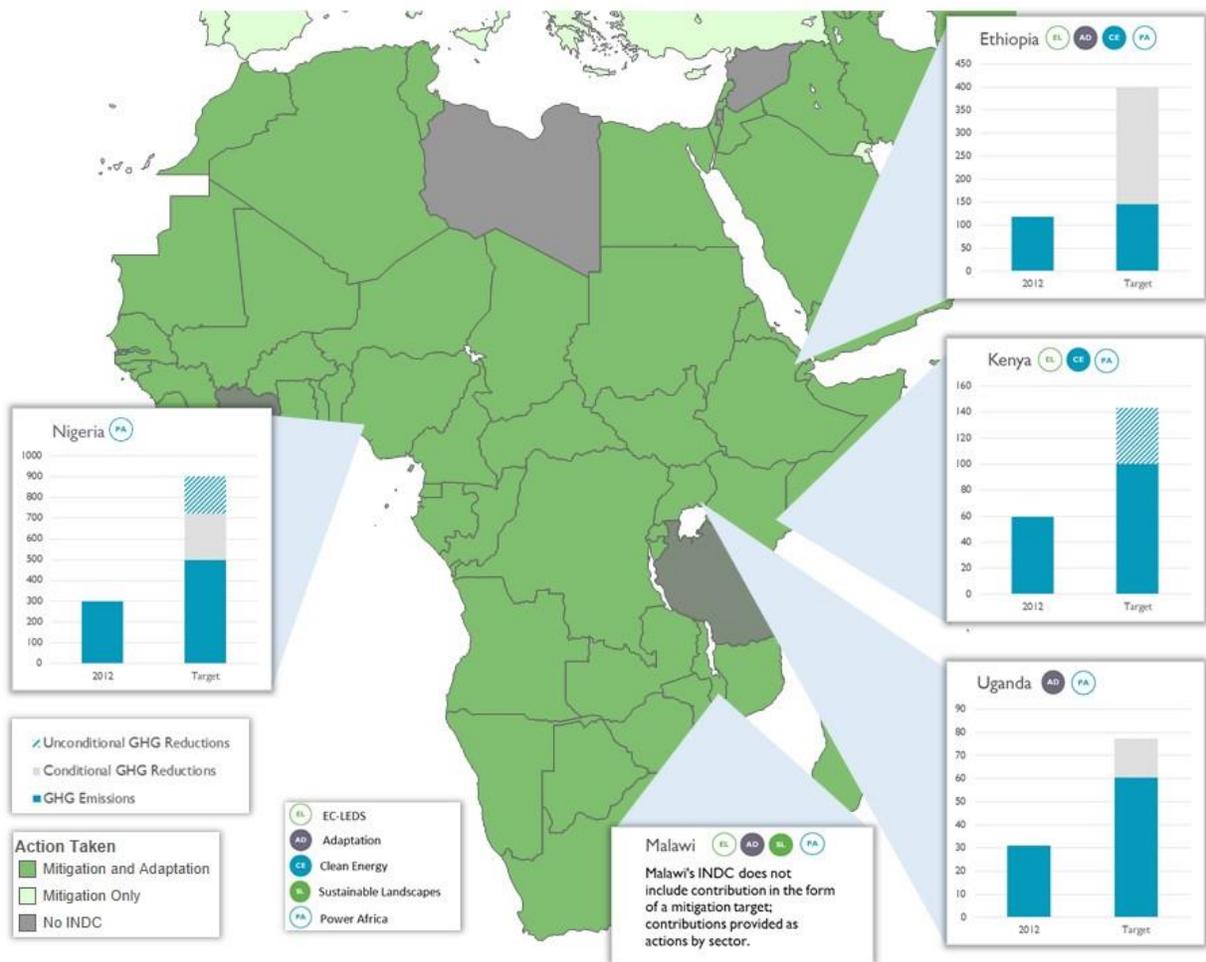


Figure 8: Map of INDCs submitted to date and intended contributions for EC-LEDS and priority countries in Africa (part 2). 2012 emissions data is taken from WRI's CAIT Climate Data Explorer. Business-as-usual emissions is taken from country INDCs, where available.



Democratic Republic of the Congo (DRC) Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	Reduce GHG emissions by 17% from BAU levels (430 Mt CO ₂ eq) by 2030
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Mitigation potential assessed on a sectoral basis. Details included on the national context in terms of emissions from forests, deforestation, commercial agriculture, and reforestation and afforestation targets and the sequestration it will permit. BAU is labelled as “BAU Global” and “BAU Forests”; methodology for calculating BAU emissions is not included. Emission reductions are based on 1996 and 2006 IPCC Guidelines and 2000 and 2003 IPCC Good Practice Guidance.
			Existing Policies	<ul style="list-style-type: none"> Low Carbon Development Strategy (2012) Law No 011/2002 pursuant to the Forestry Code National Program for Environment, Forests, Water, and Biodiversity National Programme for climate change adaptation (PANA) and four accompanying policies: PANA-ASA (resilience of agricultural sector), PANA-ASA 2 (sustainable agriculture), PANA-AFE (vulnerable populations), and PANA Zone Côtière (resilience of coastal zones). National Adaptation Plan for Climate Change (PNA)
		Mitigation Actions	No additional actions cited. Historically, DRC partnered with REDD+ to reduce emissions from deforestation and degradation of forests.	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; mainstreaming climate change adaptation in sectoral policies and strategies.	
		Priority Sectors	Agriculture; Forest Management; Coastal Ecosystems and Community Resilience.	
		Data Quality & Transparency	Numerous studies cited by author and year in Trends, Impacts, and Vulnerabilities to Climate Change section.	
	Participation	No information provided on participatory process for INDC. Participatory and multidisciplinary approach used for developing PANA, PNA, GHG inventory, and evaluating climate change vulnerabilities.		
Financial Assistance	US\$21.622 billion for implementation of INDC activities.			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Develop technical capacities as well as institutional and legal frameworks to support the mainstreaming of adaptation policies at the national, regional, and local levels. Technical support to develop policy to manage conflicts between competing sectors (e.g., mining, agriculture, and forestry). Improved capacity to collect and analyze data for evaluating climate impacts. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Third National Communication in 2015. Latest inventory submitted to UNFCCC was for 2010, prepared using Tier I methodology following IPCC 2006 Guidelines. No Biennial Update Reports (BURs) submitted to date. 		

Democratic Republic of the Congo



Mitigationⁱ

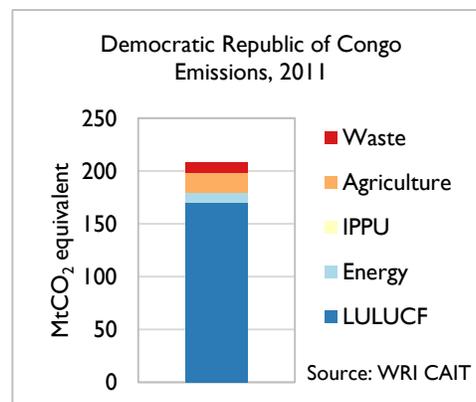
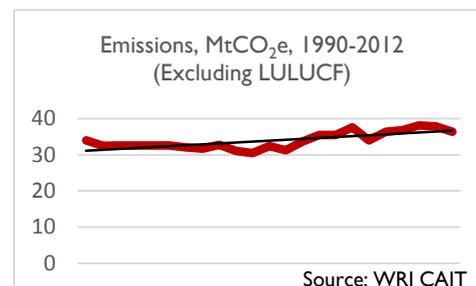
- The majority of country emissions are from LULUCF.
- Reduction goals are focused on LULUCF, agriculture, energy, and the development of NAMA projects.

Adaptation

- Priorities include but are not limited to:
 - Securing livelihood and ways of life for rural and urban communities;
 - Managing forest resources; and
 - Protecting vulnerable coastal ecosystems.
- Over 70% of the population is dependent on the agricultural sector for their livelihoods and agriculture constitutes over 50% of the economy. In addition, 76% of the population is food insecure and 62.3% of household expenditures are for food.

Financing

- The INDC specifies that the DRC has insufficient financing, internally and externally, to put in place large scale strategies and action plans, therefore any adaptation and mitigation measures are conditional on receiving international support.
- Financing for mitigation is requested at US\$12.54 billion and financing for adaptation is requested at US\$9.082 billion.
- Adaptation activities are disaggregated as follows:
 - US\$1.5639 billion for agriculture;
 - US\$7.35 billion for energy and transport;
 - US\$50 million for forestry; and
 - US\$118 million for coastal zones.
- The DRC receives sustainable landscape funding through its association with the Central Africa Regional Program for the Environment.



Key Documents

- Third National Communication (2015)
- Low Carbon Development Strategy (2012)
- National Programme for Climate Change Adaptation (*Programme national d'adaptation aux changements climatiques (PANA)*)
- National Adaptation Plan for Climate Change (*le Plan National d'Adaptation de la RDC aux changements climatiques (PNA)*)

ⁱ World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

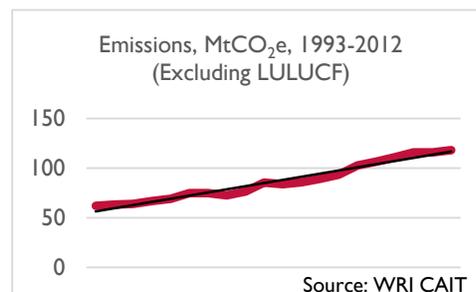
Ethiopia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
		Target	Conditional	Limit GHG emissions to 145 MtCO ₂ e or lower by 2030 (representing a 255 MtCO ₂ e or 64% reduction from the projected BAU emissions).
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Mitigation potential assessed on a sectoral basis. Methodology for BAU development not clearly indicated.
			Existing Policies	<ul style="list-style-type: none"> INDC is aligned with the national development plan and anchored on the <i>Climate Resilient Green Economy Vision and Strategy</i>. Adaptation activities are extension of <i>National Adaptation Programme of Action</i> and <i>Ethiopia Programme of Adaptation to Climate Change</i>.
	Mitigation Actions		Mitigation actions include: <ul style="list-style-type: none"> Afforestation and land rehabilitation; Clean energy expansion; Improving crop and livestock production practices; and Improved technologies in transport, industry, and building sectors 	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; mainstreaming climate change resiliency into its development activities.	
		Priority Sectors	Agriculture and Agroforestry; Health; Urban Development/Building; Water; Ecosystems and Biodiversity	
		Data Quality & Transparency	Ministry of Environment and Forest is conducting monitoring and evaluation through consultative dialogues to review the implementation of national and sectoral adaptation plans.	
	Participation	INDC developed through an “inclusive and participatory process.”		
Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. Intends to participate in an international market mechanism, selling carbon credits in order to achieve its Green Economy Strategy. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Conduct research to quantify the share of contributions that are planned by the government but require international support. Identify the required technical and financial support to achieve mitigation and adaptation goals. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted First National Communication in 2001. Latest inventory submitted to UNFCCC was for 1994, prepared using Tier 1 methodology following IPCC 1996 Guidelines. No BURs submitted to date. 		



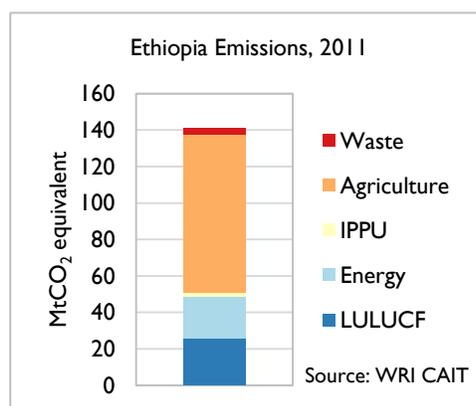
Mitigationⁱⁱ

- The majority of country emissions are from livestock (42%) and deforestation (37%).
- Reduction goals are focused on Agriculture, Forestry, and Other Land Use (AFOLU). Projected emissions reductions include 90 MtCO₂e from agriculture and 130 MtCO₂e from forestry.
- Mitigation goals were developed by forecasting Ethiopia's economic development and estimating the associated emissions using economic targets, past performance, and the ambition to reach middle-income status before 2025.



Adaptation

- Ethiopia's long term adaptation goal is to mainstream climate change into its development activities.
- Increasing resilience in agriculture is a priority because 80% of the population works in agriculture.
- Flooding and drought are identified as the two most significant stressors the country faces. The INDC includes specific actions to address these hazards, such as improving agricultural productivity and diversity, increasing water use efficiency, and developing and implementing construction codes reflective of increasing extremes in flooding.
- Ethiopia has developed a series of adaptation plans:
 - *Climate Resilient Green Economy Strategy*
 - *National Adaptation Programme of Action*
 - *Ethiopia Programme of Adaptation to Climate Change*
 - 9 regional and city adaptation plans
 - 5 sectoral plans
 - Agriculture sector adaptation plans



Key Documents

- Initial National Communications (2001)
- Climate Resilient Green Economy Strategy (2011)
- Ethiopia Programme of Adaptation to Climate Change
- National Adaptation Programme of Action (2007)

Financing

- Ethiopia estimates a cost of US\$150 billion for the full implementation of mitigation goals and that more than 80% of the abatement potential can be abated at less than US\$15 per ton CO₂e.
- No cost estimate or financing request is included for adaptation measures.

ⁱⁱ World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



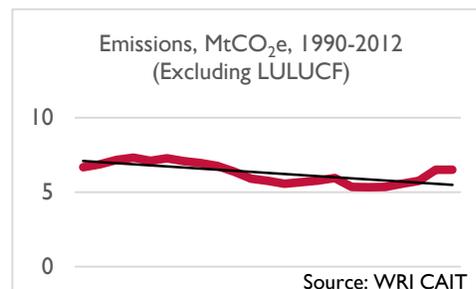
Gabon Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	Reduce GHG emissions by at least 50% from BAU levels by 2025.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> No information provided on the methodology for calculating emissions or BAU.
			Existing Policies	<ul style="list-style-type: none"> Strategic Plan on the Emergence/Development of Gabon National Strategy for Coastal Adaptation to the Effects of Climate Change Forestry Code of the Republic of Gabon National Plan for the Reduction of Natural Gas Flaring
	Mitigation Actions		<ul style="list-style-type: none"> Improved land use management, including: <ul style="list-style-type: none"> Adoption of “Code Forestier” to increase forestry rotation cycles; Creation of 13 national parks; Introduction of regulations on estuaries; Development of the National Land Use Plan to preserve forests; and Participation in the Zero Routine Flaring by 2030 initiative. Increased energy efficiency and hydropower and solar deployment. 	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; mainstreaming climate change resiliency into its development policies and plans.	
		Priority Sectors	Coastal Ecosystems	
		Data Quality & Transparency	No information provided on data quality or transparency. Information provided on activities and anticipated activities through the National Strategy for Coastal Adaptation to the Effects of Climate Change.	
	Participation	No information provided on participatory process for INDC.		
	Financial Assistance	No specific financing request included.		
Technical Needs Identified in INDC	No specific technical needs identified in INDC.			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2011. Latest inventory submitted to UNFCCC was for 2000, prepared using Tier 1 methodology following IPCC 1996 Guidelines. No BURs submitted to date. 		



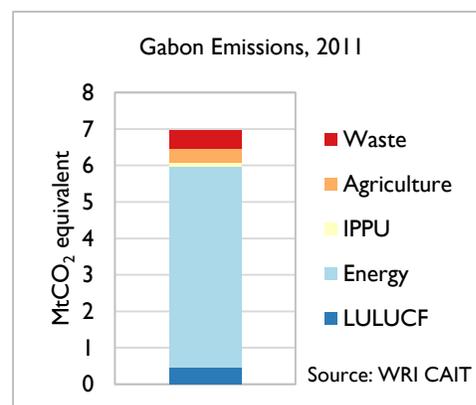
Mitigationⁱⁱⁱ

- The INDC indicates that the majority of country emissions are from land use change (63%) and petroleum industry and flaring (23%).
- Reduction goals are focused on:
 - Land use change;
 - Reducing flaring;
 - Increasing energy efficiency; and
 - Installing renewable energy systems.



Adaptation

- Priorities include but are not limited to:
 - Coastal urban planning (i.e., increasing the revenue from coastal and marine ecosystems, rehabilitating the shore line and banks, creating physical barriers, raising the sea level of the island of Mandji);
 - Conservation efforts to preserve mangroves, marine and coastal species diversity, and marine turtles and their nesting areas;
 - Management of waste; and
 - Establishing an observatory for the coastal and marine environment.



Financing

- Financing for mitigation and adaptation is sourced from the government budget; private sector stakeholders; economic self-financing; institutions that specialize in climate finance; or sectoral programs entering into partnerships with Gabon.

ⁱⁱⁱ World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

Key Documents

- Second National Communication (2011)
- Strategic Plan on the Emergence/Development of Gabon (*Plan Stratégique Gabon Emergent (PSGE)*) (2012)
- National Strategy for Coastal Adaptation to the Effects of Climate Change (*Stratégie Nationale d'Adaptation du Littoral Gabonais Face aux Effets des Changements Climatiques*) (2011)
- Forestry Code of the Republic of Gabon
- National Plan for the Reduction of Natural Gas Flaring

Ghana Summary

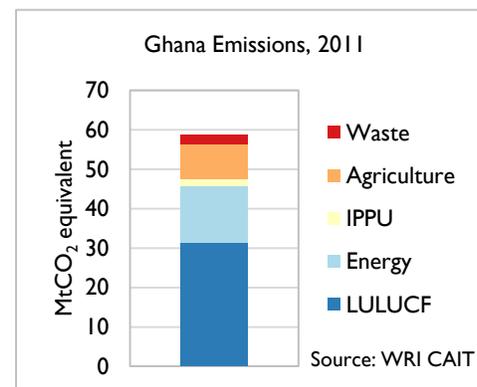
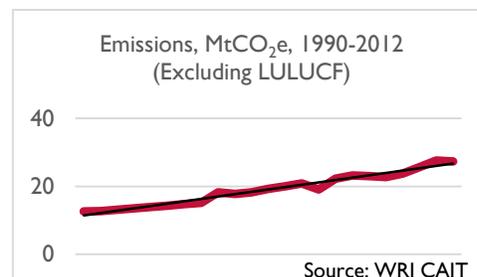
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 15% from BAU levels (73.95 MtCO ₂ e) by 2030.
			Conditional	Reduce GHG emissions by 45% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Significant analytical basis for the INDC is apparent. Mitigation actions were chosen with clear criteria, including enabling environment, data availability, and existing NAMA submissions. Methodology for developing BAU projections clearly defined.
			Existing Policies	<ul style="list-style-type: none"> Ghana Shared Growth and Development Agenda II, 2014-2017 National Climate Change Policy Low Carbon Development Strategy National Development Plan (2018-2057) (in progress)
	Mitigation Actions		<p>20 mitigation actions in 7 priority economic sectors, including:</p> <ul style="list-style-type: none"> Energy: <ul style="list-style-type: none"> 10% renewable energy penetration by 2030; Promote clean rural household lighting; Expand market-based cleaner cooking solutions; 20% energy efficiency improvement in power plants Promote sustainable utilization of forest resources using REDD+ Transport: Scale up sustainable mass transportation Adopt alternative urban solid waste management 	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Good governance and inter-sectoral coordination; capacity-building; use of science, technology, and innovation; adequate finance; promoting outreach; adhering to accountable monitoring and reporting	
		Priority Sectors	Agriculture and Food Security; Sustainable Forest Resource Management; Resilience Infrastructure in Built Environment; Health; Water Resources; Gender and the Vulnerable	
		Data Quality & Transparency	No information provided on data quality or transparency.	
	Participation	INDC prepared through participatory process.		
Financial Assistance	<ul style="list-style-type: none"> US\$16.3 billion for implementation of climate plan (2020-2030). Access to carbon market-based mechanism is an important component of strategy. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Enhancing institutional coordination and technical functionalities. Support for implementation of the priority actions. Securing international financing for mitigation and adaptation goals. Partnership for technology transfer and development. Capacity building in priority INDC sectors. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Third National Communication submitted in 2015. Latest inventory submitted to UNFCCC was for 2012, prepared using primarily Tier 1 methodology following 2006 IPCC Guidelines. BUR submitted in July 2015. 		

Ghana



Mitigation^{iv}

- 2010 baseline GHG emissions derived from 22-year time series. Inventory includes HCFC-22 and HFC-410a.
- BAU projections developed for each sector:
 - Energy: LEAP software using data from the Energy Commission and Ghana Statistics Service.
 - Industrial: Comprehensive modeling approach.
 - Waste: IPCC waste model using national statistics.
 - AFOLU: IPCC AFOLU accounting rules using COMAP tool and the Forest Carbon Partnership Facility methodological framework.
- BAU emissions are expected to increase from 19.53 MtCO₂e in 2010 to 37.81 MtCO₂e in 2020, 53.5 MtCO₂e in 2025, and 73.95 MtCO₂e in 2030.
- Development of extractive industry is excluded.
- Ghana plans to develop a MRV system based on the existing annual progress report system.
- Annex I of the INDC provides detail on 20 specific activities proposed to meet mitigation goals.
- Ghana intends to generate compliance-grade emission reductions units from actions in the waste and energy sectors and REDD+.



Key Documents

- Third National Communication (2015)
- First Biennial Update Report (2015)
- Ghana Shared Growth and Development Agenda II, 2014-2017 (GSGDA II) (2014)
- National Climate Change Policy (2013)
- Low Carbon Development Strategy

Adaptation

- Policy actions include: agriculture resilience building in climate vulnerable landscapes; value addition-based utilization of forest resources; city-wide resilient infrastructure planning; early warning and disaster prevention; managing climate-induced health risk; integrated water resources management; and resilience for gender and the vulnerable.
- Annex II of the INDC provides detail on specific activities proposed to meet adaptation goals.

Financing

- For 2020 to 2030, Ghana intends to mobilize US\$6.3 billion domestically and US\$16.3 billion from the international community. 45% of funds (US\$9.81 billion) are intended for mitigation, 55% of funds (US\$12.79 billion) for adaptation. Estimates for adaptation are indicative only.
- Domestic sources include the national budget, corporate social responsibility, and commercial facilities. International sources include Green Climate Fund, other multilateral funds, bilateral agreements, private capital investment, and an international carbon market.
- Ghana receives sustainable landscapes funding through its association with the USAID West Africa Regional mission.

^{iv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Kenya Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
		Target	Conditional	Reduce GHG emissions by 30% from BAU levels (143 MtCO ₂ eq) by 2030
		Basis of Target	Analytical Basis	BAU projection methodology is detailed in the National Climate Change Action Plan (NCCAP) and Second National Communication.
			Existing Policies	INDC is aligned with Kenya’s goals laid out in the <i>National Climate Change Response Strategy (NCCRS 2010)</i> , <i>National Climate Change Action Plan (NCCAP 2013)</i> , and a <i>National Adaptation Plan (NAP)</i> .
			Mitigation Actions	Mitigation actions include: <ul style="list-style-type: none"> • Expansion in renewable energy production; • Energy efficiency; • Clean transportation; • Achieving 10% tree cover; and • Sustainable waste management.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Strategies include: mainstreaming climate change into integrated development plans; implementing the Ending Drought Emergencies Strategy; and implementing the National Water Master Plan	
		Priority Sectors	INDC lists 17 priority adaptation actions in 17 different Medium Term Planning sectors.	
		Data Quality & Transparency	No information provided on data quality or transparency.	
	Participation	“Kenya’s INDC builds on the participatory multi-stakeholder and cross-sectoral consultative processes during the development of NCCRS and NCCAP at national and county levels.”		
Financial Assistance	<ul style="list-style-type: none"> • No specific financing request included. • Kenya does not rule out the use of international market-based mechanisms; contributions do not include carbon credits. 			
Technical Needs Identified in INDC	Further analysis will be necessary to refine the required investment cost and determine the domestic support.			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> • Submitted First National Communication in 2002. • INDC references a Second National Communication that is under development. • Latest inventory submitted to UNFCCC was for 1994, prepared using Tier I methodology following IPCC 1996 Guidelines. • No BURs submitted to date. 		



Mitigation^v

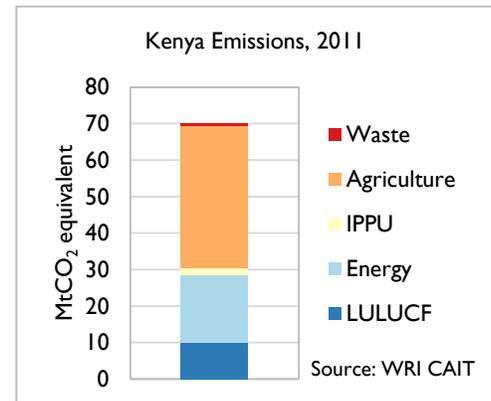
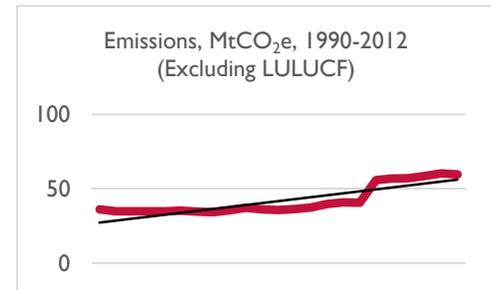
- The majority (75%) of emissions are from the LULUCF and agriculture sectors.
- Significant uncertainty is noted for BAU and mitigation in LULUCF.

Adaptation

- Kenya plans to “ensure enhanced resilience to climate change...mainstreaming climate change adaptation into the Medium Term Plans (MTPs).”
- Kenya has developed a series of adaptation plans and programs including:
 - *The National Climate Change Action Plan*
 - *The National Adaptation Plan*
- Priority Adaptation Actions are listed in 17 Medium Term Plan (MTP) Sectors, which include, but are not limited to:
 - Energy;
 - Infrastructure;
 - Health;
 - Education and Training;
 - Water and Irrigation;
 - Environment;
 - Agriculture and Livestock;
 - Tourism;
 - Oil and Mineral Resources; and
 - Urbanization and Housing.

Financing

- Further analysis is required to determine the amount of international support required.
- Kenya estimates that its mitigation and adaptation goals with cost US\$40 billion for complete implementation.
- A 2014 Climate Change Bill proposes the creation of a Kenya Climate Fund to be a financing mechanism for future climate change actions and interventions.



Key Documents

- First National Communication of Kenya (2002)
- National Climate Change Action Plan (2013)
- National Climate Change Response Strategy (2010)
- National Adaptation Plan (In prep)
- National Climate Change Framework Policy (In prep)

^v World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



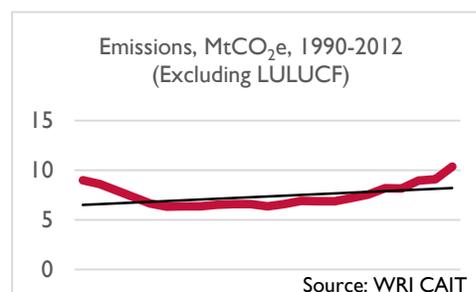
Malawi Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	INDC does not include an overall mitigation target; unconditional contributions are listed as actions by sector.
			Conditional	INDC does not include an overall mitigation target; conditional contributions are listed as actions by sector.
		Basis of Target	Analytical Basis	Specific mitigation actions are provided within each sector. Some sectors include specific reduction amounts.
			Existing Policies	<ul style="list-style-type: none"> National Climate Change Management Policy is currently pending cabinet approval. Other policies supporting implementation include: Vision 2020, Malawi Poverty Reduction Strategy Programme, Malawi Economic Growth Strategy, and Malawi Growth and Development Strategy I & II.
			Mitigation Actions	Mitigation actions listed include, but are not limited to: <ul style="list-style-type: none"> Solar water heating; Installing solar PV systems; Increasing hydroelectricity production; Afforestation and reforestation; Supporting research on cement alternatives; and Promoting waste reduction practices.
		Adaptation	Included in INDC	Yes
	Implementation Strategies		Yes; climate change mitigation and adaptation mainstreamed in sectoral policies and strategies.	
	Priority Sectors		Agriculture (crops, livestock, fisheries); Water; Health; Infrastructure; Land-Use Planning; Transport; Population and Human Settlements; Disaster Risk Management; Forestry; Wildlife; Energy and Gender.	
	Data Quality & Transparency		INDC states that a monitoring and evaluation framework is in place for all government programs and projects, which is undertaken by the Ministry of Finance, Economic Planning, and Development in collaboration with sector-specific ministries.	
	Participation	“The preparation of Malawi’s INDC was conducted with government’s full commitment and all-inclusive process” including an INDC taskforce, stakeholder consultations, and workshop.		
	Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. INDC indicates need for international financial assistance. 		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> External technical and financial support to track progress. Support for national inventory systems. Improve climate change related data management systems. 		
	Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2012. Third National Communication is in progress. Latest inventory submitted to the UNFCCC was for 2000, prepared following IPCC 2006 Guidelines. No BURs submitted to date. 	



Mitigation^{vi}

- The majority of 2015 emissions in Malawi are from the forestry (78%) and agriculture (16%) sectors.
- Between 2015 and 2040, energy sector is expected to represent the largest increase in emissions as new coal-based generation comes on line.
- INDC states that combined unconditional and conditional actions could reduce per capita emissions from 1.4 tCO_{2e} in 2010 to 0.7 – 0.8 tCO_{2e} in 2030 compared to a BAU of 1.5 tCO_{2e} per capita in 2030.
- INDC includes 33 sector-specific actions and indicates if the item is unconditional or will require support in the form of capacity building, technology transfer, or financial assistance. Implementing and monitoring an agricultural NAMA is included as a mitigation action requiring support.
- Conservation of existing forests and afforestation or assisted regeneration of forests are the two main areas for emission reductions.
- Sectoral estimates are provided for 2015 and 2040; however, significant uncertainty exists beyond 2020.
- Detailed lists of policy actions are provided, suggesting that options were analyzed to determine the aggregate mitigation impact.



Key Documents

- First National Communication (2003)
- Second National Communication (2012)
- National Climate Change Investment Plan (2014)
- Malawi Poverty Reduction Strategy Program (2012)
- Malawi Growth and Development Strategy I & II (2011)
- National Adaptation Programme of Action (2006)
- Malawi Economic Growth Strategy (2004)
- Vision 2020 (2003)
- National Climate Change Management Policy (in prep)

Adaptation

- Major hazards identified are flood and drought. The INDC describes 2015 flooding, which affected 15 of 28 districts and 1.1 million people, displacing 230,000.
- INDC contains 43 actions and strategies by sector and indicates whether the action is unconditional or will require international support.
- Malawi identifies its heavy reliance on rain-fed agriculture as its biggest adaptation challenge.
- Agriculture accounts for 30-40% of GDP and employs 85% of the workforce.
- Previous adaptation plans include the 2006 *National Adaptation Programme of Action (NAPA)*.

Financing

- INDC does not specify funding requests, or cost estimates for actions identified. Rather, the National Climate Change Investment Plan (NCCIP) specifies a financing need of US\$954.4 million over six years (equivalent to US\$159.1 million, or 2% of Malawi's GDP, per year) with 48% for adaptation; 20% for mitigation; and 32% for technology transfer/capacity building.^{vii}

^{vi} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015. Data on Malawi's emissions by sector is incomplete for 2012 and thus a graph has not been included.

^{vii} Ministry of Environment and Mining. 2013. *National Climate Change Investment Plan: 2013-2018*. Retrieved from: http://www.nccpmw.org/index.php/documentation/cat_view/19-national-climate-change-investment-plan



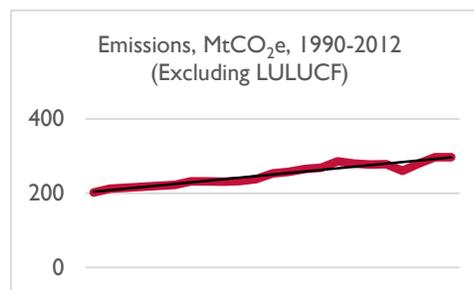
Nigeria Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 20% from BAU levels (900 MtCO ₂ e) in 2030.
			Conditional	Reduce GHG emissions by 45% from BAU levels in 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Conditional and unconditional goal based on specific sectoral targets. Future emissions were modelled using the LEAP model. BAU based on 2010-2014 base period projected out to 2030 based on a bottom-up approach. Methodology for developing BAU projections is defined. BAU assumes 5% economic growth, 2.5% population growth per year, universal access to electricity, and a 300% increase in the size of industry by 2030.
			Existing Policies	<ul style="list-style-type: none"> Nigeria Vision 20:2020, Economic Transformation Blueprint Transformation Agenda 2011-2015 Nigeria Climate Change Policy Response and Strategy National Adaptation Strategy and Plan of Action for Climate Change National Agricultural Resilience Framework
		Mitigation Actions	Mitigation actions include: increasing the use of renewable energy; replacing liquid fuels with natural gas; improving the enforcement of energy efficiency and gas flaring restrictions; developing gas-to-power plants at gas flare sites; implementing climate smart agriculture and ending the use of charcoal; adopting green technology in industry; and implementing transportation reforms.	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; INDC implementation will fall under the remit of the Nigeria Climate Change Policy Response and Strategy coordinated by the Department of Climate Change.	
		Priority Sectors	Agriculture; Forests; Energy; Transportation and Communications; Industry and Commerce; Vulnerable Groups	
		Data Quality & Transparency	No information provided on data quality or transparency.	
	Participation	No information provided on participatory process for INDC.		
Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. INDC indicates need for international financial assistance. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Technical support to increase the level of energy efficiency. Reducing the use of generators while providing access to energy for all Nigerians. Training and capacity building in user-friendly tools for analysis and further development of the LEAP model. Implementing activities in the INDC. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2014. Latest inventory submitted to UNFCCC was for 2000, prepared using primarily Tier I methodology following IPCC 1996 Guidelines. No BURs submitted to date. 		



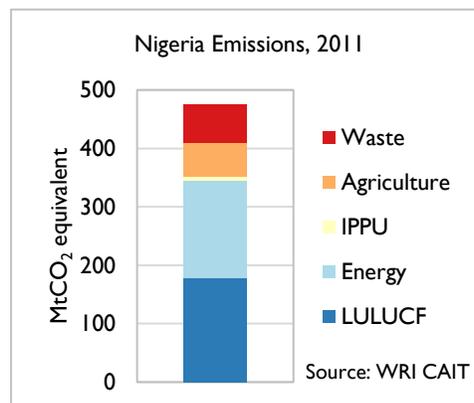
Mitigation^{viii}

- Nigeria notes that the implementation of the INDC depends on international support through the NAMA framework.
- Key measures for attaining the unconditional target include: establishing 13 GW of off-grid solar PV; increasing energy efficiency by 20%; and ending gas flaring by 2030.
- Key measures for attaining the conditional target, in addition to the measures for the unconditional target, include further increases in energy efficiency, a significant reduction in the use of generators, and providing energy access to all Nigerians.



Adaptation

- Priorities include but are not limited to:
 - Improving awareness and preparedness for climate change impacts;
 - Mobilizing communities for climate change adaptation actions;
 - Reducing the impacts of climate change on key sectors and vulnerable communities; and
 - Integrating climate change adaptation into national, sectoral, state, and local government planning and into the plans of universities, research and educational organizations, civil society organizations, the private sector and the media.



Financing

- The total investment required, as well as the exact domestic share of the full contribution to the implementation of the INDC has yet to be determined.
- The national cost estimate is US\$142 billion, and the national benefits estimate is US\$304 billion.

Key Documents

- Second National Communication (2014)
- Nigeria Vision 20:2020, Economic Transformation Blueprint (2009)
- Nigeria Climate Change Policy Response and Strategy
- National Adaptation Strategy and Plan of Action for Climate Change Nigeria (2011)

^{viii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



South Africa Summary

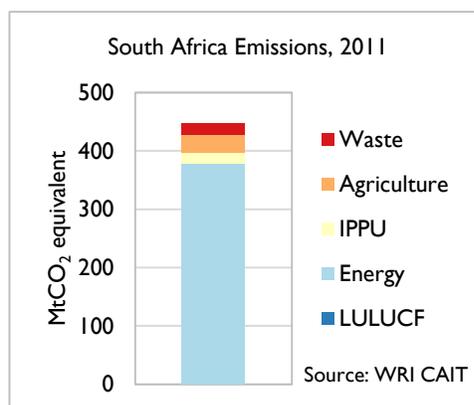
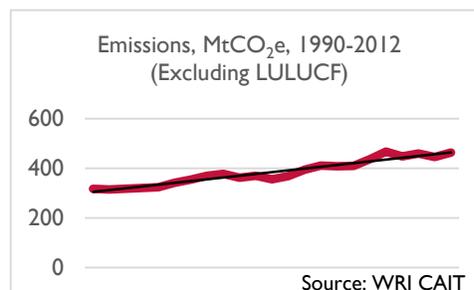
Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	“Peak, Plateau, and Decline trajectory” (“PPD”) capping emissions by 2025 and 2030 to a range between 398-614 MtCO ₂ e
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> No information provided on the methodology for calculating BAU. GHG emissions estimated following IPCC 2006 Guidelines.
			Existing Policies	<ul style="list-style-type: none"> National Development Plan (NDP) 2011 National Climate Change Response Policy National Sustainable Development Strategy
			Mitigation Actions	Mitigation activities include: <ul style="list-style-type: none"> Expanding the existing Renewable Energy Independent Power Producer Procurement Program; Decarbonized electricity; Carbon capture and storage; and Electric/hybrid vehicles.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; mainstreaming climate change adaptation in sectoral and subnational plans.	
		Priority Sectors	Agriculture and Forestry; Energy; Human Settlements; Biodiversity; Water; Disaster Risk Reduction; Emergency Response	
		Data Quality & Transparency	INDC provides adaptation cost estimate under various mitigation scenarios, but notes uncertainty in the estimation methodology.	
	Participation	No information provided on participatory process for INDC.		
Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. INDC does not address participation in a market mechanism. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Addressing uncertainties in GHG accounting for AFOLU and HFCs, PFCs, and SF₆. Addressing uncertainties in estimating adaptation costs. Develop an early warning, vulnerability, and adaptation monitoring system for key sectors and geographic areas. Develop a vulnerability assessment. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2011. Latest GHG inventory submitted to UNFCCC in 2014 as part of the first BUR was for 2010, prepared using a combination of Tier 1, 2, and 3 methodology following IPCC 2006 Guidelines. For the energy sector, Tier 1 was applied for fuel combustion and Tier 2 and 3 for fugitive emissions. 		

South Africa



Mitigation^{ix}

- South Africa is currently heavily dependent on coal, with a fleet of old and inefficient power plants that are nearing the end of their design life-cycles. According to the INDC, the country is currently investing heavily in transforming the energy sector.
- The *Renewable Energy Independent Power Producer Procurement Programme* has approved 79 renewable energy IPP projects, totaling 5243 MW, with private investment totaling approx. US\$16 billion. Another 6,300 MW are under consideration.
- Calibration will be assessed every five years to ensure that carbon budget will be obtained.
- South Africa is developing a carbon tax as a policy mechanism.
- Good progress has been made in implementing climate-compatible sectoral plans, such as the integrated energy and electricity plans, industrial policy action plans, and the new growth path.



Adaptation

- South Africa is in the process of developing a National Climate Change Adaptation Plan to integrate into sector plans, upon which its UNFCCC National Adaptation Plan will be based.

Financing

- South Africa's INDC "goes beyond outlining goals to estimate how much [adaptation efforts] will cost to achieve."^x The INDC provides adaptation estimates conditional on mitigation scenarios ranging from US\$0.2 to US\$50 billion.
- Estimates for mitigation actions total US\$1.36 trillion.
- South Africa established a South African Green Fund with an allocated US\$ 0.11 billion in the 2011 to 2013 budgets to support catalytic and demonstration green economy initiatives. Resources for the fund will have to be increased to enable and support the scaling up of viable initiatives.

Key Documents

- Second National Communication (2011)
- South Africa's 1st Biennial Update Report (BUR) (2014)
- GHG National Inventory Report 2000-2010 (2014)
- National Development Plan (2012)
- National Climate Change Response Policy (2011)
- National Sustainable Development Strategy (2011)
- Integrated Energy and Electricity Plans (IEP and IRP)
- Industrial Policy Action Plans (IPAP)
- New Growth Path (NGP)

^{ix} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



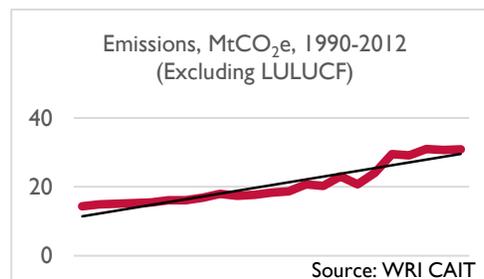
Uganda Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	Reduce GHG emissions by 22% from BAU levels (77.3 MtCO ₂ e) by 2030.
		Basis of Target	Analytical Basis	The major targets from the policies and measures of energy supply, forestry, and wetlands in the mitigation contribution are not based on a comparison to a reference point but are presented in absolute terms.
			Existing Policies	<ul style="list-style-type: none"> Second National Development Plan 2015 National Climate Change Policy and Costed Implementation Strategy
		Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> Construction of enabling infrastructure for electricity sector development (to potentially offset wood and charcoal burning and the consequential deforestation); Increasing renewable energy capacity to 3,200 MW; Improving forest management, forest law enforcement, and institutions; and Improving wetland management. 	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		<ul style="list-style-type: none"> Uganda is planning to finalize the National Adaptation Plan (NAP) in 2016. Specific activities have been developed to increase resilience in agriculture, water, and urban planning.
		Priority Sectors		Agriculture and Livestock; Forestry; Infrastructure (emphasis on human settlements, social infrastructure, and transport); Water; Energy; Health.
		Data Quality & Transparency		<ul style="list-style-type: none"> Uganda's National Adaptation Programme of Action was submitted to UNFCCC in 2007. Uganda approved a National Policy for Disaster Preparedness and Management in 2010. The agricultural sector NAPs process was launched in June 2015.
	Participation		No information provided on participatory process for INDC.	
	Financial Assistance		<ul style="list-style-type: none"> No specific financing request included. Intends to meet its commitments and/or increase the level of its contribution through the use of international market mechanisms, building on the experience of the Clean Development Mechanism and other existing market mechanisms. 	
	Technical Needs Identified in INDC		Capacity building, technology transfer, and finance are the most important needs in Uganda.	
	Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Submitted Second National Communication in 2014. Latest inventory submitted to UNFCCC was for 2000, prepared using primarily Tier I methodology following 2006 IPCC Guidelines. No BURs submitted to date.



Mitigation^{xi}

- INDC includes policies and measures of mitigation contribution for Energy (2 measures), Forestry (2 measures), and Wetlands (2 measures).
- The BAU projection, including LULUCF, is 77.3 MtCO₂e in 2030.
- Energy (excluding transport) and LULUCF sectors account for 36% of national emissions in 2000, and 26% of emissions in 2030 under BAU. The transport and agriculture sectors represent a further 62% of national emissions in 2000, and 70% of emissions in 2030 under BAU.
- Uganda notes that additional mitigation activities could be achieved through energy sector NAMAs.
- Uganda's greatest mitigation potential is in LULUCF.



Adaptation

- Uganda is experiencing significant impacts of climate change, including changing weather patterns, drop in water levels, and increased frequency of extreme weather events (droughts, floods, and landslides).
- INDC includes priority adaptation actions for Agriculture (9 actions), Forestry (4 actions), Water (4 actions), Infrastructure (6 actions), Energy (5 actions), Health (7 actions), and Risk Management (5 actions).

Key Documents

- Second National Communication (2014)
- 2015 National Climate Change Policy and its Costed Implementation Strategy
- Second National Development Plan (2015)
- National Policy for Disaster Preparedness and Management (2010)
- National Adaptation Programme of Action (2007)

Financing

- As set out in the Uganda National Climate Change Policy and its Costed Implementation Strategy, national sources will cover ~30% of incremental costs of activities in the next 15 years, with ~70% from international sources.
- Approximately US\$160,000 was disbursed from international climate funds for 2008-2012.
- The 17 major adaptation projects that have been implemented since 2001 in partnership with the Government of Uganda sum to US\$59 million.
- The National Climate Change Policy and Costed Implementation Strategy estimated that Uganda will require US\$2.9 billion over the next 15 years (US\$2.4 billion for adaptation).
- Uganda receives support through its association with the USAID East Africa Regional mission.

^{xi} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015. Data on Uganda's emissions by sector is incomplete for 2012 and thus a graph has not been included.



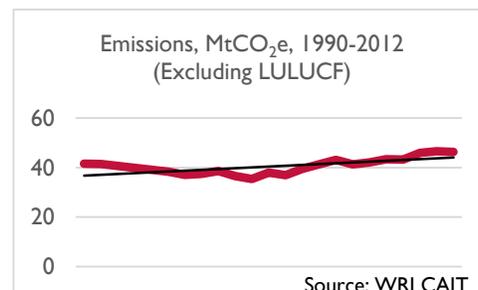
Zambia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Zambia plans to reduce emissions by implementing three programs: Sustainable Forests, Sustainable Agriculture, Renewable Energy and Energy Efficiency. Implementation without support could reduce GHG emissions by 20 MtCO ₂ e by 2030 relative to BAU.
			Conditional	Zambia plans to reduce emissions by implementing three programs (see above). Implementation with support could reduce GHG emissions by 38 MtCO ₂ e by 2030 relative to BAU.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Mitigation scenarios for energy sector developed using LEAP model. Scenarios for the agriculture, LULUCF, and waste sectors developed using “standard analysis spreadsheets.”
			Existing Policies	<ul style="list-style-type: none"> National Climate Change Response Strategy National Forestry and Energy Policies National Strategy for REDD+ National Adaptation Plan of Action on Climate Change Nationally Appropriate Mitigation Actions INDC will be integrated into Seventh National Development Plan.
			Mitigation Actions	<p>Specific action items listed within the three programs include, but are not limited to:</p> <ul style="list-style-type: none"> Constructing rural biomass electricity generating facilities; Transitioning from diesel to biodiesel and coal to biomass; Increasing rural solar PV and wind usage; Promoting Climate Smart Agriculture (CSA); and Developing National Land Use Planning Guidelines.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Zambia is developing a National Adaptation Plan to mainstream climate change into national development planning processes.	
		Priority Sectors	Agriculture; Water; Forestry; Energy, Wildlife; Infrastructure; Health.	
		Data Quality & Transparency	“The intended contribution on adaptation stated here is for the purposes of information so that an overview of the range of planned climate-related actions of the country is made known; it does not constitute an international obligation to the country.”	
	Participation	Stakeholder participation is indicated with respect to INDC implementation. Participation in development of the INDC is not noted.		
Financial Assistance	<ul style="list-style-type: none"> US\$35 billion for full implementation of INDC activities (to 2030). Zambia does not rule out the use of market-based mechanisms to achieve reduction targets. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Research on locally-specific adaptation scenarios for Zambia’s three agro-ecological regions. Further analysis to refine the required investment cost. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2015. Latest inventory submitted to UNFCCC was for 2000, prepared using Tier I methodology following IPCC 1996 Guidelines. No BURs submitted to date. 		



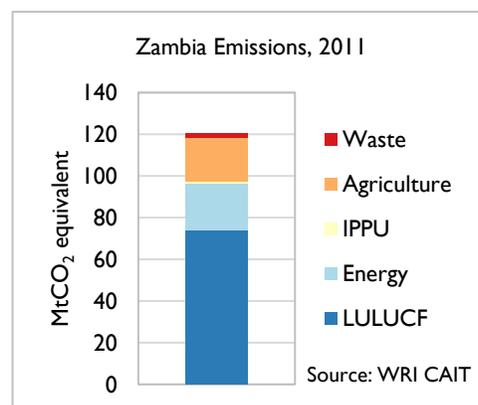
Mitigation^{xii}

- Zambia’s INDC includes three broad mitigation programs comprised of specific policies and actions. The INDC also identifies adaptation co-benefits associated with each program. The programs include:
 - Sustainable Forest Management
 - Sustainable Agriculture
 - Renewable Energy and Energy Efficiency
- Largest reductions in emissions are projected to come from LULUCF.



Adaptation

- Drought and flooding are identified as key vulnerabilities.
- Approach for adaptation section states that “Zambia will take a landscape approach at watershed level to enhance synergies between adaptation and mitigation actions.”
- Adaptation measures are divided into three programs:
 - Adaptation of strategic productive systems: agriculture, wildlife, water
 - Adaptation of strategic infrastructure and health
 - Enhanced capacity building, research, technology transfer, and finance for adaptation



Financing

- Total cost of implementation is estimated at over US\$50 billion. The INDC estimates that US\$35 billion will go towards mitigation, while approximately US\$20 billion will be necessary to implement adaptation actions.
- The National Designated Authority (NDA) for the Green Climate Fund (GCF) has been designated.

Key Documents

- Second National Communication (2014)
- National Strategy for Reducing Emissions from Deforestation and Forest Degradation (2015)
- Nationally Appropriate Mitigation Actions (2014)
- National Forestry Policy (2014)
- Revised 6th National Development Plan (2011)
- National Climate Change Response Strategy (2010)
- National Energy Policy (2008)
- National Adaptation Plan of Action on Climate Change (2007)

^{xii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

4. Asia

The sections below provide detailed information on the contributions made for each of the following countries in Asia (including Afghanistan and Pakistan):

- Afghanistan
- Bangladesh
- Cambodia
- India
- Indonesia
- Kazakhstan
- Lao People’s Democratic Republic
- Malaysia
- Myanmar
- Nepal
- Pakistan
- Philippines
- Thailand
- Vietnam

The icons at the top of each profile note whether the country is an EC-LEDS country (ECL), part of the USAID Regional Development Mission for Asia (USAID RDMA), and whether it receives Clean Energy (CE), Adaptation (A), or Sustainable Landscapes (SL) funding from USAID.

A summary of common findings for Asia as a region begins in Section 7.2.

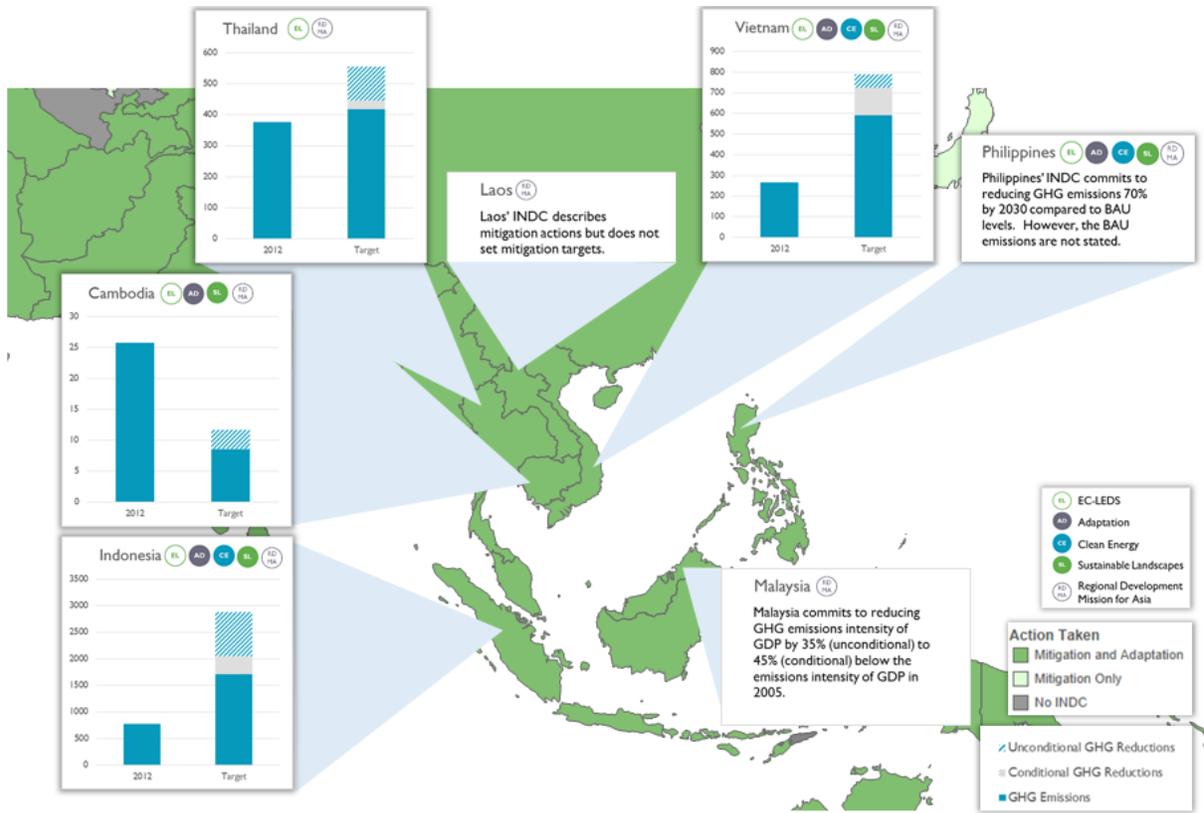


Figure 9: Map of INDCs submitted to date and intended contributions for EC-LEDS and priority countries in Asia (part I). 2012 emissions data is taken from WRI's CAIT Climate Data Explorer. Business-as-usual emissions are taken from country INDCs, where available.

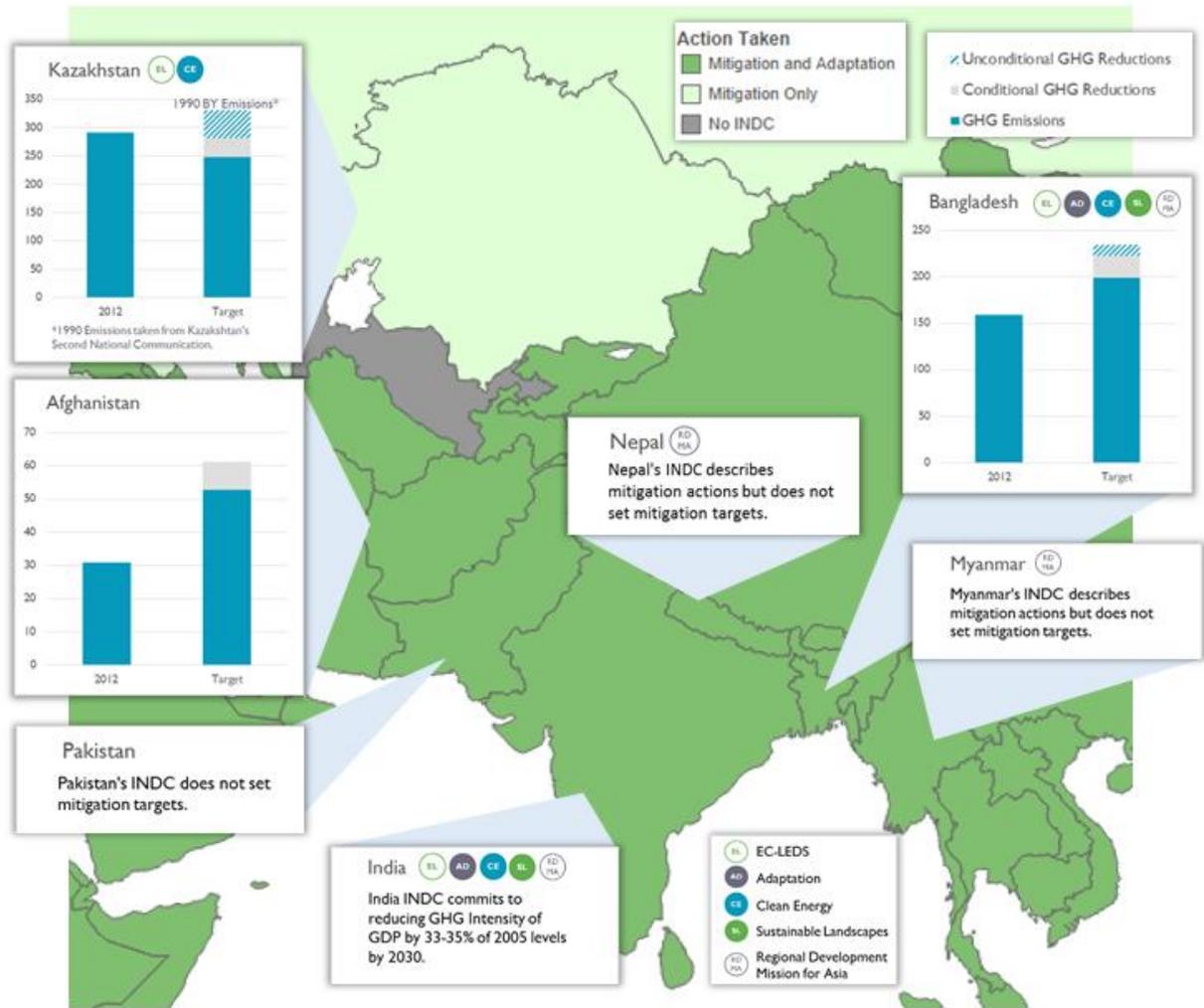


Figure 10: Map of INDCs submitted to date and intended contributions for EC-LEDS and priority countries in Asia (part 2). 2012 emissions data is taken from WRI's CAIT Climate Data Explorer. Business-as-usual emissions are taken from country INDCs, where available.



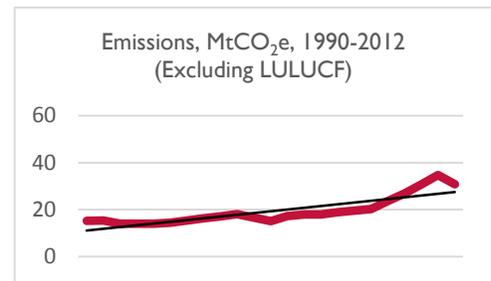
Afghanistan Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A	
			Conditional	Reduce GHG emissions by 13.6% from BAU levels in 2030.	
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Mitigation potential assessed on a sectoral basis. BAU scenario developed based on Afghanistan GHG Inventory Report developed by the Asian Development Bank (ADB) in 2007 and the GACMO model. 	
			Existing Policies	<ul style="list-style-type: none"> National Adaptation Programmes of Action for Climate Change Afghanistan's National Development Strategy National Climate Change Strategy and Action Plan Afghanistan National Renewable Energy Policy 	
		Mitigation Actions	No information provided on specific mitigation actions.		
	Adaptation	Included in INDC	Yes		
		Implementation Strategies	Yes; mainstreaming climate change resiliency into development policies and plans.		
		Priority Sectors	Agriculture; LULUCF; Water; Natural Resource Management.		
		Data Quality & Transparency	INDC references climate projections based on the Cordex regional climate models, DARA Climate Vulnerability Monitor, GermanWatch Global Climate Risk Index, and Notre Dame Global Adaptation Index.		
		Participation	Afghanistan's National Environment Protection Agency convened a series of consultations and workshops to bring together decision-makers from government institutions and stakeholders from NGOs to develop the INDC and establish a sustainable development vision.		
	Financial Assistance	US\$17.405 billion for implementation of INDC activities (2020-2030).			
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> Technical support for the development and implementation of LEADS and highly effective adaptation and development strategies (HEADS). Technical support for improving energy efficiency, especially clean cooking and building and power projects. Capacity building related to climate science, cleaner technologies, capital markets, and environmental compliance standards. Technical support to monitor and assess vulnerability and adaptation to climate change; strengthen and expand meteorological and hydrological data equipment and integrated system; and for agriculture and forestry sectors (e.g., data improvement, land use management, low-carbon agriculture). Develop capacity to improve water resources; develop alternative and renewable energy sources; plan for proper watershed management; conserve land area and habitat of selected species; regenerate existing degraded forests and rangelands. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Initial National Communication in 2012. Latest inventory submitted to UNFCCC was for 2005, prepared using Tier I methodology following IPCC 1996 Guidelines. No BURs submitted to date. 			



Mitigation^{xiii}

- Total projected GHG emissions in 2030 is 61.0 MtCO₂e (including LULUCF) and 48.9 MtCO₂e (excluding LULUCF).
- The majority of country emissions of:
 - CO₂ are from LULUCF (74%) and energy (23%);
 - CH₄ are from agriculture (91%); and
 - N₂O are from agriculture (97%).
- Reduction goals are focused on energy production and efficiency; land use, forests, and rangelands; agriculture and livestock; industrial processes and extractive industries; transportation; and waste management.
- Contribution is informed by national consultations on LEDS and NAMA.



Key Documents

- Initial National Communication (2012)
- National Adaptation Programme of Action for Climate Change (NAPA)
- National Climate Change Strategy and Action Plan (ACCSAP)
- Afghanistan National Renewable Energy Policy
- Afghanistan's National Development Strategy

Adaptation

- Priorities include but are not limited to:
 - Promoting economic development and sustainable rural livelihoods through sustainable management of environmental resources and increased access to modern forms of efficient and sustainable energy services;
 - Improving access to water to support food security, reduce poverty, and improve agricultural production; and
 - Raising awareness and improving technical capacity among Afghans and in government institutions.
- The majority of the population relies directly or indirectly on available natural resources for their livelihoods and will be impacted by the expected increase in extreme weather events (i.e., heat waves, floods, droughts, glacial lake outflows).
- A decrease in mean precipitation is projected in the East, North, and Central Highlands, regions with the highest agricultural productivity.

Financing

- INDC indicates that US\$10.785 billion is needed for adaptation and US\$6.62 billion for mitigation activities from 2020 to 2030.
- Afghanistan has received adaptation and resiliency funding from the Tokyo Framework bilateral partners, Global Environmental Facility, and the Least Developed Countries Fund.
- Afghanistan indicates that it could pursue development using fossil fuels, but if UNFCCC, GEF, GCF, and others provide the financial and other support, Afghanistan can implement LEDS.
- INDC details budget by action-planning, technology, and capacity building needs.

^{xiii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015. Data on Afghanistan's emissions by sector is incomplete for 2012 and thus a graph has not been included.



Bangladesh Summary

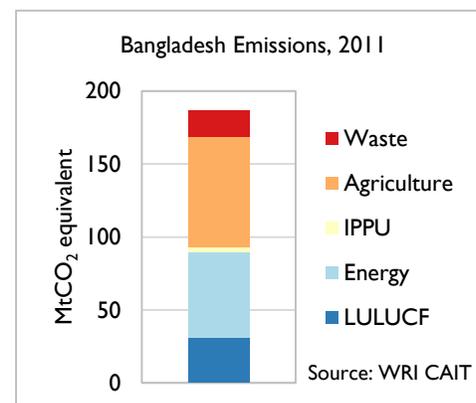
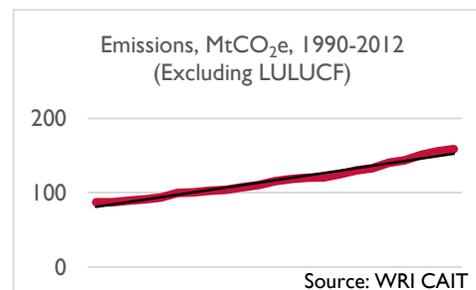
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 5% from BAU levels (234 MtCO ₂ e) in 2030 in the power, transport, and industry sectors.
			Conditional	Reduce GHG emissions by 15% from BAU levels in 2030 in the power, transport, and industry sectors.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> • Conditional and unconditional goal based on specific sectoral targets. • Future emissions were modelled using the LEAP model. BAU based on 2011 base year projected out to 2030 based on a bottom-up or top-down approach, depending on the sector.
			Existing Policies	<ul style="list-style-type: none"> • Mitigation strategy is based on: <ul style="list-style-type: none"> ○ Bangladesh Climate Change Strategy Action Plan ○ Energy Efficiency and Conservation Master Plan ○ Renewable Energy Policy • Adaptation strategy reflects the: <ul style="list-style-type: none"> ○ National Adaptation Programme of Action ○ Bangladesh Climate Change Strategy Action Plan
		Mitigation Actions	Mitigation actions include: improved energy efficiency; natural gas exploration; renewable energy development; agriculture management; afforestation and reforestation; reduction in urban waste emissions.	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Bangladesh is developing a National Adaptation Plan (NAP).
		Priority Sectors		Food Security; Health; Disaster Management; Coastal Zone; Flood Control, Infrastructure, Urban Resilience; Ecosystems.
		Data Quality & Transparency		<ul style="list-style-type: none"> • No information provided on data quality or transparency. • MRV system for adaptation is being planned.
	Participation			INDC was prepared through consultation and dialogue with the Government's Advisory and Technical Committees, which include a range of stakeholders including line ministries, Planning Commission, technical departments, professionals, experts, and the private sector.
Financial Assistance			<ul style="list-style-type: none"> • No specific financing request included. • INDC indicates need for international financial assistance. • Bangladesh does not rule out the use of international market-based mechanisms in line with agreed modalities and accounting rules. 	
Technical Needs Identified in INDC			<ul style="list-style-type: none"> • Technical support in modeling LULUCF emissions. • Developing a national MRV system. • Developing NAMAs. • Integrating the Climate Fiscal Framework into the national planning and budgeting process. • Implementing activities in the INDC. 	
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> • Submitted Second National Communication in 2012. • Latest inventory submitted to UNFCCC was for 2005, prepared using Tier I methodology following IPCC 1996 Guidelines. • No BUR submitted to date. 	

Bangladesh



Mitigation^{xiv}

- A 5% target represents a 12 MtCO₂e reduction and a 15% target represents 36 MtCO₂e in 2030.
- Emissions in power, transportation, and industry sectors projected to represent 69% of total emissions in 2030. LULUCF emissions sector were not modelled due to difficulties in obtaining the necessary data.
- Bangladesh plans to update BAU within next national communication and BUR.
- Bangladesh has existing targets that have been included as part of the unconditional contribution. Examples include: a target to reduce energy intensity per GDP by 20% by 2030 compared to 2013 levels; energy efficiency measures for buildings, industry, and products; and a renewable energy goal of 10% of energy from renewable sources by 2020.
- Activities to help achieve the conditional target include: increasing the number of households with improved cook stoves to 70% by 2030; reducing commercial sector energy consumption by 25% below BAU; and diverting 50% of landfill waste to composting by 2030.



Adaptation

- Key areas of focus include food and livelihood security, comprehensive disaster management, coastal zone management, flood and erosion control, infrastructure, rural electrification, urban resilience, ecosystem-based adaptation, conservation of wetlands and coast zones, and policy capacity building.
- Established Bangladesh Climate Change Trust Fund (governmental support) and the Bangladesh Climate Change Resilient Fund (development partner support) to fund adaptation projects.
- The Climate Change Trust Fund has funded 236 projects (as of June 2015) and 41 have been implemented. Projects include construction of embankments, building cyclone resilient houses, waste management infrastructure, and dissemination of stress tolerant crop varieties.

Key Documents

- Second National Communication (2012)
- Energy Efficiency and Conservation Master Plan Up to 2030 (2015)
- Sixth Five Year Plan (2011)
- National Plan for Disaster Management (2010)
- Bangladesh Climate Change Strategy Action Plan (2009)
- Renewable Energy Policy (2008)
- National Adaptation Programme of Action (2005-2009)

Financing

- Bangladesh estimated that US\$27 billion is needed for mitigation and US\$42 billion for adaptation between 2015 and 2030. The INDC states that “effective access to international climate finances is critical for implementation of the Bangladesh INDC.”

^{xiv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



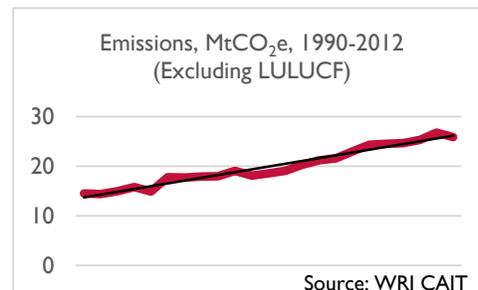
Cambodia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 27% from BAU levels in 2030 in energy, manufacturing, and transportation sectors.
			Conditional	Additional LULUCF contribution of 4.7 tCO ₂ e/ha/year (equivalent to 10.6 MtCO ₂ e of additional sequestration compared to BAU).
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Mitigation potential evaluated based on sectoral reductions and “previous needs analyses, experience from successful projects, pilot projects, feasibility studies, literature reviews, and expert opinion.” BAU projections developed using the LEAP model for energy sector and COMAP for LULUCF sector.
			Existing Policies	<ul style="list-style-type: none"> Cambodia Climate Change Strategic Plan 2014-2023 Green Growth Policy and Roadmap National Forest Programme (2010-2029)
			Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> 16% reduction in energy emissions (1.8 MtCO₂e). Includes renewable generation and promoting energy efficiency. 7% reduction in manufacturing emissions (0.727 MtCO₂e). Includes renewable energy and energy efficiency for factories and brick kilns. 1% reduction from other sources (0.155 MtCO₂e). Includes energy efficient buildings, cook stoves, and biodigesters. Increase forest cover to 60% of total land through the implementation of the <i>National Forest Programme (2010-2029)</i> and the Forest Law Enforcement, Governance and Trade programme. 3% reduction in transportation emissions (0.39 MtCO₂e). Includes mass transit and motor vehicle inspections.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; climate change adaptation mainstreamed in national and subnational planning, including through the National Adaption Plan.	
		Priority Sectors	Agriculture; Infrastructure; Forestry; Health; Coastal Zones.	
		Data Quality & Transparency	INDC includes qualitative actions to incorporate adaptation into Cambodia’s priority sectors.	
	Participation	INDC developed under the National Council for Sustainable Development, which has representatives in relevant ministries.		
Financial Assistance	US\$1.27 billion for implementation of INDC activities (to 2018).			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Technical support to develop MRV and M&E systems. Technical support for a detailed technology needs assessment. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted First National Communication in 2002. A Second National Communication is under development. Latest inventory submitted to UNFCCC was for 1994, prepared using Tier I methodology following IPCC 1996 Guidelines. No BUR submitted to date. 		



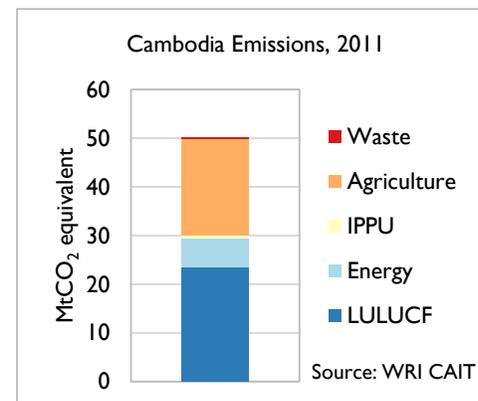
Mitigation^{xv}

- INDC focuses on LULUCF, energy, manufacturing, and transportation sectors.
- INDC states that the unpublished 2015 Second National Communication (SNC) shows Cambodia was a carbon sink in 2000.
- BAU based on draft GHG inventory developed for the SNC. Draft 2000 GHG inventory uses Tier 1 and Tier 2 methodology following IPCC 1996 Guidelines.
- Projections include current macroeconomic and policy conditions.
- LULUCF impacts will be updated after finalization of Cambodia's REDD+ Strategy.
- INDC notes a conditional action of increasing forest cover to 60% of national land by 2030 to increase sequestration an additional 7.898 MtCO₂e compared to projected 18.492 MtCO₂e.



Adaptation

- Cambodia is susceptible to flooding, droughts, windstorms, and seawater intrusion. INDC notes that Tonle Sap Great Lake is at particular risk.
- Forest areas in the northeast and southwest parts of Cambodia are at risk for drought.
- Half of Cambodia's provinces have been impacted by flash floods, particularly in the Mekong region. Damage from 2013 flooding is estimated to be US\$356 million.
- Priority adaptation projects include:
 - Improving the adaptive capacity of communities;
 - Developing resilient infrastructure (including roads);
 - Restoring ecosystem health and improving resilience of protected areas;
 - Developing resilient agriculture systems (including forestry, fisheries, and coastal agriculture);
 - Strengthening technical and institutional capacity for climate change impact assessments and developing climate change projections; and
 - Improving national health programs.



Key Documents

- First National Communication (2002)
- National Adaptation Plan
- Climate Change Strategic Plan 2014-2023
- National Strategic Development Plan 2014-2018 (2014)
- National Forest Program (2010-2029)
- Green Growth Roadmap (2009)
- National Adaptation Programme of Action (2006)

Financing

- INDC requests support in the form of “financing, capacity building, and technology transfer.”
- Developed Official Development Assistance database to track climate change financing received from outside organizations.

^{xv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



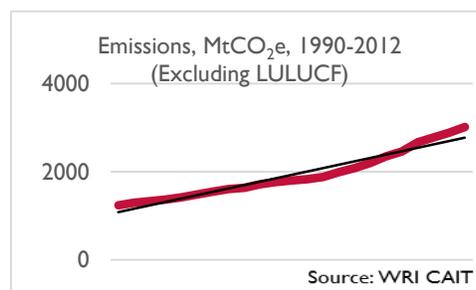
India Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	Reducing GHG intensity of GDP by 33-35% of 2005 levels by 2030 (also mitigation goals related to electric power and forestry)
		Basis of Target	Analytical Basis	No information provided on the methodology for calculating emissions.
			Existing Policies	<ul style="list-style-type: none"> National Environment Policy National Action Plan on Climate Change
			Mitigation Actions	Mitigation actions include: <ul style="list-style-type: none"> Achieving 40% of cumulative electric power installed capacity from non-fossil fuels by 2030; Increasing carbon sequestration by 2.5 to 3 billion MtCO₂e through increased forest and tree cover by 2030; and Low-carbon infrastructure and public transportation.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Eight National Missions on Climate Change in addition to other national, state, territory, and private sector strategies in place to address the various sectors. Propose to launch new initiatives in priority areas.	
		Priority Sectors	Agriculture; Water; Health; Cities; Coastal Regions; Disaster Management; Protecting Biodiversity; Rural Livelihoods.	
		Data Quality & Transparency	No information provided on data quality or transparency.	
	Participation	No information provided on participatory process for INDC.		
Financial Assistance	US\$2.5 trillion needed for implementation of INDC activities (to 2030). Proportion needed from international community is not defined.			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Build capacity for cutting edge climate technologies through international collaborations and research and development. Increased capacity building and personnel training. Mitigation technologies for clean coal, nuclear power, and renewable energy. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2012. Latest inventory submitted to UNFCCC was for 2000, prepared using a mix of Tier 1, 2, and 3 methodologies. India published a 2007 inventory in 2010.^{xvi} No BUR submitted to date. 		

India

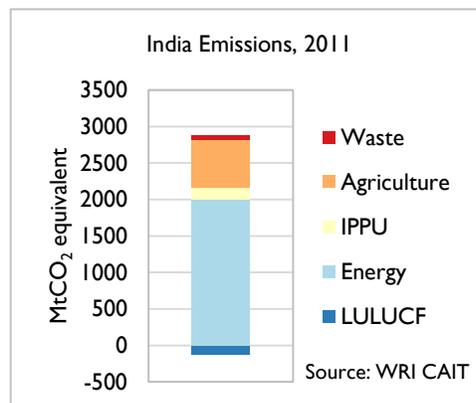
Mitigation^{xvii}

- Propose to start new initiatives in priority areas including:
 - Efficient and clean thermal power generation;
 - Promoting renewable energy and energy efficiency;
 - Reducing emissions from transportation;
 - Reducing emissions from waste; and
 - Implementing afforestation programs.



Adaptation

- Vulnerability differs across India due to different topography, ecosystems, social structures, and economic conditions.
- Particularly concerned about resilience of agriculture (including fisheries and forestry) as it is the livelihood for ~70% of population and 60% of agriculture is rain-fed.
- Propose to start new initiatives in priority areas including: developing climate-resilient infrastructure and implementing actions to enhance climate resilience and reduce vulnerability to climate change.



Financing

- US\$206 billion is needed to implement adaptation programs in agriculture, forestry, fisheries, water and ecosystems.
- US\$7.7 billion is needed for energy sector projects (according to ADB study).^{xviii}
- US\$834 billion for low-carbon development (according to the National Institute for Transforming India).
- Additional investment needed for resilience and disaster management but value is not specified.

Key Documents

- Second National Communication (2012)
- India: Greenhouse Gas Emissions 2007 (2010)
- National Action Plan on Climate Change (2008)
- National Environment Policy (2006)

^{xvi} INCCA Indian Network for Climate Change. 2010. *India: Greenhouse Gas Emissions 2007*. http://www.moef.nic.in/downloads/public-information/Report_INCCA.pdf Accessed November 12, 2015

^{xvii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

^{xviii} Ahmed, M. and S. Suphachalasai. Assessing the costs of climate change and adaptation in South Asia. Mandaluyong City, Philippines: Asian Development Bank, 2014. Retrieved from: <http://www.adb.org/sites/default/files/publication/42811/assessing-costs-climate-change-and-adaptation-south-asia.pdf>. Accessed November 23, 2015.



Indonesia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 29% from BAU levels (2,881 MtCO ₂ e) by 2030.
			Conditional	Reduce GHG emissions by 41% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> • Sector-based, but methodology and sector targets are not described. • Post-2010 BAU modeling based on 2000-2010 national GHG trajectory (no national GHG emissions included in INDC). • National emissions for some sectors are published elsewhere.^{xix}
			Existing Policies	<ul style="list-style-type: none"> • Indonesia’s Mitigation Policy (RAN-GRK) • Indonesia’s Framework for Nationally Appropriate Mitigation Actions • National Action Plan on Climate Change Adaptation
		Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> • Reducing deforestation and forest degradation; • Restoring ecosystems; • Energy conservation; • Increasing energy from “new and renewable sources” to 23% by 2025; and • Improving agriculture and fisheries productivity; and improved waste management. 	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		<ul style="list-style-type: none"> • Made significant progress towards implementing a National Action Plan on Climate Change Adaptation (RAN-API). • Mapping regional vulnerabilities to strengthen institutional capacity and promulgate improved knowledge management, disaster risk reduction, and application of adaptive technologies.
		Priority Sectors		Agriculture (including Forestry and Fisheries); Water; Energy Security; Health; Infrastructure; Public Services; Urban Systems.
		Data Quality & Transparency		<ul style="list-style-type: none"> • Yes; mainstreaming climate change mitigation and adaptation into development planning. • Working with public and private sector, academia, civil society and indigenous communities to develop comprehensive plans.
	Participation		INDC prepared through consultations with academia, the private sector, and civil society at national and local levels.	
Financial Assistance		<ul style="list-style-type: none"> • No specific financing request included. • INDC indicates need for international financial assistance. 		
Technical Needs Identified in INDC		<ul style="list-style-type: none"> • No specific technical needs identified in INDC. 		
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> • Submitted Second National communication in 2010. • Latest Inventory submitted to UNFCCC was for 2005, prepared using Tier 1 and 2 methodologies following IPCC 2006 Guidelines. • No BURs submitted to date. 	

Indonesia



Mitigation^{xx}

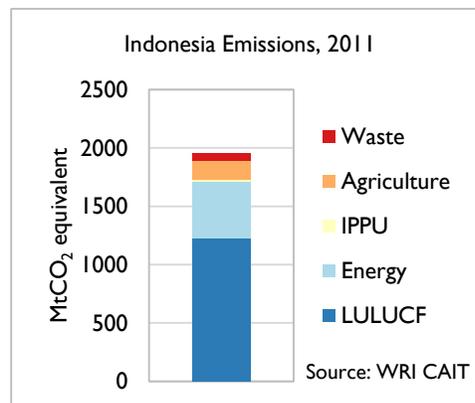
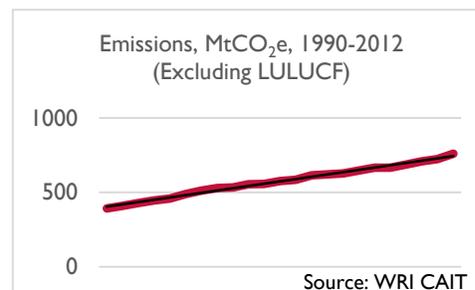
- *Progress of Addressing Climate Change in Indonesia 2010-2014* has 2020 reduction targets and activities in:
 - Forestry (rehabilitate, sustainably manage);
 - Agriculture (optimize land and production practices);
 - Energy (efficiency, conservation, increase renewables);
 - Industry (reduce emissions, conserve energy); and
 - Waste (management, reduce, reuse, and recycle).^{xxi}

Adaptation

- As an archipelagic state, Indonesia is extremely concerned about sea level rise and extreme climate effects. 80% of their disasters are hydro-meteorological.
- Goal is to reduce climate risks in all sectors through local capacity strengthening, improved knowledge management, and application of adaptive technology.

Financing

- 41% target requires provision of “bilateral cooperation, covering technology development and transfer, capacity building, payment for performance mechanisms, technical cooperation and access to financial resources.”
- US\$5.92 billion required to reach the 41% target in Draft INDC (removed in final version).



Key Documents

- Second National Communication (2010)
- Progress of Addressing Climate Change Indonesia, 2010-2014 (2014)
- National Action Plan on Climate Change Adaptation (2013)
- Indonesia's Framework for Nationally Appropriate Mitigation Actions (2013)
- Indonesia's Mitigation Policy

^{xix} 1990-2012 LULUCF emissions can be found in: The BP-REDD+, 2015, National Forest Reference Emission Level for Deforestation and Forest Degradation in the Context of the Activities Referred to in Decision 1/CP.16, Paragraph 70 (REDD+) Under the UNFCCC: A Reference for Decision Makers, Published by BP-REDD+ Indonesia.

^{xx} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

^{xxi} Ministry of National Development Planning/National Development Planning Agency September, 2014. *Progress of Addressing Climate Change in Indonesia 2010-2014* Retrieved from: http://ranradgrk.bappenas.go.id/rangrk/images/documents/Progress_of_Addresssing_Climate_Change_in_Indonesia_2010-2014.pdf Accessed November 3 2015.



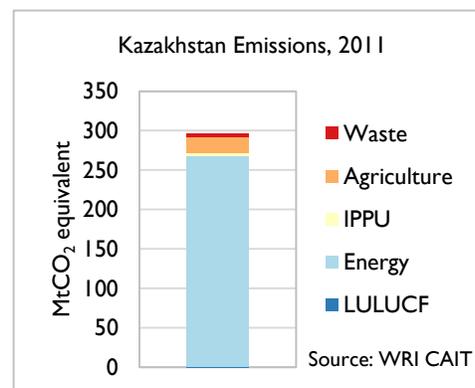
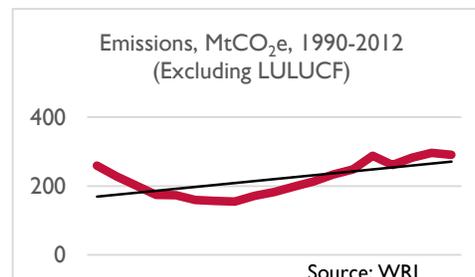
Kazakhstan Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 15% compared to 1990 emissions by 2030.
			Conditional	Reduce GHG emissions by 25% compared to 1990 emissions by 2030.
		Basis of Target	Analytical Basis	No information provided on the methodology for calculating emissions or BAU.
			Existing Policies	Concept on Transition to a Green Economy
	Mitigation Actions		<ul style="list-style-type: none"> Mitigation actions from the implementation Transition to a Green Economy include: <ul style="list-style-type: none"> Enhancement of forest cover; Government programs on waste management; Modernization of housing and communal services; Development of sustainable transport; and Conservation of ecosystems. 	
	Adaptation	Included in INDC	No	
		Implementation Strategies	N/A	
		Priority Sectors	N/A	
		Data Quality & Transparency	N/A	
		Participation	No information provided on participatory process for INDC.	
	Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. Kazakhstan supports the inclusion of market-based mechanisms in the 2015 agreement, and the opportunity to use carbon units recognized by the UNFCCC. 		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> No specific technical needs identified in INDC. 		
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2009. Latest inventory submitted to UNFCCC was for 2005, prepared using IPCC 2006 Guidelines. Tier 2 approaches used for emissions from most key sources, and Tier 1 for the remaining sources. No BURs submitted to date. 		



Mitigation^{xxii}

- Greatest potential for GHG emission reduction is the energy sector, which is responsible from almost 80% of GHG emissions.
- Under a revised and conservative BAU scenario which takes into account potentially lower GDP growth rates, the target proposed amounts to a 22% reduction by 2030 compared to BAU projected emissions.
- Under favorable economic conditions and an increase in oil prices, the unconditional target would amount to a 34% reduction by 2030 compared to BAU projected emissions.
- No data gaps or needs addressed in INDC. However, the SNC notes the need for:
 - Technology transfer for the country to shift from a raw-material economy to service and technology.
 - Additional scientific, technical, and technological studies in the energy sector to increase fuel and energy production competitiveness.
 - Increased technology development and deployment to accomplish the objectives laid out in national development strategies. Technologies identified include: switching from coal to gas, building hydropower, more effective coal combusting and recovery, building large wind power plants, and new isolation technologies in heat distribution.



Key Documents

- Second National Communication (2009)
- Concept on Transition to a Green Economy (2013)
- The Conception of Ecological Security of the Republic of Kazakhstan for 2004-2015

Adaptation

- SNC mentions a framework of active programs to strengthen adaptation and maintenance of pasture planting and address problems of ecological resistance in warming conditions/enlarging of climate aridity.
- Priority adaptation sectors from SNC are agriculture, water resources, forestry, population health, and mud flow.
- SNC describes the climate system monitoring that is carried out by Kazhydromet, a department of the Ministry of Environment Protection – includes environmental state, pollution, technological development for collecting, storing, dissemination, and management of research data.

Financing

- No financing needs specified.

^{xxii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



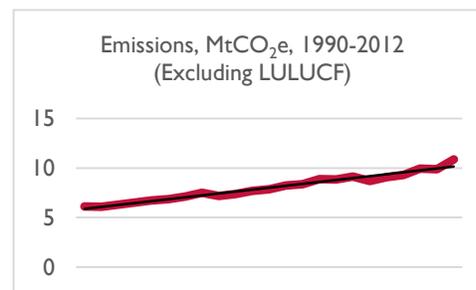
Lao People’s Democratic Republic Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	N/A
		Basis of Target	Analytical Basis	N/A
			Existing Policies	INDC is aligned with the national development plan and national climate, adaptation, transportation, energy, and forestry strategies.
			Mitigation Actions	<ul style="list-style-type: none"> Laos identified a number of actions to undertake to reduce future GHG emissions, including: <ul style="list-style-type: none"> Increasing forest cover to 70% of land area by 2020; Increasing share of small scale renewable energy to 30% of total energy consumption by 2025; Increasing share of biofuels to meet 10% of transport fuel demand by 2025; Increasing road network development and use of public transport through the implementation of transport-focused NAMAs; Develop large-scale hydropower plants to provide electricity to neighboring countries, with a goal of total installed capacity of hydropower plants of 5,500 MW by 2020, and an additional 20,000 MW after 2020.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	<ul style="list-style-type: none"> No overall implementation strategy provided. Broad implementation programs are listed by priority sector, with indicative costs. 	
		Priority Sectors	Agriculture; Forestry and Land Use Change; Water Resources; Transport and Urban Development; Public Health.	
		Data Quality & Transparency	Capacity and expertise to assess and improve the monitoring and evaluation of impacts and adaptation efforts.	
	Participation	INDC prepared through an inclusive stakeholder consultation process.		
Financial Assistance	<ul style="list-style-type: none"> US\$2.4 billion for implementation of mitigation and adaptation goals. Laos will consider carbon credits as sources of financing for renewable energy projects and activities. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Lack of reliable data on renewable energy. Lack of knowledge and capacity of renewable technologies. Capacity building needs for both mitigation and adaptation activities. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2013. Latest inventory submitted to UNFCCC was for the year 2000, prepared following IPCC 2006 Guidelines using Tier I methodology. No BURs submitted to date. 		



Mitigation^{xxiii}

- Majority of emissions were from LULUCF (83%) and agriculture (15%) in 2000.
- Efforts include strengthening the policy and regulatory framework, especially to continue development and promulgation of the Climate Change and Disaster Law, which is expected to be in 2017. This law will be a continuum for earlier achievements on climate change policies and plans such as the Environmental Protection Law, Revised Urban Planning Law, Strategic Plan on Disaster Management 2020 (2003) and the National Strategy on Climate Change (2010).
- SNC reports that GHG emissions were 51 MtCO₂e in the year 2000.



Key Documents

- Second National Communication (2013)
- Climate Change Action plan of Lao PDR for 2013-2020 (2013)
- Renewable Energy Development Strategy (2011)
- National Strategy on Climate Change (2010)
- Strategic Plan on Disaster Management 2020 (2003)

Adaptation

- 14 out of 17 provinces as well as the capital city of Vientiane have experienced floods since 1995.
- 6 out of 17 provinces are already at high risk of droughts.
- 70% of population depends on natural resources for their livelihoods and to ensure food safety.

Financing

- INDC notes that US\$1.4 billion is needed for mitigation measures and US\$0.97 billion is needed for adaptation measures.
- Laos has apportioned US\$12.5 million for climate change, which represented approximately 0.14% of GDP in 2012.
- Strong desire to achieve success with international programs and assistance such as REDD+ and FLEGT (Forest Law Enforcement, Governance, and Trade).
- Main steps that will need to be followed in order to ensure that domestic and international finance is successfully acquired, utilized, and accounted for:
 - Assess needs, define priorities, and identify barriers to investment;
 - Identify policy mix and sources of financing;
 - Identify access routes to multilateral finance;
 - Blend and combine resources;
 - Formulate projects, programs, and sector-wide approaches to access finance;
 - Implementation and execution of planned action;
 - Implementation and management of project coordination systems; and
 - MRV / M&E of climate finance.

^{xxiii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015. Data on Laos' emissions by sector is incomplete for 2012 and thus a graph has not been included.

Malaysia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions intensity of GDP by 35% below the emissions intensity of GDP in 2005 (0.531 tCO ₂ e per 1,000 Ringgit (RM)).
		Target	Conditional	Reduce GHG emissions intensity of GDP by 45% below the emissions intensity of GDP in 2005.
		Basis of Target	Analytical Basis	Emissions estimated using Revised 1996 IPCC Guidelines, Good Practice Guidance (2000), and Good Practice Guidance for LULUCF (2003)
			Existing Policies	<ul style="list-style-type: none"> Mitigation strategy is based on: <ul style="list-style-type: none"> Projected outcomes from 11th Malaysian Development Plan National Policies: Petroleum, Energy, Depletion, Four-Fuel Diversification, Forestry, Biological Diversity, Five-Fuel, Environment, Solid Waste Management, Biofuel, Green Technology, Climate Change, Economic Model/Government Transformation/Economic Transformation, Renewable Energy, National Physical Plan, Low Carbon Cities, Agro-food, Water Resources, and Automotive. Adaptation strategy reflects the: <ul style="list-style-type: none"> Tenth Malaysia Plan National Water Resources Policy National Agro-Food Policy, National Commodity Policy Integrate Shoreline Management Plans, National Coastal Vulnerability Index
			Mitigation Actions	Mitigation actions include: <ul style="list-style-type: none"> Introducing initiatives to increase share of use of non-fossil fuel energy in the Ninth Malaysia Plan and A Roadmap of Emissions Intensity Reduction in Malaysia; and Launching the Central Forest Spine and Heart of Borneo initiatives to promote sustainable forest management.
		Adaptation	Included in INDC	Yes
	Implementation Strategies		<ul style="list-style-type: none"> Malaysia spent US\$12.3 billion during the Tenth Malaysia Plan to enhance resilience against climate change. Malaysia is developing a National Adaptation Plan. 	
	Priority Sectors		Flood Risks; Water and Food Security; Protecting Coastlines; Health.	
	Data Quality & Transparency		No information provided on data quality or transparency.	
	Participation	INDC was prepared through a participatory process including an inter-ministerial/agency working group. Stakeholder consultations were conducted to obtain inputs on measures to reduce GHG emissions.		
	Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. INDC indicates need for international financial assistance. Malaysia has no intentions to use international market mechanism to achieve INDC contributions. 		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> Securing climate financing for mitigation technologies such as renewable energy and rail-based mass transport. Technical support for strengthening institutional framework; capacity building; and rehabilitation of degraded forests and peatlands. Implementing activities in the INDC. 		



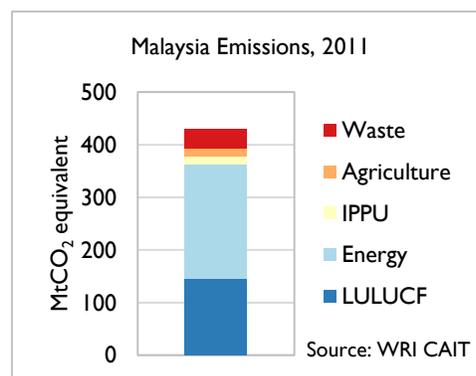
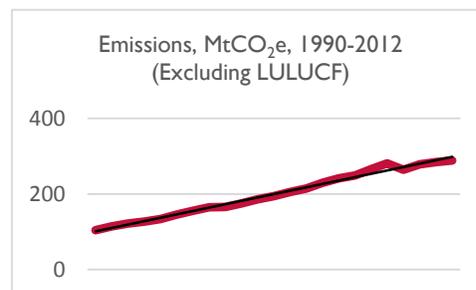
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2011. Latest inventory submitted to UNFCCC was for 2000, prepared using primarily Tier I methodology following IPCC 1996 Guidelines. No BUR submitted to date.
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Mitigation^{xxiv}

Malaysia's emission intensity per GDP was 0.41 tCO₂e per RM1,000 in 2011, equivalent to a 23% reduction from 2005 base year values.

Adaptation

- Malaysia has been implicitly building adaptation resilience to flood risks through its development plans. From 2004-2014, Malaysia has invested over US\$2.25 million on flood mitigation.
- Hard and soft engineering approaches, along with Integrate Shoreline Management Plans, have been implemented to address coastal erosion.
- During the Tenth Malaysia Plan:
 - Over US\$2.9 billion were spent on improving the water sector infrastructure, with over US\$1.35 billion being used for developing the water supply for rural areas.
 - US\$1.23 billion was allocated to improve the agriculture and agro-based industries in Malaysia.
 - US\$360 million spent on adaptation for the health sector.



Financing

- The Tenth Malaysia Plan (2011-2015) introduced three financial tools to promote sustainability measures: feed-in-tariff mechanism to help finance renewable energy investment; providing fiscal incentives and funding for green technology investments; and promoting projects eligible for carbon credits.
- The country continues to allocate financial resources for the implementation of climate change mitigation programs through both public and private sector initiatives.

Key Documents

- Second National Communication (2011)
- Tenth Malaysia Plan (2011-2015)
- Projected outcomes from the Eleventh Malaysia Plan (2016-2020)
- A Roadmap of Emissions Intensity Reduction in Malaysia in 2014

^{xxiv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



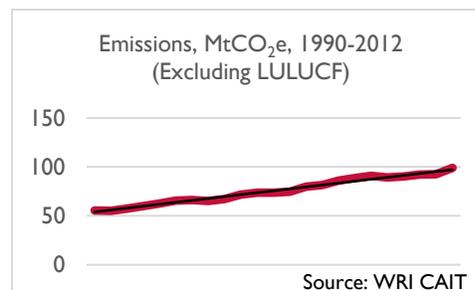
Myanmar Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
		Target	Conditional	N/A
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> INDC is built upon policies under development. Myanmar plans to develop sector-specific policies that will be used to quantify GHG emission projections.
			Existing Policies	<ul style="list-style-type: none"> Myanmar has established implementation plans to support its mitigation efforts in: <ul style="list-style-type: none"> 30-Year National Forestry Master Plan (2001-2030); Draft Long Term Energy Master Plan; Draft National Electrification Master Plan; Draft Comprehensive Village Development Plan; and Draft National Energy Efficiency and Conservation Policy, Strategy and Roadmap for Myanmar.
	Adaptation	Basis of Target	Mitigation Actions	<ul style="list-style-type: none"> INDC mitigation goals for 2030 include: <ul style="list-style-type: none"> Increasing permanent forest target to 30% of national land for reserved and protected forest and 10% as protected area systems; Increasing hydroelectric capacity to 9.4 GW; Increasing rural electrification with a goal of 30% renewable generation; Realizing a 20% savings in electric consumption, mainly with a focus on energy efficiency in industry; and Distributing 260,000 clean cook stoves.
			Included in INDC	Yes
			Implementation Strategies	Yes; incorporating climate adaptation into agriculture and forest management systems.
			Priority Sectors	Agriculture; Early Warning Systems; Health; Water; Energy; Biodiversity.
	Participation	Data Quality & Transparency	No information provided on data quality or transparency.	
		Participation	The INDC was prepared based on interministerial consultations and technical workshops.	
Financial Assistance		<ul style="list-style-type: none"> No specific financial assistance requested. Intends to participate in international market-based mechanisms. 		
Technical Needs Identified in INDC		Myanmar states that the actions in its INDC will be used to develop quantified GHG emission estimates that will then inform future revisions of Myanmar's INDC.		
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted First National Communication in 2012. Latest GHG inventory submitted to UNFCCC was for 2000, prepared using Tier I methodology following IPCC 2006 Guidelines. No BURs submitted to date. 		



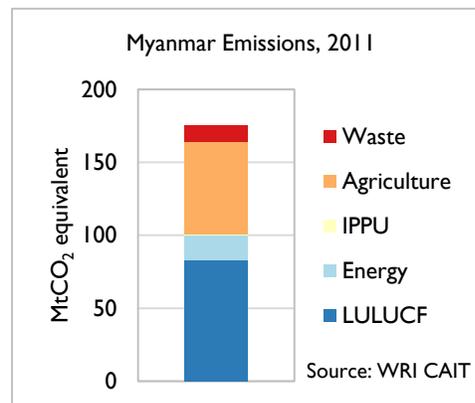
Mitigation^{xxv}

- Myanmar states that given the deadline and available data, it did not include a GHG goal in its INDC and will include this in future revision.
- INDC focuses on Forestry and Energy sectors.
- Myanmar is developing a number of climate-focused policies including the development of the National Climate Change Strategy and Action Plans and the National Climate Change Policy in 2016.
- Sector-specific plans such as the Rural Electrification Plan and National Waste Management Strategy and Actions Plans are planned for 2017.



Adaptation

- Addressing climate change vulnerability and poverty is a priority. In 2014, 70% of the population resided in rural areas and relied on rain-dependent agriculture, livestock and fishery, and forest resources.
- Currently pursuing projects focused on resiliency in rice production, livestock management, and rehabilitation and restoration of degraded land.
- Ecosystem adaptation will be addressed in 2016-2018.
- Planning to conduct vulnerability assessments of urban planning, infrastructure development, livelihood patterns.
- Planning on conducting adaptation projects to reduce flooding and river bank erosion.



Financing

- INDC states that in order to pursue these actions they need “support for capacity-building, technology development and transfer, and financial resources from the international community, as well as the active participation of the national and international private sector.”
- Financial support is needed for:
 - Technology needs assessment for mitigation and adaptation activities;
 - Forest assessments, rehabilitation, implementation of REDD+ projects;
 - Clean technology development; and
 - Effective early warning systems for natural disasters.

Key Documents

- First National Communication (2012)
- Myanmar Action Plan on Disaster Risk Reduction (2012)
- National Adaptation Programme of Action (2012)
- National Biodiversity Strategy and Action Plan (2011)
- 30-Year National Forestry Master Plan (2001-2030) (2001)

^{xxv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



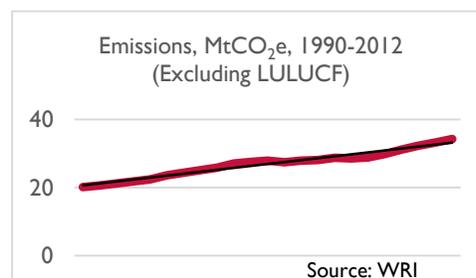
Nepal Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A	
		Target	Conditional	N/A	
	Basis of Target	Analytical Basis	No information provided on the methodology for calculating emissions or BAU.		
		Existing Policies	<ul style="list-style-type: none"> Climate Change Policy (2011) Forestry Sector Strategy (2016-2025) Nepal Biodiversity Strategy and Action Plan (2014-2020) Environment-Friendly Vehicle and Transport Policy (2014) National Rural Renewable Energy Programme (NRREP) Environment Friendly Local Governance (EFLG) Framework 		
		Mitigation Actions	Mitigation actions include: <ul style="list-style-type: none"> Piloting a sub-national project on REDD+ to strengthen forest governance and reduce deforestation and forest degradation; 25,000 community-based forest management groups are managing ~30% of Nepal's forests and developing Community Adaptation Plans of Action (CAPAs); Development of hydropower potential and renewable energy; and Diversifying transport to include electric and hybrid vehicles. 		
	Adaptation	Included in INDC	Yes		
		Implementation Strategies	<ul style="list-style-type: none"> Prepared a National Adaptation Programme of Action (NAPA) to address the most urgent and immediate needs of adaptation. Developed and implementing Local Adaptation Plans for Action (LAPAs) in 90 village development committees and 7 municipalities. Developed 375 local adaptation plans and 2,200 CAPAs. Implementing EFLG Framework to mainstream environment, climate change adaptation, and disaster management in the local planning. 		
		Priority Sectors	N/A		
		Data Quality & Transparency	No information provided on data quality or transparency.		
	Participation		INDC developed using broad-based stakeholder consultation process.		
Financial Assistance		<ul style="list-style-type: none"> No specific financing request included. Nepal intends to sell carbon credits from its renewable energy and REDD+ program. 			
Technical Needs Identified in INDC		<ul style="list-style-type: none"> Technical support from development partners to provide relevant technologies and support capacity building. Support from scientific and academic communities for loss and damage studies associated with climate change impacts. Technical support for monitoring and evaluation mechanisms. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2014. Latest GHG inventory submitted to UNFCCC was for 2000, prepared using Tier 1 methodology following 1996 IPCC Guidelines. No BUR submitted to date. 			



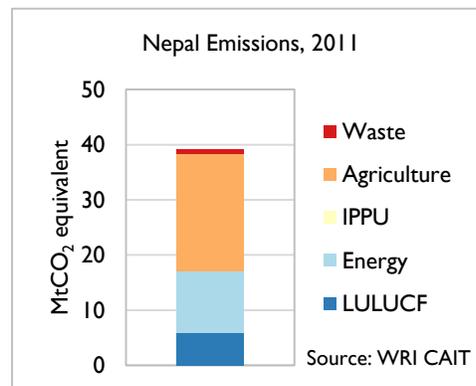
Mitigation^{xxvi}

- GHG emissions were 30.011 MtCO₂e in 2008 (excluding LULUCF).
- Nepal plans to develop a Low Carbon Economic Development Strategy.
- Nepal aims for 80% electrification through renewable energy sources and 50% reduction of fossil fuels through renewable energy and energy efficiency targets by 2050.
- Nepal aims to develop electrical (hydro-powered) rail network by 2040.



Adaptation

- Nepal is vulnerable to droughts, storms, floods, inundation, landslides, debris flow, soil erosion, and avalanches. Earthquakes accelerate vulnerabilities and risks to water, sanitation, and food security.
- Nepal is implementing adaptation and resilience programs with support from Least Developed Countries Fund (LDCF), multilateral agencies, and bilateral supports. Programs include:
 - Nepal Climate Change Support Programme,
 - Community-based Flood Risk and GLOF Risk Reduction Programme,
 - Ecosystem-based Adaptation Programme,
 - Hariyo Ban Project (climate adaptation component), and
 - Multi-stakeholder Forestry Programme (adaptation co-benefits).



Financing

- Direct cost of current climate variability and extreme events is 1.5-2% of current GDP/year (\$270-360 million/year in 2013 prices).
- Nepal has a dedicated climate change budget code in its fiscal planning and budgeting processes.
- Financial support is provided for relevant technologies, capacity building, and monitoring and evaluation mechanisms.
- Bilateral and multilateral grant support in identified priority areas to meet INDC targets.

Key Documents

- Second National Communication (2014)
- Climate Change Policy (2011)
- National Framework on Local Adaptation Plans for Action (2011)
- National Adaptation Programme of Action (2010)
- National Adaptation Plans
- Low Carbon Economic Development Strategy

^{xxvi} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Pakistan Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	Pakistan is committed to reduce its emissions after reaching peak levels to the extent possible subject to affordability, provision of international climate finance, transfer of technology, and capacity building.
		Basis of Target	Analytical Basis	N/A
			Existing Policies	<ul style="list-style-type: none"> Vision 2025 of Pakistan National Climate Change Policy National policies on agriculture, power, energy, energy efficiency, water, and other sectors
			Mitigation Actions	Pakistan will promote and support low-carbon, climate resilient development.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	N/A	
		Priority Sectors	N/A	
		Data Quality & Transparency	N/A	
	Participation	N/A		
	Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. No information provided on participation in international carbon markets. 		
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Technical support for improving quality of data, GHG inventories, and GHG projections. Capacity building and technology transfer. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted First National Communication in 2003. Latest inventory submitted to UNFCCC was for 1994, prepared using Tier I methodology following IPCC 1996 Guidelines. No BUR submitted to date. 		

Pakistan



Mitigation^{xxvii}

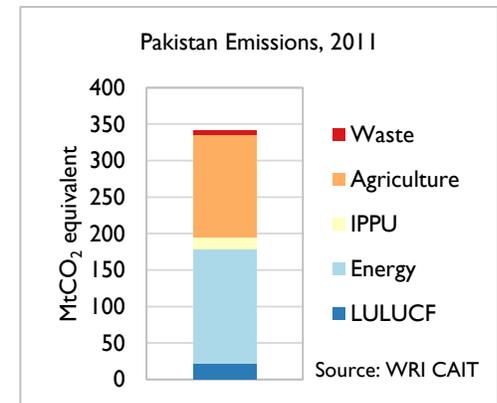
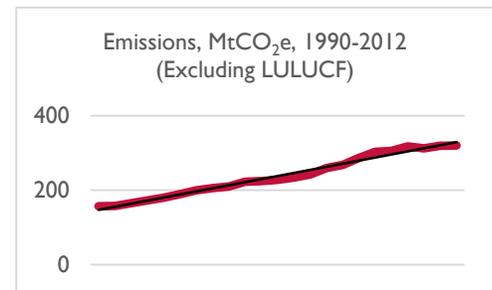
- A process of calculating the country's future emission projections through detailed studies and analysis is currently underway.
- INDC notes that potential for mitigation exists in all sectors of the economy but does not provide specific actions.

Adaptation

- INDC notes that adaptation is a vast area of untapped opportunities in Pakistan and that the country is currently engaged in consultations on the subject.

Financing

- No specific financing is mentioned.
- The investment costs for adaptation interventions are being determined in consultation with the provinces and other stakeholders, and will also be conveyed in due course.



Key Documents

- Pakistan Initial Communication (2003)
- Pakistan Vision 2025 (2014)

^{xxvii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Philippines Summary

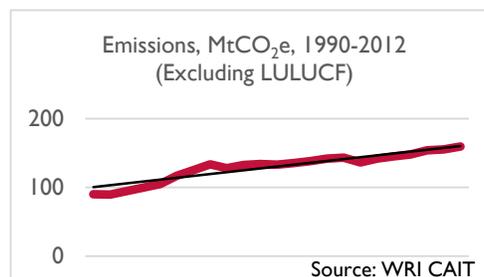
Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	Reduction of about 70% relative to BAU scenario by 2030
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> • Significant analytical basis for the INDC is apparent. • Assumptions for BAU scenario: emissions projected using historical GDP from 2010-2014, an annual average of 6.5% for 2015-2030, and average annual population growth of 1.85%. • Methodology/tools: Agriculture and Land Use (ALU) Software; Long Range Energy Alternative Planning (LEAP), Multi-criteria Analysis. • Assessments conducted: integration of climate change consideration in the assessment such as analysis of climate projections' impacts on hydropower potential as a renewable energy option; cost-benefit analysis including the marginal abatement cost curve until 2030 for some sectors; multi-criteria analysis for prioritizing mitigation actions.
			Existing Policies	<ul style="list-style-type: none"> • Philippine Development Plan • National Framework Strategy on Climate Change (NFSCC) • National Climate Change Action Plan • National Disaster Risk Reduction and Management Plan • Philippine National REDD+ Strategy
		Mitigation Actions	No information provided on specific mitigation actions.	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Yes; mainstreaming adaptation and disaster risk reduction into plans and programs at all levels. NFSCC identifies adaptation as the anchor strategy and considers mitigation as a function of adaptation.	
		Priority Sectors	Agriculture; Water; Health.	
		Data Quality & Transparency	No information provided on data quality or transparency.	
		Participation	Developed through “exhaustive, inclusive, and participatory process.”	
	Financial Assistance	No specific financing request included.		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> • Technical assistance needed for certain sectors, including grid efficiency improvement, standard development for energy and water efficiency, cost effective renewable energy, and alternative or high efficiency technology for conventional power generation. • Technology transfers/innovation needed to support adaptation/ minimization of loss-and-damages and enhanced mitigation capacity. • Need for external assistance to enable development/adoption of technologies to improve adaptive capacities and resilience (e.g., climate and natural hazard modeling, risk management measures). 		
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> • Submitted Second National Communication in 2014. • Latest inventory submitted to UNFCCC was for 2000, prepared following IPCC 2006 Guidelines. • No BUR submitted to date. 		

Philippines



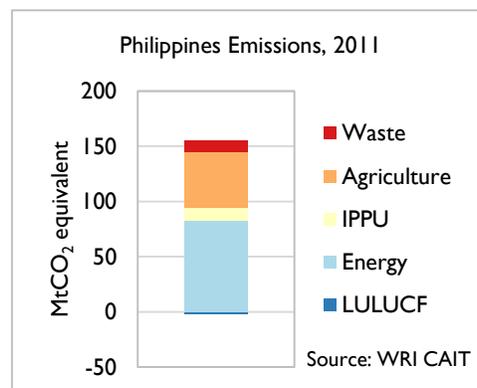
Mitigation^{xxviii}

- Assumptions used to design commitment:
 - Losses and damages from climate change/extreme events will not divert resources away from mitigation activities;
 - Identified co-benefits are realized; and
 - Climate projections were considered in the assessment of mitigation options.



Adaptation

- Priority measures include:
 - Institutional/system strengthening for downscaling climate change models, climate scenario-building, climate monitoring, and observation;
 - Roll-out of science-based climate/disaster risk and vulnerability assessment process as the basis for mainstreaming climate and disaster risks reduction in development plans, programs, and projects;
 - Development of climate- and disaster-resilient ecosystems;
 - Enhancement of climate- and disaster-resilience of key sectors: agriculture, water, and health;
 - Systematic transition to a climate and disaster-resilient social and economic growth; and
 - Research and development on climate change, extremes events, and impacts for improved risk assessment and management.
- Adaptation measures are prioritized to ensure that impacts of extreme events are minimized, supporting achievement of national development targets.
- Climate change and natural hazards will progressively impact sectors that are strategically important for the growth of the economy: agriculture, fisheries, and water resource management.



Key Documents

- Second National Communication (2014)
- National Climate Change Action Plan (2011)
- National Disaster Risk Reduction and Management Plan (2011)
- Philippine Development Plan (2011)
- National Framework Strategy on Climate Change (2010)

Financing

- Full implementation of INDC requires adequate, predictable, and sustainable financing.
- Public financing will prioritize adaptation to reduce vulnerability while at the same time providing a policy environment that will enable participation of the private sector to optimize mitigation opportunities and reduce business risks towards climate-smart development.

^{xxviii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Thailand Summary

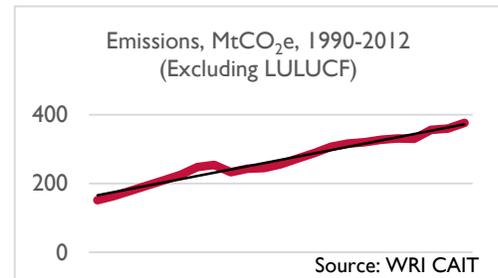
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 20% from BAU levels (555 MtCO ₂ e) by 2030.
			Conditional	Reduce GHG emissions by 25% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Used national statistics, sector activity, and socio-economic forecasts. Inclusion of LULUCF will be decided upon later.
			Existing Policies	<ul style="list-style-type: none"> Technology Needs Assessment Nine major energy and development plans (approved or awaiting approval by the Cabinet)
	Mitigation Actions		Mitigation actions focus on the energy sector and include: feed-in tariffs; tax incentives and access to investment grants/venture capital to promote renewable energy; and plans for the generation sector.	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Substantive and ongoing capacity building of stakeholders to be able to raise the necessary adaptive capacity to respond successfully.
		Priority Sectors		Agriculture; Water Resource Management; Modeling.
		Data Quality & Transparency		INDC expands on activities in the Technology Needs Assessment.
	Participation		INDC developed through a participatory process.	
Financial Assistance		<ul style="list-style-type: none"> No financing specifically requested. Thailand will continue to explore the potentials of bilateral, regional, and international market mechanisms/various approaches. 		
Technical Needs Identified in INDC		<ul style="list-style-type: none"> Addressing barriers for the energy sector, such as limitation of grid connection due to inadequate capacity of transmission lines; lack of energy efficiency and renewable energy investments; lack of domestic technological and technical resources; and negative public perception. Addressing needs in the agriculture sector, including forecasting and early warning system technologies; crop improvement technologies; and precision farming technologies. Addressing water resource management needs, such as networking and management of infrastructures; seasonal climate prediction; and sensor web using observation and/or modeling data. Addressing modeling needs, such as developing an integrated national data center; national data transfer/management process and advanced research; weather research and forecasting model; and an integrated model to address agriculture and water management needs. Increasing public awareness through lessons learned and showcasing successes from demonstration projects. 		
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Submitted Second National Communication in 2011. Latest inventory submitted to UNFCCC was for 2000, prepared using Tier 1 and 2 methodology following IPCC 1996 and 2000 Guidelines. No BURs submitted to date. 	

Thailand



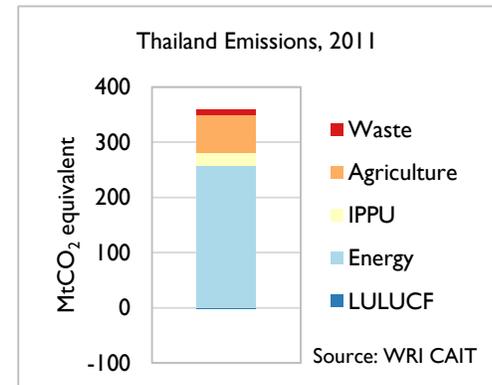
Mitigation^{xxix}

- WRI CAIT estimates that the energy sector accounted for 70% of total GHG emissions in 2011.
- Thailand is continuing activities associated with the pre-2020 pledge of 7-20% GHG reduction by 2020 below BAU in the energy and transport sectors.



Adaptation

- INDC includes list of 12 prioritized adaptation efforts:
 1. Promote integrated water resources management;
 2. Safeguard food security;
 3. Promote sustainable agriculture and good agriculture practices;
 4. Increase capacity to manage climate-related health impacts;
 5. Increase national forest cover to 40%;
 6. Safeguard biodiversity and restore ecological integrity in protected areas;
 7. Develop participatory, integrated marine conservation and coastal rehabilitation plan;
 8. Promote nature-based and sustainable tourism;
 9. Strengthen disaster risk reduction and reduce population's vulnerability to climate risks and extreme weather events;
 10. Strengthen climate modeling capacity;
 11. Establish effective early warning system and enhance the adaptive capacity of national agencies; and
 12. Build regional climate resilience by serving as a knowledge hub.
- Thailand has significant coastline that is vulnerable to coastal flooding. The southern peninsula is projected to experience heavier rainfalls while the arid, inland, northeastern region is expected to become drier. As a result, severe flooding and drought can be expected.



Key Documents

- Second National Communication (2011)
- Technology Needs Assessment (2012)

Financing

- During 2009-2011, the budget for adaptation actions in Thailand accounted for 68% of the total budget for climate change. The need for adaptation finance is expected to substantially increase, consequently creating extra burden on an already scarce government fiscal budget of Thailand.

^{xxix} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Vietnam Summary

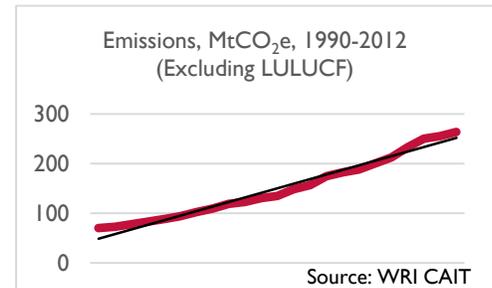
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 8% from BAU levels (787.4 MtCO ₂ e) by 2030; reduce emission intensity per unit of GDP by 20% by 2030 relative to 2010.
			Conditional	Reduce GHG emissions by 25% from BAU levels in 2030; reduce emission intensity per unit of GDP by 30% relative to 2010.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> • BAU developed based on data from National Statistics Yearbooks from ministries, agencies, and published research results. • Emissions forecast based on assumption of economic growth in the absence of climate change policies. Excludes industrial processes.
			Existing Policies	<ul style="list-style-type: none"> • Mitigation strategy is based on: Law on Environment; Law on Economical and Efficient Use of Energy; National Climate Change Strategy; and National Green Growth Strategy. • Adaptation strategy is based on: Resolution No. 24-NQ/TW on “Pro-actively responding to climate change, enhancing natural resource management and environmental protection”; Law on Natural Disaster Prevention and Control; National Climate Change Strategy; and National Target Programme to Respond to Climate Change.
			Mitigation Actions	<ul style="list-style-type: none"> • Mitigation actions include activities focused on energy efficiency, fuel use in industry and transportation, increasing renewable energy, sustainable agriculture, sustainable forests, and waste management. • Implementing NAMAs and carbon credit projects according to the Verified Carbon Standard and Gold Standard. • Non-GHG unconditional contribution of increasing forest cover to 45% by 2030.
		Adaptation	Included in INDC	Yes
	Implementation Strategies		Respond pro-actively to disasters; improve monitoring; implement ecosystem-based adaptation; ensure water and food security; integrate urban planning with sea level rise scenarios.	
	Priority Sectors		Urban Infrastructure; Coastal Areas; Water Resources.	
	Data Quality & Transparency		Developing activities based on community-based adaptation structures.	
	Participation	INDC developed with participation from different line ministries, NGOs, research institutions, business sector representatives and international development partners.		
	Financial Assistance	<ul style="list-style-type: none"> • No specific financing request included. • INDC indicates need for international financial assistance. 		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> • Establish a national GHG inventory system and MRV systems. • Support with NAMA development and implementation. • Application of technologies to reduce GHGs, especially in the agriculture sector. • Access to national and foreign finance for mitigation activities. • Technology transfer for real-time forecasting, tools to assess vulnerability and adaptation measures, technology for sustainable use of water resources and erosion protection, and technology for sustainable agriculture. 		



Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2010. Latest inventory submitted to UNFCCC was for 2010, prepared using Tier 1 and 2 methodology following the Revised 1996 IPCC Guidelines. First BUR submitted in 2014 with inventory for 2010.
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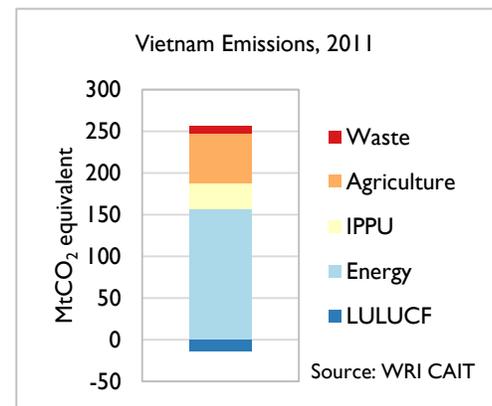
Mitigation^{xxx}

- BUR reports that the majority of country emissions in 2000 were from agriculture and energy.
- A roadmap with methods to implement GHG mitigation efforts to achieve INDC will be issued.
- INDC proposed nine categories of mitigation measures with multiple activities in each.
- Vietnam had 245 CDM projects accredited and registered, over 85% in the energy sector.



Adaptation

- Focus is on minimizing risk to disasters with modernized forecasting, responding to sea level rise with updated infrastructure, and improving public facilities and housing.
- Red River Delta, Mekong Delta and the Central Coast are susceptible to sea level rise. When sea level raises 100cm, 35% of Vietnam’s population and 40.5% of total rice production in these regions are at risk.
- Measures to prevent river floods, storm surges, saline water intrusion, and drought are needed.



Financing

- The cost of adaptation is estimated to exceed 3-5% of Vietnam’s GDP by 2030. Vietnam can cover only 30% of adaptation needs.

Key Documents

- Second National Communication (2010)
- Biennial Update Report (2014)
- National Green Growth Strategy (2012)
- National Climate Change Strategy (2011)
- National Target Programme to Respond to Climate Change (2008, 2012)

^{xxx} World Resources Institute. CAIT: WRI’s Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

5. Europe & Eurasia

The sections below provide detailed information on the contributions made for each of the following countries in Europe and Eurasia:

- Albania
- Georgia
- Macedonia
- Moldova
- Serbia
- Ukraine

The icons at the top of each profile note whether the country is an EC-LEDS country (ECL) and whether it receives Clean Energy (CE), Adaptation (A), or Sustainable Landscapes (SL) funding from USAID. A summary of common findings for Europe and Eurasia as a region begins in Section 7.3.

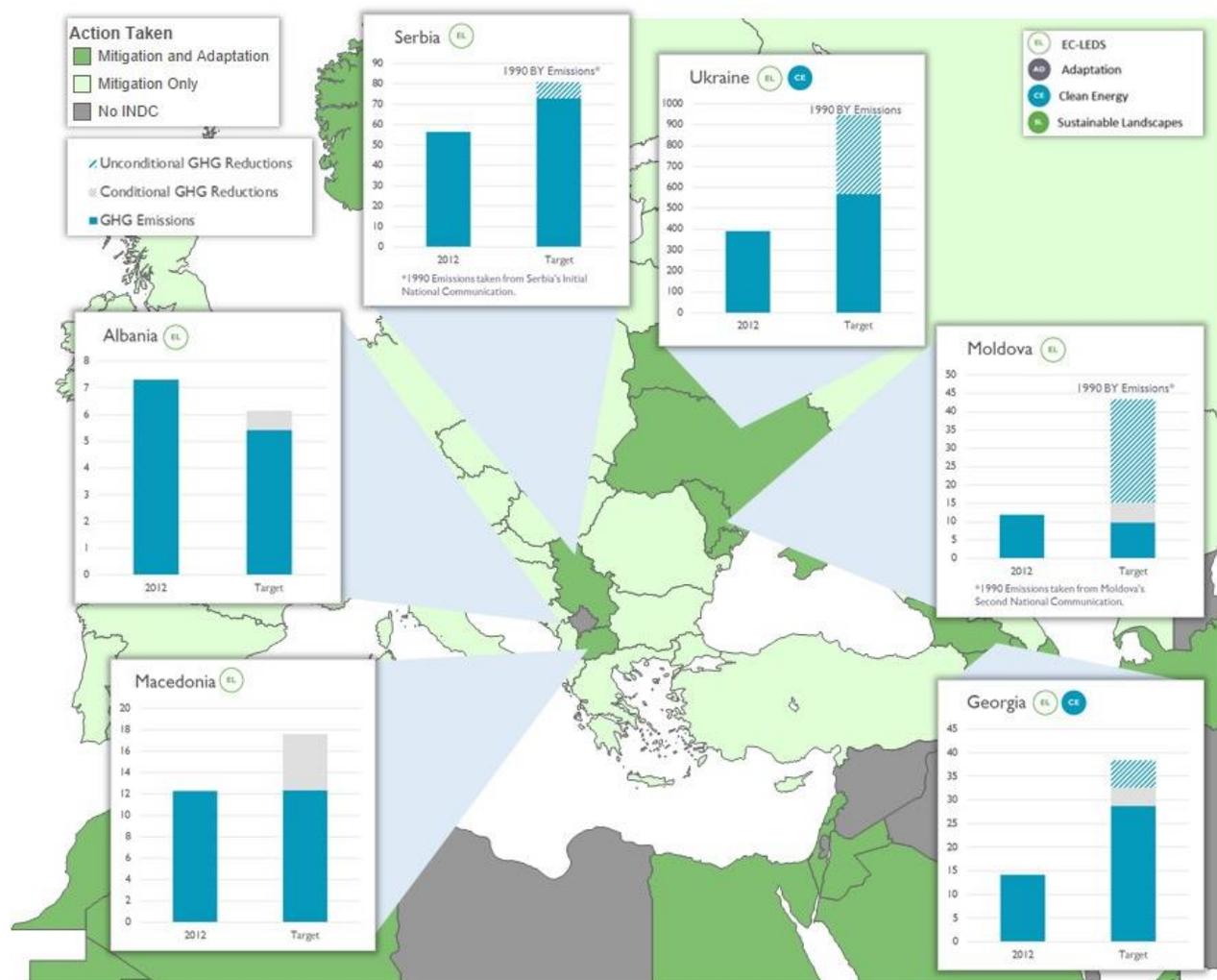


Figure 11: Map of INDCs submitted to date and intended contributions for EC-LEDS and priority countries in E&E. 2012 emissions data is taken from WRI's CAIT Climate Data Explorer. Base year emissions are taken from country INDCs, where available, or the latest national communication.



Albania Summary

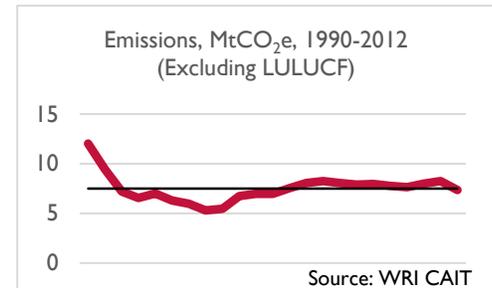
Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A		
			Conditional	Reducing CO ₂ emissions by 11.5% by BAU levels by 2030.		
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Only energy and industrial processes sectors covered. GHG emissions and removals from agriculture and LULUCF are not included. Scenarios were developed taking into consideration the draft of the Third National Communication. BAU scenario of emissions is projected based on economic growth in the absence of climate change policies, starting from 2016. 		
				Existing Policies	The INDC will form the basis of the Environmental and Climate Change strategy that is being developed.	
				Mitigation Actions	No information provided on specific mitigation actions.	
	Adaptation	Included in INDC		No		
		Implementation Strategies		N/A		
		Priority Sectors		N/A		
		Data Quality & Transparency		N/A		
	Participation			Planning process included consultations with government stakeholders and the general public.		
	Financial Assistance			<ul style="list-style-type: none"> No specific financing request included. Albania intends to sell carbon credits to contribute to cost-effective implementation of LEDS pathway and sustainable development. 		
	Technical Needs Identified in INDC			Albania identified high uncertainty regarding emission data in the LULUCF sector and non-CO ₂ GHG emissions and removals.		
	Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Submitted Second National Communication in 2009. Latest inventory submitted to UNFCCC was for 2000, prepared following using Tier I methodology IPCC 1996 Guidelines. No BUR submitted to date. 		

Albania



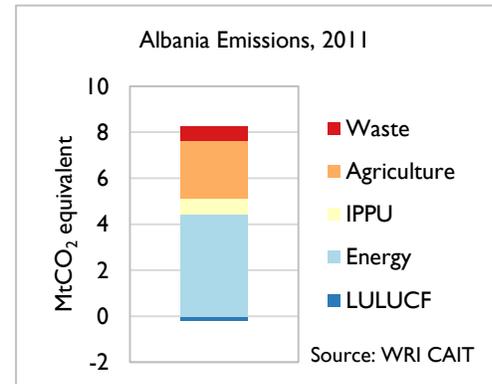
Mitigation^{xxxix}

- GHG contributions is equivalent to a 0.708 MtCO₂e reduction in 2030.
- Since Albania uses predominantly hydro power in its electricity sector and there is “limited opportunity for further policies and measures in this sector to reduce emissions”, mitigation contributions will come from decoupling emissions from growth in other sectors such as agriculture and LULUCF.



Adaptation

- Adaptation has not been discussed in the INDC. However, there is a section on Adaptation in Albania’s SNC, including a draft adaptation plan where various adaptation measures are considered. Some key measures are:
 - Include adaptation actions in development policy and planning and every sector/level;
 - Identification of existing practices and decisions used to adapt to different climates; and
 - Promote stakeholder awareness of environmental and socio-economic implications of climate variability and change.



Financing

- No specific funding request is included.

Key Documents

- Second National Communication (2009)
- Policy Document of Carbon Financing in Albania (2009)
- Intersectoral Environmental Strategy 2007-2013
- National Strategy for Development and Integration (2007-2013)

^{xxxix} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Georgia Summary

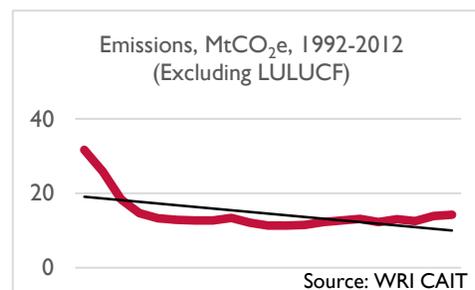
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 15% from BAU levels (38.42 MtCO ₂ e) by 2030.
			Conditional	Reduce GHG emissions by 25% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> All sectors covered except LULUCF. No information provided on the methodology for calculating BAU. IPCC's 1996 and 2006 Guidelines and the Good Practice Guidance were used for estimating emissions.
			Existing Policies	The INDC is largely based on currently available results achieved during the LEDS preparation process.
		Mitigation Actions	Mitigation actions include: <ul style="list-style-type: none"> Energy efficiency measures; Sustainable energy development; and Reforestation. 	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Yes; integrating climate risk and resilience into development planning and implementation activities.
		Priority Sectors		Agriculture; Housing and Development; Forestry.
		Data Quality & Transparency		No information provided on data quality or transparency.
	Participation		No information provided on participatory process for INDC.	
Financial Assistance		<ul style="list-style-type: none"> No specific financing request included. INDC indicates need for international financial assistance. 		
Technical Needs Identified in INDC		<ul style="list-style-type: none"> Financial and technical support for the development of forest inventories and remote sensing. International support for the development and transfer of technologies to increase its adaptive capacity. 		
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Submitted Second National Communication in 2009. Latest inventory submitted to UNFCCC was for 2000, prepared using Tier I methodology following IPCC 2006 Guidelines. No BURs submitted to date. 	

Georgia



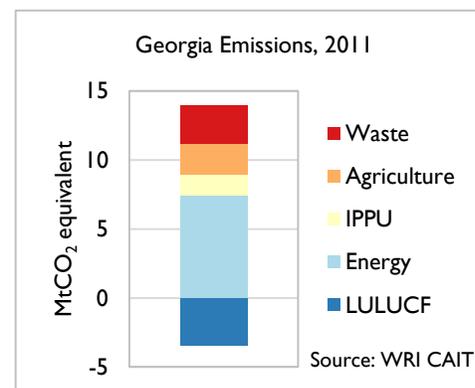
Mitigation^{xxxii}

- Georgia's emissions have decreased over the period of 1992 through 2012.
- Georgia plans to finalize its Low Emissions Development Strategy and draft its first National Energy Efficiency Action Plan in 2016.
- Three NAMAs under development include:
 - Gender-Sensitive NAMA for Sustainable Energy in Rural Areas;
 - Vertically Integrated NAMA for the Urban Transport Sector; and
 - NAMA for Low Carbon Buildings in Georgia.



Adaptation

- Georgia's main goals are to improve country's preparedness and adaptive capacity by developing climate resilient practices that reduce vulnerability of highly exposed communities.
- Government of Georgia is working on preparing the National Adaptation Plan in order to further advance the implementation of adaptation actions.
- Agriculture is a priority because it is a key economic sector and has suffered consequences of changing climate from prolonged droughts, which have threatened productivity and food security.
- Sea level rise is projected to impact coastal zones of Georgia, so coastal adaptation is important to minimize economic losses. Integrated coastal planning and management instruments a priority.
- In the forestry sector, Georgia prioritizes three options for climate change mitigation activities:
 - Establishing sustainable forest management practices;
 - Conducting afforestation/reforestation and assisting natural regeneration; and
 - Expanding the protected forest area.



Key Documents

- Second National Communication (2009)
- Low Emissions Development Strategy (pending 2016)
- National Energy Efficiency Action Plan (pending 2016)

Financing

- No specific funding request is included although need for international financial support for both mitigation and adaptation measures is mentioned.
- INDC notes that economic losses without adaptation measures will cost US\$10 to US\$12 billion between 2021 and 2030, while the adaptation measures will cost US\$1.5 to US\$2 billion.

^{xxxii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



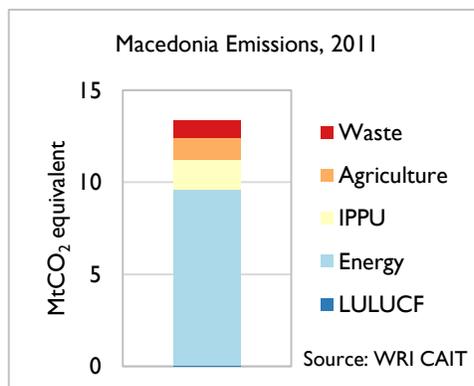
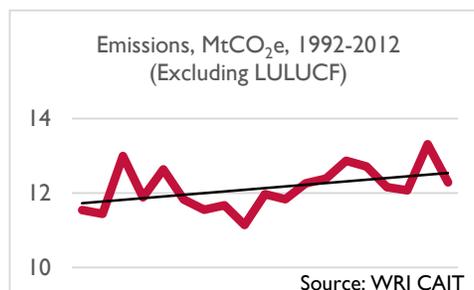
Macedonia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	N/A
			Conditional	<ul style="list-style-type: none"> Mitigation with existing measures (WEM): Reduce CO₂ emissions from fossil fuels combustion by 30% from BAU levels by 2030. Higher ambition scenario with additional measures (WAM): Reduce CO₂ emissions from fossil fuels combustion by 36% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Significant analytical basis for the INDC is apparent. Modeling and scenario development used MARKAL energy planning model (least cost optimization) and bottom up-approach (modeling of policies and measures one by one and comparison to the BAU scenario) to 2035. Marginal abatement cost curves used to model mitigation options. BAU methodology assumed 4.5% annual GDP growth rate, population growth rate of -0.09%, no additional hydro power plant resources, and no nuclear development.
			Existing Policies	National Sustainable Development Strategy titled “Climate Change and Clean Energy”
			Mitigation Actions	Mitigation actions include: <ul style="list-style-type: none"> Reducing distribution losses and developing renewable energy sources; Building refurbishment; Increasing the use of railways; and Renewing the vehicle fleet.
	Adaptation		Included in INDC	No
			Implementation Strategies	N/A
			Priority Sectors	N/A
			Data Quality & Transparency	N/A
		Participation	INDC developed with participation from multiple ministries, technical working groups, and international donor partners, including UNDP.	
		Financial Assistance	<ul style="list-style-type: none"> US\$4.5 billion for implementation of the WEM scenario and US\$4.8 billion for WAM scenario (2015-2030). Macedonia will consider linking new market mechanisms and non-market approaches to its national mitigation actions in the future. 	
		Technical Needs Identified in INDC	<ul style="list-style-type: none"> Detailed analyses of vulnerable sectors and climate change adaptation. Estimating emissions from agriculture, forestry and other land uses, as well as industrial processes and waste. 	
	Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Third National Communication in 2014. Latest inventory submitted to UNFCCC was for 2009, prepared following IPCC 2006 Guidelines using a combination of Tier 1 and 2 methodologies for Energy and Tier 1 for other sectors. First BUR submitted in 2015. 	



Mitigation^{xxxiii}

- The INDC is focused on mitigation of CO₂ emissions from fossil fuel combustion, which accounts for 80% of total emissions.
- The INDC includes a mitigation scenario with existing mitigation policies and measures (WEM) and an ambitious scenario that includes additional measures (WAM) such as additional natural gas and geothermal plants, phasing out incandescent light bulbs, and the electrification of transport. List of measures are included in the INDC.
- The INDC preparation was led by the Ministry of Environment and Physical Planning and aided by the National Climate Change Committee and the Technical Working Group at the National Sustainable Development Council. Other stakeholders include the Ministry of Economy, the Ministry of Transport and Communications, as well as roles from United Nations Development Programme (UNDP) and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ).



Adaptation

- No discussion of adaptation in INDC.
- Adaptation measures discussed in Macedonia's Third National Communication prioritize the following sectors: water resources, agriculture, biodiversity, forestry, human health, and cultural heritage.

Key Documents

- Third National Communication (2014)
- Biennial Update Report (2015)
- National Sustainable Development Strategy

Financing

- In period of 2015-2030, the investments needed for the mitigation activities are US\$4.5 billion. Investment of US\$4.8 billion needed for a more ambitious mitigation goal.
- Implementation of the national mitigation policies and measures also depends on the involvement of the private sector, access to new sources of finance, and enhanced international support (i.e., to be mobilized through new climate finance mechanisms, such as the Green Climate Fund).

^{xxxiii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



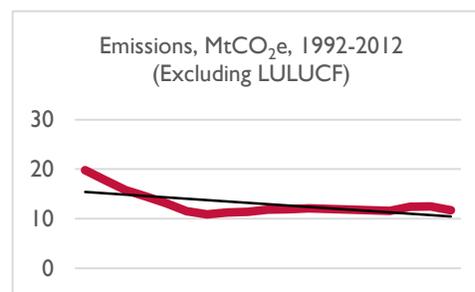
Moldova Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 64-67% below 1990 level in 2030.
			Conditional	Reduce GHG emissions by 78% below 1990 level in 2030.
		Basis of Target	Analytical Basis	Mitigation potential assessed on a sectoral basis.
			Existing Policies	<ul style="list-style-type: none"> Adaptation strategy is based on Moldova’s Climate Change Adaptation Strategy and Action Plan.
			Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> Energy efficiency measures; and Increasing the share of renewable energy through technology implementation, demand management, and policy instruments.
	Adaptation	Included in INDC		Yes
		Implementation Strategies		The Climate Change Adaptation Strategy and Action Plan is intended to serve as umbrella strategy that creates the enabling environment for specific sectors and ministries to mainstream climate change adaptation in their existing and future strategies.
		Priority Sectors		Agriculture; Water Resources; Forestry; Human Health; Energy; Transport.
		Data Quality & Transparency		INDC cites numerous gaps and barriers to adaptation implementation in the areas of: policy frameworks; coordination mechanisms; institutional capacities and planning; mainstreaming climate change adaptation into policies, plans, and budgetary process; technology transfer; and financing climate change adaptation interventions.
	Participation		No information provided on participatory process for INDC.	
Financial Assistance		<ul style="list-style-type: none"> US\$4.9 to US\$5.1 billion per year until 2030 for achieving conditional contribution. Moldova may use bilateral, regional, and international market mechanisms to achieve its conditional 2030 target. 		
Technical Needs Identified in INDC		<ul style="list-style-type: none"> Research and development enhancement to meet adaptation targets, including the need for national research on climate change to be linked to international research efforts. Support by appropriate financial mechanisms for the implementation of climate change adaptation objectives. 		
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Submitted Third National Communication in 2014. Latest inventory submitted to UNFCCC was for 2010, prepared following IPCC 2006 Guidelines. No BUR submitted to date. 	



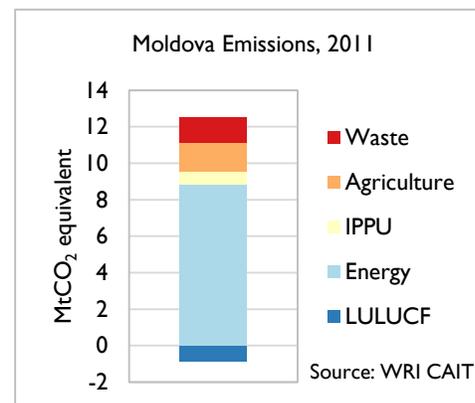
Mitigation^{xxxiv}

- Emissions reductions will come from targets in seven economic sectors, including power production, buildings, industry, agriculture, transport, waste, and LULUF.
- Relevant legislative acts for the INDC implementation are required and may require approval at the Parliamentary level.
- In 2010, Moldova joined the Copenhagen Accord and submitted an emission reduction target to the UNFCCC Secretariat. The target was provided without specific nationally appropriate mitigation actions.



Adaptation

- The Republic of Moldova's Climate Change Adaptation Strategy until 2020 and the Action Plan on its implementation have been recently approved. The objectives include:
 - By 2018, create an institutional framework that would assure efficient implementation of adaptation measures;
 - By 2020, create a mechanism to monitor impacts and the related social and economic vulnerability; and
 - By 2020, assure the development of climate resilience by reducing at least by 50% the climate change vulnerability and facilitate climate change adaptation in six priority areas (agriculture, water resources, forestry, human health, energy, and transport).



Financing

- In order to reach the conditional target of up to 78% reduction of its GHG emissions by 2030 compared to 1990 levels, appropriate international financial support equal to approximately US\$ 4.9-5.1 billion, i.e. about US\$ 327-340 million per year until 2030, is needed; the support needed will be in addition to the domestic allocations to cover the required abatement costs.
- The implementation cost of the Republic of Moldova's Climate Change Adaptation Strategy until 2020 and the Action Plan is estimated at about US\$200 million.
- In 2013, the estimated amount of external assistance was US\$336.8 million for a suite of broadly defined projects with an adaptation component.

Key Documents

- Third National Communication (2014)
- Republic of Moldova Climate Change Adaptation Strategy until 2020
- Republic of Moldova Climate Change Action Plan

^{xxxiv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Serbia Summary

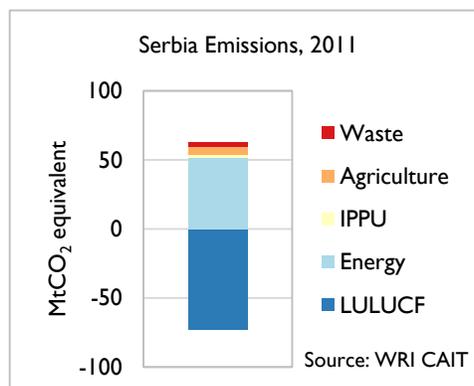
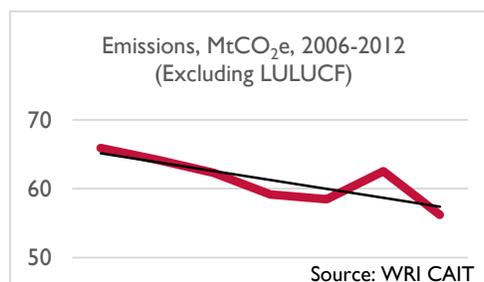
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 9.8% below 1990 level by 2030.
		Target	Conditional	N/A
		Basis of Target	Analytical Basis	GHG emissions estimated using IPCC 2006 Guidelines and IPCC 2013 Kyoto Protocol Supplement.
			Existing Policies	Serbia is an European Union (EU) candidate country and thus is harmonizing with the EU legislation.
			Mitigation Actions	No information provided on specific mitigation actions.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	No information provided on specific implementation strategies.	
		Priority Sectors	Agriculture; Hydrology; Forestry; Human Health; Biodiversity.	
		Data Quality & Transparency	No information provided on data quality or transparency.	
	Participation	Not specified		
Financial Assistance	<ul style="list-style-type: none"> No specific financing request included. No information provided on participation in international carbon markets. 			
Technical Needs Identified in INDC	<ul style="list-style-type: none"> Technical support for improving quality of data, GHG inventories, and GHG projections. Technical support for assessing mitigation and adaptation opportunities. 			
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Initial National Communication in 2010. Latest inventory submitted to UNFCCC was for 1998, prepared using Tier I methodology following the Revised 1996 IPCC Guidelines. No BURs submitted to date. 		

Serbia



Mitigation^{xxxv}

- Serbia plans to finalize its climate change strategy and action plan in 2017. This strategy will further define the precise activities, methods, and implementation deadlines.
- The INC notes mitigation opportunities for each sector:
 - Energy: increase energy efficiency, increase renewable energy
 - Industrial Processes: minimal possibilities
 - Agriculture: use biogas for heat generation or cogeneration of heat and power for local use
 - Forestry: afforestation
 - Waste Management: establishing regional landfills, increasing recycling, introduce co-combustion of selected waste
- In 2010, Serbia expressed readiness for a voluntary GHG emission reduction until 2020 compared to emissions in 1990.



Adaptation

- Serbia estimates that over US\$5.4 billion of damage was caused by extreme climate and weather conditions between 2000 and 2015. Approximately 70% of losses are associated with drought and high temperatures.
- No analysis has been conducted of the damage resulting from long-term slow changes in the climate system that has been observed in the past decades.
- From the mid-20th century, the river discharges generally record a negative trend. Droughts, insect invasions, and the occurrence of forest fires have significantly influenced forest ecosystems in Serbia. Climate change will affect crop production, and the impacts of climate change on health are becoming more pronounced in recent years.
- The INC lists short term adaptation measures for hydrology and water resources, forestry, agriculture, biodiversity and natural terrestrial ecosystems, and health.

Key Documents

- Initial National Communication (2010)

Financing

- INDC notes total estimated investment in implementation of projects that can be considered as adaptation measures for 2000-2015 is approximately US\$68 million (no long-term estimates).

^{xxxv} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

Ukraine Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions to 60% of 1990 levels by 2030.
			Conditional	N/A
		Basis of Target	Analytical Basis	N/A
			Existing Policies	<ul style="list-style-type: none"> The National Action Plan on Energy Efficiency through 2020 (draft) Decree of the Cabinet of Ministries of Ukraine “On approval of the National Action Plan on Renewable Energy through 2020” Decree of the President of Ukraine “On the Ukraine-2020” Sustainable Development Strategy (expected December 2015)
			Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> Adopting relevant legislative acts for INDC implementation; Implementation of the Association Agreement between the EU, the European Atomic Energy Community, and their Member States; Development of long-term action plan for mitigation and adaptation; and Designing and implementing long-term actions aimed at reducing and increasing absorption of GHGs.
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Ukraine will support national adaptation processes in the context of the international commitments in this field. For a medium-term outlook, adaptation activities will be considered with the same priority as mitigation activities.
		Priority Sectors		N/A
		Data Quality & Transparency		No information provided on data quality or transparency.
	Participation		No information provided on participatory process for INDC.	
	Financial Assistance		<ul style="list-style-type: none"> No specific financing request included. INDC indicates need for international financial assistance. Ukraine will participate actively in the development of existing international market mechanisms and implementation of new ones. Ukraine’s intended contribution is not reliant on participation in international market mechanisms. 	
	Technical Needs Identified in INDC		No specific technical needs identified in INDC.	
	Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Sixth National Communication and BUR1 submitted to the UNFCCC in 2013. Most recent National Inventory Report submitted to the UNFCCC in 2015, covering inventory years 1990-2013, and using IPCC 2006 Guidelines and the IPCC 2013 supplements.

Ukraine



- 1990 emissions were 944.4 MtCO₂e excluding LULUCF, and 874.6 MtCO₂e in 1990 including LULUCF.
- Pursuant to Annex B of the Doha Amendment to the Kyoto Protocol, Ukraine set a 2020 GHG target equal to 76% of the 1990 level.
- Ambition of stated target involves significant planned structural changes, restoration and development of infrastructure, and post-war reconstruction.

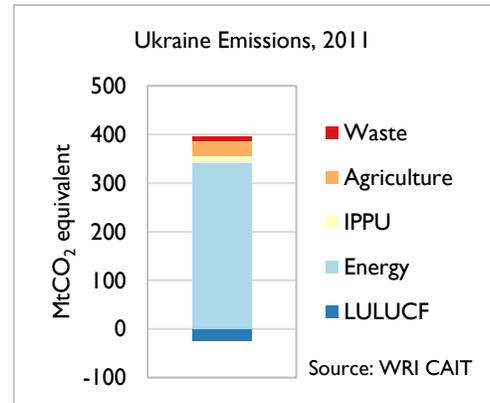
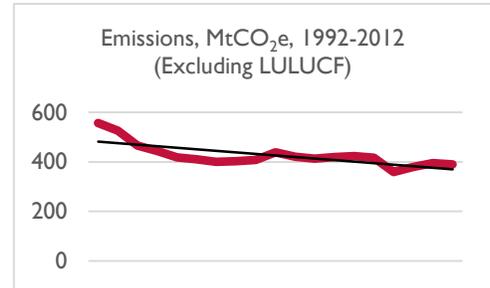
Adaptation

- Limited information is provided on adaptation in INDC.

Financing

- Limited information is provided on financial assistance in INDC.

^{xxxvi} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Key Documents

- National Inventory Report (2015)
- Sixth National Communication (2013)
- Biennial Update Report (2013)
- The National Action Plan on Energy Efficiency through 2020 (draft)
- Ukraine 2020 Sustainable Development Strategy

6. Latin America and Caribbean

The sections below provide detailed information on the contributions made for each of the following countries in Latin American and Caribbean:

- Colombia
- Costa Rica
- El Salvador
- Guatemala
- Jamaica
- Mexico
- Peru

The icons at the top of each profile note whether the country is an EC-LEDS country (ECL) and whether it receives Clean Energy (CE), Adaptation (A), or Sustainable Landscapes (SL) funding from USAID. A summary of common findings for Latin America and Caribbean as a region begins in Section 7.4.

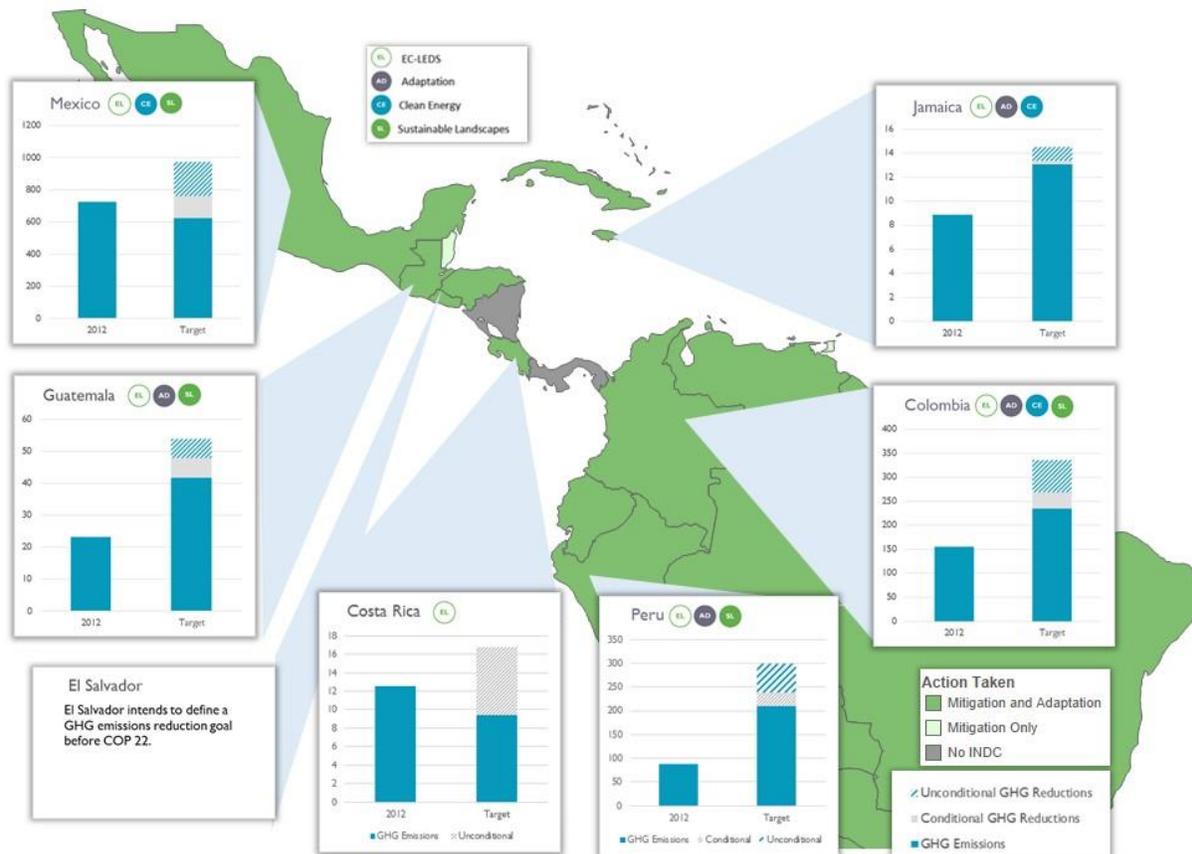


Figure 12: Map of INDCs submitted to date and intended contributions for EC-LEDS and priority countries in LAC. 2012 emissions data is taken from WRI's CAIT Climate Data Explorer. Business-as-usual emissions are taken from country INDCs, where available.



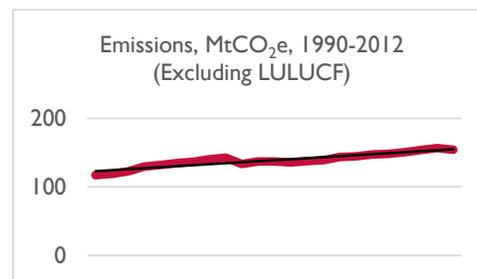
Colombia Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 20% from BAU levels (335 MtCO ₂ e) by 2030.
			Conditional	Reduce GHG emissions by 30% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> BAU scenario developed using 2010 GHG inventory data. Scenario projections developed using expert input, macroeconomic assumptions, analysis of current and prospective policies, and official information regarding historical path of emissions.
			Existing Policies	<ul style="list-style-type: none"> Policy Document CONPES 3700 Colombian Low Carbon Development Strategy National Strategy for REDD+ National Adaptation Plan for Climate Change National Climate Change Policy
	Mitigation Actions		<ul style="list-style-type: none"> Mitigation measures prioritized through eight sectoral action plans. Land use change mitigation measures have been identified and are part of the REDD+ strategy (amongst others). 	
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	No information provided on specific implementation strategies.	
		Priority Sectors	Transport; Housing; Energy; Agriculture; Health.	
		Data Quality & Transparency	No information provided on data quality or transparency.	
	Participation	Adaptation plans are coordinated by territories and developed through a participatory methodology, including dialogues, workshops, and working sessions, with experts from public and private entities, academia, and civil society.		
	Financial Assistance	<ul style="list-style-type: none"> No specific funding requests listed in INDC. Colombia will explore the use of market instruments as a cost-effective approach to achieve the emissions reductions target. 		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> Actively integrate national institutes and entities with relevant UNFCCC mechanisms for technology transfer. Formulate climate change plans in the medium and long-term that foster competitive and sustainable cities. Develop policy instruments for climate to be directed at establishing mitigation and adaptation actions. 		
	Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2010. Latest Inventory for 2004, submitted to UNFCCC in 2010, prepared using Tier 1 and 2 methodologies following IPCC 2006 Guidelines. No BURs submitted to date. 	



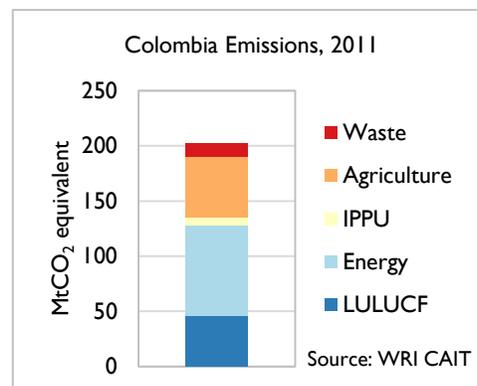
Mitigation^{xxxvii}

- The INDC notes that the AFOLU sector was responsible for 58% of Colombia’s emissions in 2010.
- Mitigation potential of energy sector is more limited, as 68% of electricity is already hydroelectricity.
- BAU scenario is 224 MtCO_{2e} for 2010, 278 MtCO_{2e} for 2020, and 335 MtCO_{2e} for 2030.
- The targets in the INDC are facilitated by existing policies, which allow for the incorporation of climate change management in development decisions.



Adaptation

- Colombia has formulated 11 territorial adaptation plans that have focused on the Caribbean and Andean regions.
- Ministries are developing sectorial adaptation plans; agriculture and primary road network plans have been completed.
- Colombia is a climate-dependent economy; the 2010-2011 “La Nina” phenomenon caused estimated damages of US\$ 6 billion, affecting over 3.2 million people.
- From 1998-2012, 90% of emergencies were related to hydro-climatological phenomenon; therefore, the synergy of mitigation and adaptation is prioritized.
- Prioritized adaptation actions include developing climate change plans and indicators for monitoring, strengthening education, protecting the Andean ecosystem, and improving adaptation for agricultural subsectors.



Financing

- Colombia has made progress in identifying financing resources and defining a climate-finance strategy.
- Colombia is an active participant in CDM funding projects.

Key Documents

- Second National Communication (2010)
- Colombian Low-Carbon Development Strategy (2012)
- National Adaptation Plan for Climate Change (2011)
- Policy Document CONPES 3700
- National Strategy for Reducing Emissions from Deforestation and Forest Degradation

^{xxxvii} Emissions estimates by Colombian Hydrology, Meteorology and Environmental Studies Institute (IDEAM) for the First Biennial Update Report, provided in INDC

Costa Rica Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Limiting GHG emissions to 9.374 MtCO ₂ e by 2030 (representing a 44% reduction of GHG emissions from BAU levels by 2030).
			Conditional	Carbon-neutral by 2021, with total emissions comparable to 2005 level.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> Emission reduction targets based on national scientific consensus and are validated by IPCC's criteria. Costa Rica has developed marginal abatement cost curves to identify and prioritize mitigation measures.
			Existing Policies	<ul style="list-style-type: none"> Costa Rica's National Climate Change Strategy Technological Needs Assessment 2015-2018 National Development Plan
		Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> Reducing energy demand through energy efficiency, conservation, and low emissions development pathways; Decarbonizing energy supply (electricity, liquids, and gases); Enhancing carbon sinks through land management and reforestation; and Fuel switching in buildings, transport, and industry. 	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Contributions in adaptation include: designing a road map for National Adaptation Plan (and developing before 2018); continuing Green and Inclusive Development policy; enhancing food security and infrastructure resilience through management of agro-forestry systems and watersheds and municipal land use planning; and linking adaptation to National Disaster Risk Management Policy.
		Priority Sectors		Water Supply; Agriculture; Public Transportation Integration and Decongestion; and Energy Conservation and Efficiency.
		Data Quality & Transparency		National Climate Change Strategy defined framework for climate change policies and set six strategic pillars, which include mitigation and adaptation.
	Participation			<p>"Open-Government" policy includes many stakeholders in government processes and makes data as transparent and available as possible. Sector-wide dialogues were organized by Costa Rica's government during development of the INDC.</p>
	Financial Assistance			<ul style="list-style-type: none"> No financial support specifically requested. Costa Rica reserved the right to use international compensation units (or units in its Domestic Compensation Market) to accomplish goals.
	Technical Needs Identified in INDC			<ul style="list-style-type: none"> Develop National Adaptation Plan. Finalize National Disaster Risk Management Policy for 2016-2030. Consolidate environmental services payments program and forest certification program, and promote the National Biological Corridor System and National Protected Areas System. Clearly define rights over forest resources, carbon, and other environmental services. Identify sector and regional vulnerabilities, establish priorities for targeting future studies, and develop practices to reduce these vulnerabilities.



		<ul style="list-style-type: none"> Develop specific methods and tools to evaluate climate change impact, vulnerabilities, and adaptation of specific sectors and regions.
Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Third National Communication in 2014. Latest inventory submitted to UNFCCC was for 2010; limited information on GHG accounting methodology provided. No BURs submitted to date.

Mitigation^{xxxviii}

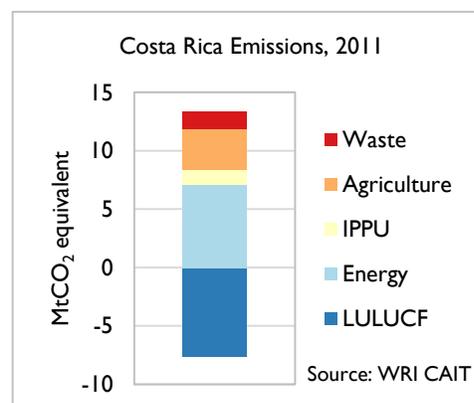
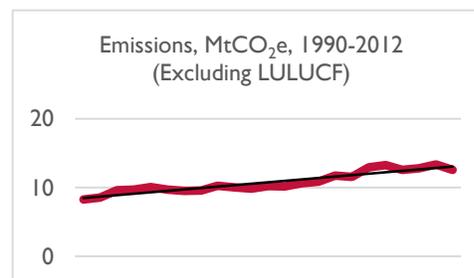
- Mitigation options grouped into four broad policy options that each include two to three sectors.
- Costa Rica plans to test new productive low-emission practices through NAMAs in the pre-2020 period.

Adaptation

- Costa Rica’s adaptation actions for 2016-2030 include: disaster risk reduction; community and ecosystem based adaptation; local planning and management of territory adaptation; public infrastructure adaptation; environmental health; capacity building, technology transfer, and financing adaptation; securing water supply; and ensuring sustainable coastal zone development.
- Costa Rica is vulnerable to extreme drought, rain, and severe economic losses from extreme climate events.
- Commitment to climate change adaptation is part of INDC and will be reviewed in 2016 as part of the National Climate Change Survey.

Financing

- National Forestry Financing Fund is developing its Emissions Reduction Program under the Carbon Fund under the National REDD+ Strategy.
- 2015-2020 is stressed as key period to align the allocation of financial resources with the INDC mitigation and adaptation goals.



Key Documents

- Third National Communication (2014)
- Technological Needs Assessment (2011)
- National Climate Change Strategy (2006)
- Green and Inclusive Development Policy
- National Disaster Risk Management Policy

^{xxxviii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



El Salvador Summary

Information Contained in Country INDC	Target	Unconditional	N/A	
		Conditional	N/A	
	Mitigation	Basis of Target	Analytical Basis	N/A
			Existing Policies	<ul style="list-style-type: none"> • Five Year Development Plan (2015-2019) • National Energy Policy (2010-2024) • National Plan for Environmental Adaptation and Mitigation to Climate Change (2015) • Climate Change Framework Law (by 2019)
		Mitigation Actions	<p>Mitigation actions include:</p> <ul style="list-style-type: none"> • Prioritizing energy efficiency and renewable energy; • Controlling emissions from transportation; and • Developing plans and targets for most sectors over the next few years. 	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		El Salvador is developing a National Adaptation Plan.
		Priority Sectors		Infrastructure; Water; Agriculture; Health; Energy
		Data Quality & Transparency		No information provided on data quality or transparency.
	Participation			<ul style="list-style-type: none"> • No information provided on participatory process for INDC. • El Salvador established a cabinet-level Environmental Sustainability and Vulnerability coordinating entity to allow for representation and participation from civil society, the private sector, academia, and non-governmental organizations in the management of the INDC.
	Financial Assistance			<ul style="list-style-type: none"> • No specific financing request included. • INDC indicates need for international financial assistance.
	Technical Needs Identified in INDC			<ul style="list-style-type: none"> • Securing international financing for mitigation and adaptation goals. • Partnership for technology transfer and development.
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> • Submitted Second National Communication in 2013. • Latest inventory submitted to UNFCCC was for 2005, prepared using Tier I methodology following IPCC 1996 Guidelines. • No BUR submitted to date. 	



Mitigation^{xxxix}

- El Salvador plans to define a GHG emissions reduction goal before COP 22.
- The National Climate Change Plan sets one of its priorities to be climate-resilient, low-carbon coastal urban development, including the development and implementation of National Appropriate Mitigation Actions.

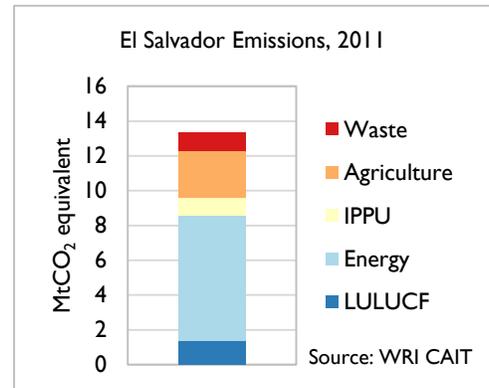
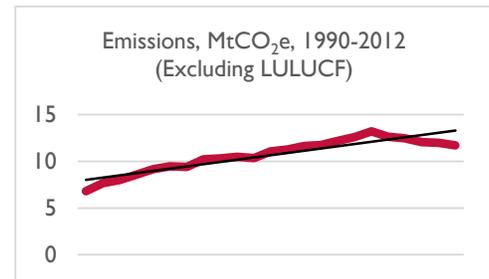
Adaptation

- El Salvador has suffered increasing natural disasters, causing deaths and monetary damage.
- El Salvador's ecosystems and population are particularly vulnerable.
- El Salvador will prioritize low-carbon sustainable development.

Financing

- El Salvador will require access to funding mechanisms such as the Green Climate Fund and technological mechanisms such as the Climate Technology Centre and Network.
- El Salvador will explore options such as debt swap and other mechanisms that will enable it to channel resources to meet its commitments.

^{xxxix} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



Key Documents

- Second National Communication (2013)
- Five-Year Development Plan (2015-2019)
- National Energy Policy (2010-2024)
- National Plan for Environmental Adaptation and Mitigation to Climate Change (2015)
- Climate Change Framework Law (by 2019)

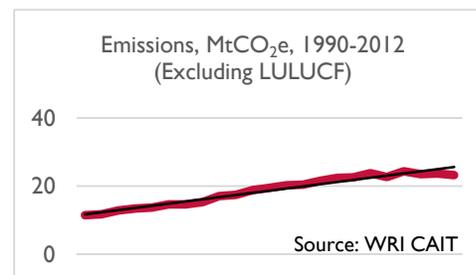
Guatemala Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 11.2% from BAU (53.85 MtCO ₂ e) levels in 2030.
			Conditional	Reduce GHG emissions by 22.6% from BAU levels in 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> • BAU scenario developed based on 2005 emissions of 31.45 MtCO₂e. • 2030 BAU scenario developed by taking the rate of increase of emissions from 1990-2005 and applying that rate from 2005-2030. • This assumed increase is 0.90 MtCO₂e per year. To meet the unconditional target, this will have to drop to an increase of 0.73 MtCO₂e per year.
			Existing Policies	<ul style="list-style-type: none"> • Framework Law on Climate Change (which created the National Council on Climate Change) • National Development Plan
		Mitigation Actions	<p>Mitigation actions are given by sector and include:</p> <ul style="list-style-type: none"> • Increasing renewable electric generation to 80% by 2030; • Using a 2003 law of incentives for developing renewable energy projects; • Improving programs with financial incentives and subsidies focused on the use of clean energy for public and private transportation; and • Continuing forest incentives and implementing REDD+ initiatives. 	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Developing a process to unify climate information and a system for early alerts to reduce the risks of extreme weather events.
		Priority Sectors		Human Health; Coastal-Marine Zones; Agriculture, Livestock, and Food Security; Forest Resources, Protected Areas; Conservation and Management of Strategic Ecosystems; Infrastructure; Integrated Management of Water Resources; Quality of Productive Infrastructure; Soil Protection; and Integrated Management of Disaster Risk Reduction.
		Data Quality & Transparency		No information provided on data quality or transparency.
	Participation			The National Council on Climate Change incorporates all sectors, including government, municipalities, indigenous people, non-government organizations, and indigenous universities.
	Financial Assistance			<ul style="list-style-type: none"> • No specific financing request included.
	Technical Needs Identified in INDC			<ul style="list-style-type: none"> • Develop systems to reduce risks of extreme weather. • Develop a strategic plan to take into account health and adaptation issues such as increasing prevalence of diseases.
	Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> • Submitted Initial National Communication in 2002. • Latest Inventory is for 2005; however, only 1990 Inventory has been officially submitted (in the Initial National Communication). • Latest Inventory follows IPCC's 1996 Guidelines. • No BUR submitted to date.



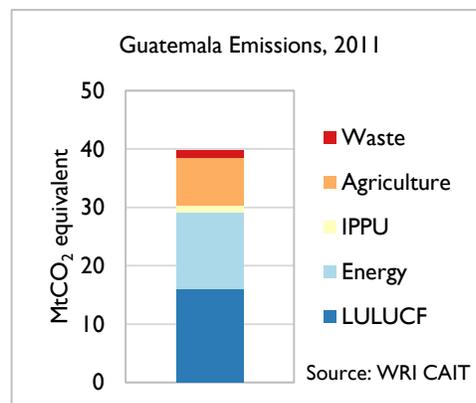
Mitigation^{x1}

- Guatemala's unconditional and conditional goals are equivalent to reducing projected GHG emissions to 47.81 MtCO₂e and 41.66 MtCO₂e, respectively.
- The 1994, 2000, and 2005 Inventories have been through revision processes and will be presented as part of the Second National Communication.



Adaptation

- INDC includes adaptation; however, specific actionable items are limited.
- Guatemala is focused on reducing risks of extreme weather events due to climate change because of high costs of weather events in the past.
- It's estimated that 40-70% of climate change's negative impact on GDP will be from the agriculture sector. Infrastructure, agriculture, and health sectors are particularly vulnerable to extreme weather events.



Financing

- State resources, such as the National Climate Change Fund and the National Fund for Disaster Reduction, are not sufficient to cover the gap in financial needs to address the effects of climate change and achieve the promises of the INDC.
- Guatemala is already a Designated National Authority through the Green Climate Fund of the UNFCCC and will continue to leverage this financial instrument.
- Guatemala is a participant in the Global Initiative for Finance Biodiversity and is developing a National Emissions Reduction Program for REDD+.
- Guatemala may also support implementation by revisiting the background of debt swap with the U.S., further developing debt swap with Germany for adaptation in vulnerable areas, and continuing and further developing existing programs of forest incentives.

Key Documents

- Initial National Communication (2002)
- National Development Plan (2014)
- Framework Law on Climate Change (2013)

^{x1} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.



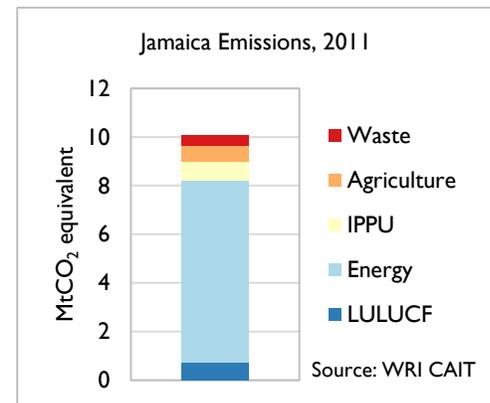
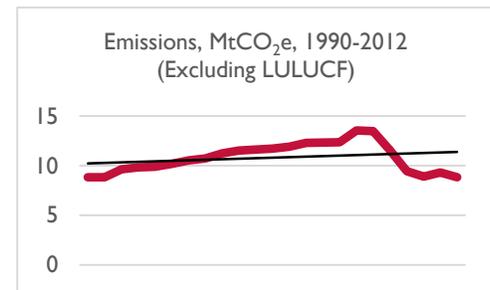
Jamaica Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 7.8% from BAU levels (14.492 MtCO ₂ e) in 2030 in the energy sector.
			Conditional	Reduce GHG emissions by 10% from BAU levels in 2030 in the energy sector.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> All categories of fuel used in the energy sector were assumed to grow at rates consistent with GDP growth rate, GDP per-capita growth rate, or a compound annual growth rate calculated by best-fit regression on energy sector data from 2000-2005. Growth rates were validated using 2005-2014 sector data.
			Existing Policies	<ul style="list-style-type: none"> National Energy Policy 2009-2030 Climate Change Policy Framework Vision 2030 Jamaica – National Development Plan Nationally Appropriate Mitigation Action for Renewable Energy
	Mitigation Actions		Mitigation actions include: increasing the share of renewable energy sources to 20% by 2030; expanding and modernizing energy infrastructure to enhance generation capacity on a sustainable basis; and pursuing opportunities for energy conservation and efficiency.	
	Adaptation	Included in INDC		Yes
		Implementation Strategies		Jamaica is participating in the Pilot Program for Climate Resilience, which builds on the Hazard Risk Reduction and Climate Change Adaptation components of Vision 2030 Jamaica.
		Priority Sectors		Energy; Transportation; Tourism; Agriculture; Fisheries; Forestry; Water; Human Settlements and Coastal Resources; Marine Resources; Human Health; Waste Management; Education.
		Data Quality & Transparency		No information provided on data quality or transparency.
	Participation			No information provided on participatory process for INDC.
Financial Assistance			<ul style="list-style-type: none"> No specific financing request included. INDC indicates need for international financial assistance. 	
Technical Needs Identified in INDC			<ul style="list-style-type: none"> Support for the expansion of energy efficiency initiatives in the electricity and transportation sectors. Develop and implement sectoral climate change and adaptation strategies and action plans as well as a national spatial plan. Establish a comprehensive climate change education programme. Implement a central and secure national database for climate data. Increase technical capacity to undertake climate variability research specific to Jamaica and for real time monitoring of climactic variations. Generate downscaled future scenarios and downscaling existing global climate models to national and sub-national scales. 	
Information from Other Sources	GHG Inventories and Reports		<ul style="list-style-type: none"> Submitted Second National Communication in 2011. Latest inventory submitted to UNFCCC was for 2005, prepared using Tier I methodology following IPCC 2006 Guidelines. No BUR submitted to date. 	



Mitigation^{xli}

- INDC focused on energy sector and covers CO₂, CH₄, N₂O, NO_x, CO, non-methane volatile organic compounds, and SO₂.
- Jamaica will implement the INDC through the Climate Change Policy Framework and the National Energy Policy (2009-2030).
- INDC notes that Jamaica has developed a nationally appropriate mitigation action for the scale-up of renewable electricity, which is central to the implementation of the INDC.
- The Climate Change Division of the Ministry of Water, Land, Environment, and Climate Change will be responsible for coordinating actions among government ministries, departments, and agencies in the implementation of the INDC.



Adaptation

- Jamaica is a small island developing state that is experiencing changes in variability in rainfall patterns and other climate parameters. Severe weather events have severely affected the country's economic growth and development.
- Jamaica is in the process of appointing a Climate Change Advisory Board (CCAB) comprised of representatives of the public and private sectors, academia, and non-governmental organizations appointed by the Minister of Water, Land, Environment, and Climate Change.
- The Government of Jamaica has established the Climate Change Focal Point Network responsible for coordinating the development and implementation of sectoral strategies and actions with respect to climate change in collaboration with the Climate Change Division, and the integration of climate change considerations in the policies, plans and programs of key ministries, departments, and agencies.
- Jamaica has prepared, in collaboration with other regional governments and the United Nations Environment Programme (UNEP), a proposal to support the implementation of an urban ecosystem-based adaptation project in Kingston to increase the city's resilience.

Key Documents

- Second National Communication (2011)
- Vision 2030 Jamaica – National Development Plan (2012)
- Climate Change Policy Framework (2013)
- National Energy Policy 2009-2030 (2009)

Financing

- Limited access to financial resources constrains Jamaica's ability to implement actions to increase resilience and reduce vulnerability.

^{xli} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

Mexico Summary

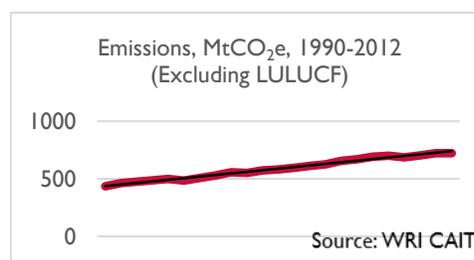
Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 22% from BAU levels (973 MtCO ₂ e) and black carbon by 51% from BAU levels (137 MtCO ₂ e) by 2030.
			Conditional	Reduce GHG emissions by 36% from BAU levels and black carbon by 70% from BAU levels 2030.
		Basis of Target	Analytical Basis	BAU scenario is based on economic growth in the absence of climate change policies, starting from 2013 (first year of Mexico’s LGCC).
			Existing Policies	<ul style="list-style-type: none"> • General Law on Climate Change (LGCC) • National Strategy on Climate Change • Special Program on Climate Change (PECC)
			Mitigation Actions	No information provided on specific mitigation actions.
	Adaptation	Included in INDC	Yes	
			Implementation Strategies	Strengthen adaptive capacity of ‘most vulnerable’ municipalities, establish early warning systems and risk management at every level of government, and eliminate deforestation by 2030.
		Priority Sectors	<p>All sectors addressed through three themes:</p> <ol style="list-style-type: none"> 1. Social (e.g., impacts to those vulnerable to climate disasters) 2. Ecosystems (e.g., water, land, and coastal resources) 3. Strategic Infrastructure and Productive Systems (e.g., agriculture, wildlife use, aquaculture, communications, transportation, tourism) 	
		Data Quality & Transparency	<ul style="list-style-type: none"> • PECC policy approach derived from Working Group II of the IPCC. • PECC was developed in three stages: 2008-2012 vulnerability assessment and valuation of economic implications, 2013-2030 strengthening of specific capacities, and 2031-2050 consolidation of capacities. • A follow up system of PECC goals was created as a module, which is part of the Cross-Cutting Process Agenda’s (SAIT) Information System. It contains units responsible for each goal, institutions involved, problems for each goal, and degree of advance. 	
	Participation	INDC developed through consultations with stakeholders in NGOs, academia, and representatives from private sector. The INDC emphasizes integration of human rights and gender perspectives.		
	Financial Assistance	<ul style="list-style-type: none"> • No specific financing request included. • Will meet its unconditional commitment regardless of market-based mechanisms. Achieving conditional goals, however “will require fully functional bilateral, regional, and international market mechanisms.” 		
	Technical Needs Identified in INDC	Mexico requires international support for technology development, technology transfer, and insurance market development against hydrometeorological and catastrophic risks.		



Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Fifth National Communication in 2012. Latest GHG inventory submitted to UNFCCC was for 2010, prepared using primarily Tier 1 methodology following IPCC 1996 and 2006 Guidelines. Tier 2 used for solid waste, manure management, and some subcategories of energy sector. Tier 3 applied for NOx emissions. First BUR submitted October 2015.
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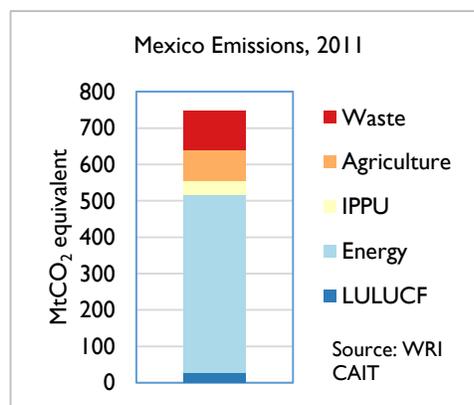
Mitigation^{xlii}

- The country’s LGCC commits Mexico to a 50% reduction in national GHG emissions by 2050.
- The majority of the country’s emissions are from energy (67.3%).
- BAU projections are:
 - 2020: 792 MtCO₂e GHGs / 114 MtCO₂e BC
 - 2025: 888 MtCO₂e GHGs / 125 MtCO₂e BC
 - 2030: 973 MtCO₂e GHGs / 137 MtCO₂e BC



Adaptation

- Priorities are the protection of communities and the resilience of infrastructure and ecosystems.
- In 2014, 319 municipalities (13% of national total) in Mexico were considered highly vulnerable to the impacts of climate change (i.e., drought, floods, and landslides).
- Government programs which include adaptation:
 - 2009-2012 Special Program on Climate Change
 - 2007-2012 Sectoral Programs
 - 2010-2012 National Program on Statistics and Geography
 - 2011 Annual Statistics and Geography Program
 - 2008-2013 State Action Program on Climate Change
 - 2011-2013 Municipal Climate Action Plan



Financing

- The importance of cost effective implementation is discussed, but no specific costs of mitigation or adaptation measures is presented.

Key Documents

- Fifth National Communication (2012)
- First Biennial Update Report (2015)
- General Law on Climate Change (2015)
- National Strategy on Climate Change (2013)
- Special Program on Climate Change (2009-2012)

^{xlii} World Resources Institute. CAIT: WRI's Climate Data Explorer. Retrieved from: <http://cait.wri.org/historical>. Accessed October 28, 2015.

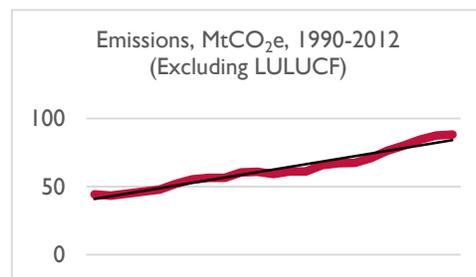
Peru Summary

Information Contained in Country INDC	Mitigation	Target	Unconditional	Reduce GHG emissions by 20% from BAU levels by 2030.
			Conditional	Reduce GHG emissions by 30% from BAU levels by 2030.
		Basis of Target	Analytical Basis	<ul style="list-style-type: none"> 1996 and 2006 IPCC Guidelines and the 2003 Good Practice Guidelines, national statistics and projections of population, and GDP were used to calculate GHG emissions and BAU. Mitigation efforts are not divided by sector.
			Existing Policies	INDC founded upon base of information/actions being undertaken on climate change since 2003.
			Mitigation Actions	No information provided on specific mitigation actions.
	Adaptation	Included in INDC	Yes	
		Implementation Strategies	Peru is developing a National Adaptation Plan.	
		Priority Sectors	Water Resources; Agriculture; Fishery; Forestry; Health.	
		Data Quality & Transparency	<ul style="list-style-type: none"> Adaptation proposal is based on national and regional vulnerability studies, as well as those of prioritized basins, and the results of different projects and practical experiences on adaptation. Proposal is based on documents developed under InterCLIMA program, and on a set of goals already included in sectoral plans and programs. Proposal has been enhanced through consultation by sectoral and stakeholder contributions 	
	Participation	INDC developed through a participatory process.		
	Financial Assistance	<ul style="list-style-type: none"> No financing specifically requested. The acquisition of reductions through existing or new international market mechanisms is not considered for its compliance. However, Peru is considering selling emissions reductions. 		
	Technical Needs Identified in INDC	<ul style="list-style-type: none"> Need for international support in terms of funding, research, technology, and capacity building to fulfill the proposed goals. Support needed for development and implementation of an effective monitoring, evaluation, and reporting system. Peru will upgrade the INDC with subsequent review phases. 		
	Information from Other Sources	GHG Inventories and Reports	<ul style="list-style-type: none"> Submitted Second National Communication in 2010. Latest inventory submitted to UNFCCC was for 2010, prepared using IPCC 1996 and 2006 Guidelines. BUR submitted January 2015. 	



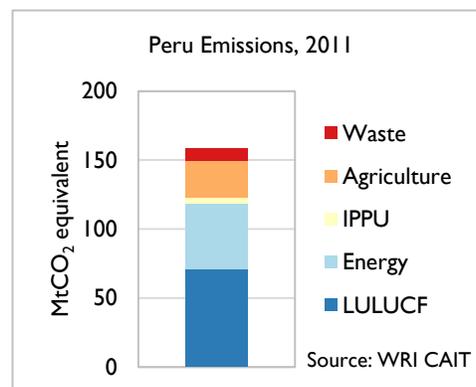
Mitigation

- BAU scenario emissions for 2030: 298.3 MtCO₂e (including LULUCF) and 139.3 MtCO₂e (excluding LULUCF).
- Based on the latest national inventory, major emission sources that are likely to be the focus of mitigation actions are LULUCF, energy, and agriculture.



Adaptation

- Peru is particularly vulnerable to hydro-meteorological stressors (e.g., extreme drought and rain, floods, frost).
- Peru has seven of the nine characteristics recognized by the UNFCCC to describe a country as “particularly vulnerable”: low-lying coastal area; arid and semi-arid lands; areas liable to flood/drought/desertification; fragile mountain ecosystems; disaster-prone areas; areas with high urban atmospheric pollution; and economies highly dependent on income generated from the production and use of fossil fuels.
- Vulnerable populations identified by the INDC include: rural populations related to subsistence family farming and/or weak market linkages; small farmers; artisanal fishermen; native communities; small forest producers; and, from a health perspective, infants, women, and seniors.
- Objectives: encourage and promote actions and projects that increase the availability of water; reduce negative impacts of climate change on agrarian activities; reduce vulnerability of the fishery and aquaculture sector to climate change; promote comprehensive land management with a landscape approach, oriented to increase forest resilience and reduce the vulnerability of local populations; reduce vulnerability and increase the population’s resilience to health effects of climate change.
- Five crosscutting goals to address adaptation: (1) disaster risk management; (2) resilient infrastructure; (3) poverty and vulnerable populations’ approach; (4) gender approach; and (5) promotion of private investment in climate change adaptation (contingent upon international funding).



Key Documents

- Biennial Update Report (2015)
- Second National Communication (2010)
- National Planning Documents
- Sectoral Planning Documents

Financing

- Peru will not assume conditional commitments that might result in public debt.

7. Regional Trends

7.1. Africa

GHG Contributions. Ten African countries were analyzed in this report: Democratic Republic of the Congo (DCR), Ethiopia, Gabon, Ghana, Kenya, Malawi, Nigeria, South Africa, Uganda, and Zambia. Commitments made in the ten INDCs take various forms, including percent reductions compared to a BAU scenario or base year, peak emissions ranges, fixed reduction amounts, and mitigation actions with or without a mitigation target.

Of the ten countries, four submitted both conditional and unconditional contributions (Ghana, Malawi, Nigeria, and Zambia), while all countries submitted conditional targets or mitigation actions. Unconditional targets include a 15% reduction from a BAU scenario by 2030 for Ghana, a 20% reduction from a BAU by 2030 for Nigeria, and a 25% reduction compared to 2010 emissions by 2030 for Zambia. Malawi notes specific unconditional mitigation actions but does not specify a target reduction. Conditional contributions range from a 17% (DRC) to 64% (Ethiopia) reduction from a BAU scenario by 2030. Malawi and South Africa did not submit percent reduction targets. Instead, Malawi submitted a list of mitigation and adaptation actions, noting its potential to reduce per capital emissions by approximately half. South Africa's made a commitment to peak emissions between 398-614 MtCO_{2e} by 2025.

Financial Assistance. Most African countries indicated a need for financial aid in order to fulfil their INDC; however, only three countries included specific requests, ranging from US\$16.5 billion (Ghana), to US\$35 billion (Zambia).

GHG Projections: Fewer than half of the African countries report a clearly defined methodology for BAU development. The methodology is clearly defined for Ghana, Zambia, and Nigeria, all of which use the LEAP model. Ghana has a particularly well defined BAU methodology including separate approaches for Industrial, Waste, and AFOLU modeling. Kenya's BAU methodology is described outside its INDC in its National Climate Change Action Plan and Second National Communication. DRC separates its BAU scenarios into "BAU Global" and "BAU Forests" but does not specify methodology. Both Ethiopia and Nigeria developed mitigation goals by forecasting economic development and estimating the associated emissions.

Existing Policies. Most INDCs appear to be rooted in a variety of existing or in progress plans, policies, or programs, including national development plans, climate change response policies, low-carbon development strategies, NAPs, NAPAs, National Climate Change Action Plans, and NAMAs.

Participatory Process. Four countries mentioned a participatory process used in creating the INDC or its underlying policies and programs (Ethiopia, Ghana, Kenya, and Malawi). The participatory processes were not often clearly described. INDCs mention consulting international experts, government taskforces and committees, and relevant stakeholders. Malawi created a specific INDC taskforce to lead the creation of the document.

Mitigation and Adaptation Activities. Mitigation efforts tend to focus on the agriculture, forestry, and energy sectors. As access to reliable electricity is a development priority for many African countries, the energy sector is often predicted to be the sector with the greatest increase in emissions. Thus, increased use of renewable energy is a common mitigation action item in African INDCs. Additionally, poor agricultural practices, widespread deforestation, and reliance on fuelwood mean that the agricultural and forestry sectors are often the largest emitters, and therefore the focus of emissions reduction efforts. Afforestation and reforestation are commonly cited methods of emissions reductions in African INDCs.

Adaptation is included in all of the African INDCs reviewed. Because of the heavy reliance on rain-fed agriculture, all the African INDCs emphasize the criticality of potential climate change impacts on food security (food, agriculture, and forestry). Water resources, health, ecosystems, infrastructure, and energy are also regional sector priorities. Africa region INDCs have the largest variation in the degree of specificity applied to adaptation analysis and adaptation support costing of any region. At one of the spectrum, Malawi has a sophisticated adaptation assessment built on a specific financing study. In contrast, Uganda has high level statements of adaptation priorities – but is just beginning to initiate its National Adaptation Process.

Identified Needs. Common needs include capacity building, technology transfer, and financial assistance. Nine African GHG inventories were developed using Tier 1 methodology. South Africa employed a combination of Tiers 1, 2, and 3. Assistance in inventory development is a common need in African INDCs. For adaptation, common needs include capacity building and technical support for vulnerability assessments, sectoral mainstreaming, and adaptation policy development. Given the very different stages of adaptation planning, support for regional knowledge sharing may be valuable.

7.2. Asia

GHG contributions. Fourteen Asian countries were analyzed in this report: Afghanistan, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Thailand, and Vietnam. Seven countries submitted both conditional and unconditional contributions (Bangladesh, Cambodia, Indonesia, Kazakhstan, Malaysia, Thailand, and Vietnam). The unconditional contributions range from 5% reductions (Bangladesh) to 35% reductions (Malaysia) relative to BAU by 2030. Of these six countries, the conditional contributions range from 15% (Bangladesh) to 45% reductions (Malaysia) relative to BAU by 2030. Vietnam stated its reduction relative to BAU and also as a per-capita emission reduction relative to 1990. Two countries submitted only conditional contributions. India submitted a conditional contribution of reducing its GHG intensity by 33 to 35% of 2005 levels by 2030 while the Philippines submitted a conditional contribution of 70% reductions relative to a BAU scenario by 2030. Four countries (Laos, Myanmar, Nepal, and Pakistan) did not submit any intended GHG contributions. Pakistan noted that they are committed to reducing its emissions after reaching peak levels to the extent possible subject to affordability, provision of international climate finance, transfer of technology and capacity building.

Financial Assistance. Three countries specified financial aid requests in order to fulfill their INDC: Laos, India, and Cambodia. Laos has noted that funds are needed for mitigation and adaptation activities while India and Cambodia's financial assistance is to achieve their conditional mitigation contribution. Of these three countries, requested amounts ranged from US \$1.27 billion (Cambodia) to US \$2.5 trillion (India).

Existing Policies. All but one country (Myanmar) noted that they relied on previously established policies to inform their INDC. However, the level of granularity of each country's underlying policies differs greatly. Some countries outlined action plans, such as Thailand's Technology Needs Assessment or Bangladesh's Climate Change Strategy Action Plan. Others, such as Laos, reference their National Development Plan. Myanmar proposed a number of policies, some of which are currently in draft form, that they plan to implement in either 2016 or 2017.

GHG Projections. To create their BAU and inform their proposed mitigation actions, three countries, Bangladesh, Cambodia, and the Philippines, utilized models. The LEAP model was used by all three countries, and both Cambodia and Philippines also used a land use model to project their LULUCF sectors (utilizing either ALU or COMAP models). The Philippines also evaluated its mitigation actions

using a marginal abatement cost curves (MACC) for sectors with mitigation potential. The Philippines, in particular, had a robust methodology for the development of its BAU and evaluated how each mitigation activity contributes to its greater goal. The Philippine analysis included MACC, sector-specific modeling, and multi-criteria analysis.

Participatory Process. All but two countries (Kazakhstan and Pakistan) mentioned a participatory process used to develop their INDC. Common methods reported across Asian countries include consulting with relevant ministries, private sector organizations, non-governmental organizations, and academic/research institutions. Some countries state that specific workshops or technical sessions were held. One country (Vietnam) noted consultations with development partners. Indonesia and India specifically identified public engagement as part of the participatory process.

Mitigation and Adaptation Activities. Mitigation and adaptation activities tended to focus on the energy and agricultural sectors. Seven countries developed their most recent national GHG inventory using only IPCC Tier I methods. While nine countries have submitted an inventory since 2000, only two of countries have more recent inventory years (2007 and 2010).

All but one country (Kazakhstan) included adaptation in their INDC. Common adaptation needs include capacity building at the national and local level, land rehabilitation, and support for REDD+ programs (given the general agricultural focus for many countries). Disaster risk reduction, real time forecasting and modeling, and water resource management activity support were also listed as important due to vulnerable coastal areas and changing sea level being common risks. Nepal noted extensive adaptation planning at the national level (National Adaptation Programme of Action) and the local level (Local Adaptation Plans for Action and Community Adaptation Plans of Action). Pakistan noted that adaptation interventions are in the process of being determined in consultation with the provinces and other stakeholders.

Identified Needs. Common mitigation needs include support for MRV, M&E, and national GHG inventory development, particularly for the forestry and agricultural sectors. Countries also requested technology transfer for renewable energy and energy efficiency technologies, and support for developing and implementing clean energy projects. One suggested approach is through NAMA development and implementation support.

7.3. Europe and Eurasia

GHG Contributions. Six European/Eurasian countries were analyzed in this report: Albania, Georgia, Macedonia, Moldova, Serbia, and Ukraine. Of these six countries, only two submitted both conditional and unconditional contributions (Georgia and Moldova). The unconditional contributions include BAU and base year targets. For example, Georgia's unconditional contribution is 15% below a BAU scenario and Moldova's is a 64% reduction below 1990 emissions levels by 2030. Serbia and Ukraine submitted only unconditional contributions, with Serbia committing to contributions of 9.8% reductions compared to a 1990 baseline and Ukraine committing to reductions of 40% below 1990 emissions levels. Two countries (Albania and Georgia), submitted only conditional goals, with reductions of 11.5% and 30% below the BAU scenarios, respectively.

Financial Assistance. Macedonia and Moldova are the only European/Eurasian countries to requested specific financial aid for implementing mitigation and adaptation activities. Macedonia requested US\$4.5 to 4.8 billion of financial assistance under two different scenarios. Moldova noted a need for US\$338 million of financial assistance. Ukraine did not provide specific figures but notes that investment is needed to implement the mitigation actions outlined in the INDC.

Existing Policies. For most countries, the INDC was informed by other existing policies and documents. Georgia relied on its Low Emission Development Strategy to inform the creation of its INDC, while Macedonia relied on other policies and documents including its national sustainable development strategy. Moldova’s adaptation activities are based on the Republic of Moldova’s Climate Change Adaptation Strategy and Action Plan. Albania is the only country that did not make explicit mention of policies used to inform its INDC. However, Albania’s INDC will form the basis of the Environmental and Climate Change Strategy being developed.

GHG Projections. Macedonia is the only country to reference a model in the creation of its BAU projections (MARKAL energy planning model). Macedonia was also very robust in detailing other assumptions of its BAU projections, and was the only country to include a MACC for proposed mitigation measures in its INDC. Other countries that included BAU scenarios, such as Albania and Georgia, did not provide detailed methodologies or models used for these baselines.

Participatory Process. Only two of the examined countries in the region (Georgia and Macedonia) made explicit mentions of consultation in the preparation of their INDC. Georgia credited the EU and other European governments, while Macedonia gave credit to country ministries and other international institutions and donors.

Mitigation and Adaptation Activities. For half the countries in the region, the INDCs contain little to no information on mitigation actions outside of the stated reduction goal. For the other half, mitigation activities mostly involved renewable energy and energy efficiency technologies. Adaptation was included in roughly half the countries, with agriculture, forestry, and human communities being noted as high priority sectors in the region.

Identified Needs. Requests across the region included support for development of technologies to increase adaptive capacity in areas of sustainable water management, agriculture, and forest management, as well as support for research and development in key sectors needed to meet adaptation targets. Georgia specifically called for technical assistance and financial support for development of forest inventories and remote sensing. Emissions estimates for non-Energy sectors, particularly in the LULUCF sector, is a common data gap amongst countries in this region. Above all other requests, financial assistance was the most common in order to meet both mitigation and adaptation goals.

7.4. Latin America and Caribbean

GHG Contributions. Seven Latin American countries were analyzed for this report: Colombia, Costa Rica, El Salvador, Guatemala, Jamaica, Mexico, and Peru. Of these seven countries, five submitted both conditional and unconditional GHG contributions relative to a BAU scenario in 2030 (Colombia, Guatemala, Jamaica, Mexico, and Peru). The unconditional contributions range from a 7.8% (Jamaica) to a 22% reduction (Mexico) and the conditional contributions range from a 10% (Jamaica) to a 36% reduction (Mexico) by 2030. Mexico also includes an unconditional contribution of reducing black carbon by 51% from BAU levels by 2030, with a conditional contribution of a 70% reduction. Costa Rica committed to an unconditional contribution of limiting GHG emissions to 9.347 MtCO_{2e} by 2030, and a conditional contribution of becoming carbon neutral by 2021. El Salvador intends to set a GHG mitigation reduction target before the 22nd Conference of the Parties.

Financial Assistance. None of the countries analyzed requested specific financial aid for implementing mitigation and adaptation activities. Guatemala noted that its resources are insufficient to achieve the goals outlined in the INDC. Jamaica also noted that its ability to implement mitigation actions is constrained by limited access to financial resources. El Salvador states that they will require access to funding mechanisms such as the Green Climate Fund and technological mechanisms such as the Climate

Technology Centre and Network. Colombia, Costa Rica, Mexico, and Peru noted that they are exploring or intend to use international market mechanisms.

Existing Policies. Six of the seven Latin American countries relied on previously established policies to inform their INDC. All but Peru cited existing climate change laws or plans, such as Guatemala's Framework Law on Climate Change, and Costa Rica's National Strategy on Climate Change. Mexico cited numerous existing adaptation programs and plans at the sector, municipal, state, and federal levels. El Salvador recently established a cabinet-level Environmental Sustainability and Vulnerability coordinating entity and is in the process of developing a National Adaptation Plan.

GHG Projections. There is limited information reported by all countries on the methodology for developing their BAU scenarios. Colombia provides the most detail, noting that BAU projections were developed for each sector using expert input, macroeconomic assumptions, analysis of current and prospective policies, and official information regarding the historical path of emissions. Guatemala developed its BAU scenario based on 2005 emissions and historical emissions trends. Jamaica, Mexico and Peru noted that their BAU scenarios are based on projections of economic growth. Costa Rica has developed marginal abatement cost curves to identify mitigation measures and prioritize investment.

Participatory Process. Five countries mentioned a participatory process to develop their INDC. El Salvador and Jamaica did specify whether consultations or a participatory process was used. Three countries noted workshops, consultations, and working sessions with stakeholders, including government entities, academia, NGOs, and public and private entities. Guatemala specifically notes the involvement of indigenous peoples and indigenous universities. Mexico emphasizes a participatory process that integrates human rights and gender perspectives.

Mitigation and Adaptation Activities. The majority of mitigation and adaptation activities focused on the energy and AFOLU sectors. Costa Rica, El Salvador, Guatemala, Jamaica, Mexico, and Peru all highlighted clean energy and energy efficiency as a core sector for mitigation potential. Colombia is focused primarily on AFOLU mitigation actions (since the majority of Colombia's electricity is from hydroelectric power). All countries acknowledged vulnerability to extreme weather events and noted the high economic cost of past events. Colombia, Guatemala, and Peru's INDCs note that adaptation for agriculture is a priority. Jamaica highlighted the need for a national climate database and real time monitoring of climactic variations.

Identified Needs. Common needs include support for medium- and long-term climate change planning, adaptation planning, disaster risk mitigation, and national GHG inventory development. Countries also requested technology transfer for renewable energy and energy efficiency technologies, and support for developing and implementing clean energy projects.

8. Sectoral Trends

To identify sectoral trends across the 37 countries of interest, the INDCs were analyzed for actions explicitly mentioned in the INDCs by sector. The most common sectors with mitigation actions outlined were Energy, LULUCF, and Transport. Waste, Agriculture, Industrial Processes, and Infrastructure also had specific actions identified with prevalence varying by region. Table 2 summarizes the priorities by region.

Table 2: Priority Sectors for GHG Mitigation Identified in the INDC, by Region

	Energy	LULUCF	Transport	Waste	Industrial Processes	Agriculture
Africa						
Asia						
E&E						
LAC						

Identified as priority by: ■ >75% of countries; ■ 50 - 74% of countries; ■ 25% - 49% of countries; □ <25% of countries

The following section discusses notable trends for the most prevalent sectors: energy, LULUCF, and transport. This discussion focuses on sectoral trends for mitigation; see Section 2 for sectoral trends for adaptation.

Energy: Most countries RALI analyzed (30 out of 37) identified the energy sector as a priority area for action. These activities ranged in specificity from a general sector-wide target, such as increasing renewable electricity generation to 80% by 2030 (Honduras), to specific action items, such as distributing 260,000 clean cook stoves between 2016 and 2031 (Myanmar). Countries that did not identify specific energy actions within their INDC generally referenced other policies that include energy actions.

Two countries emphasized their energy activities through detailed plans and goals. India extensively outlined its plans of large renewable energy and energy efficiency capacity building programs in its INDC. They included technology-specific renewable energy growth targets, energy efficiency policy and funding program plans, and widening existing market-based trading mechanisms. Thailand has also committed to ambitious renewable energy generation and consumption targets in its INDC. They identified their barriers for implementation including limitations of grid connectivity, lack of support from financial institutions for energy efficiency and renewable energy investments, lack of domestic technological resources, and negative public perception of biomass power plants. Both countries emphasized that they need international financial support and technology transfer in order to successfully realize their energy sector goals.

Based on the 37 INDCs reviewed, areas identified within the energy sector for possible USAID engagement include clean energy assessments and planning, the development of renewable energy projects, grid efficiency improvement projects, and energy efficiency enhancements to buildings and power plants.

Land Use, Land Use Change, and Forestry (LULUCF): LULUCF was the second most prevalent priority area for mitigation activities. Activities pertaining to LULUCF were identified by countries in Africa, Asia, LAC, and, to a lesser extent, E&E. The activities included improving forest management, forest law management, land rehabilitation, and participation in REDD+.

Two countries, Malawi and Georgia, were identified as having robust mitigation plans and both include LULUCF-specific commitments. Malawi's mitigation plan strongly emphasizes actions in the LULUCF sector as 78% of its emissions come from the forestry sector. Specific activities identified include protection and conservation of existing forests, and afforestation (which includes tree planting and natural and assisted regeneration). Malawi has unconditional commitments for sequestering carbon through LULUCF activities, but highlighted that sequestration efforts could triple with additional financial and capacity building support. Georgia identified three unconditional and three conditional LULUCF commitments, including strengthening law enforcement, developing sustainable forest management practices, implementing afforestation and reforestation activities, and assisting in natural regeneration of forests. To accomplish the conditional commitments, financial and technical support was requested. Funding would be used to increase the scale of afforestation/reforestation activities, develop inventories

and monitoring techniques and build infrastructure for assuring effective planning and management of additional protected areas.

Based on the 37 INDCs reviewed, areas identified within the LULUCF sector for possible USAID engagement include technical support for forestry mapping and remote sensing, technical support for GHG inventory improvement, and support for promoting sustainable utilization of forest resources through REDD+. Uncertainty in LULUCF inventory development was cited as a weakness by a number of countries and highlighted as an area of desired support.

Transport: Transport was the third most prevalent priority area for action. Countries in Asia, E&E, and LAC frequently listed transport actions (though less so in Africa). The activities identified included scaling mass transportation and cleaner vehicle fleets through increased turnover of fleets, vehicle inspections, or a transition to cleaner fuels (e.g., electrification, compressed natural gas).

Of the INDCs reviewed, Ghana and Macedonia had the most specific transportation activities declared. Ghana outlined a formal plan for scaling sustainable mass transportation which included expanding inter- and intra-city mass transportation modes like rail and bus transit. The INDC quantified the benefits of increased public transport trips and reduced travel times and is supported by Ghana's *National Transport Policy*. Successful implementation is conditional on US\$1.2 billion of financial assistance. Macedonia also identified a series of mitigation actions which included an increased use of railway, renewal of the vehicle fleet, an increased use of bicycles, and the development of a parking policy. More ambitious mitigation activities identified, such as the electrification of transport and extending the railway to Bulgaria, are contingent on international funding and enhanced climate finance mechanisms.

Based on the 37 INDCs reviewed, areas identified within the transport sector for possible USAID engagement include technical and financial support for the expansion of public rail and bus transportation and the development of financial incentive public and private transit programs.

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