UNEP RISØ CENTRE

ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

UNEP

Low Carbon Development Strategies

A Primer on Framing Nationally Appropriate Mitigation Actions (NAMAs) in Developing Countries

Low Carbon Development Strategies

A Primer on Framing Nationally Appropriate Mitigation Actions (NAMAs) in Developing Countries

Søren Lütken
Jørgen Fenhann
Miriam Hinostroza
Sudhir Sharma
Karen Holm Olsen

November 2011

UNEP Risø Centre
Energy, Climate and Sustainable Development
National Laboratory for Sustainable Energy
Technical University of Denmark
4000 Roskilde, Denmark

ISBN:

Graphic design: Phoenix Design Aid A/S, Denmark

Preface

UNEP and UNEP Risø Centre are engaged in providing financial and technical support to a number of countries working on Low Carbon Development Strategies (LCDS) and piloting Nationally Appropriate Mitigation Actions (NAMAs). From this engagement it is evident that there is a strong need for clarification both of the underlying terminology and possible approaches, and development of more detailed guidance and tools to assist the national processes.

Several initiatives by national, bilateral and multilateral actors are attempting to bring about this clarification and improved understanding, essentially combining practical application with normative development, and providing the experiences as input to the political negotiations being conducted under the UNFCCC.

This UNEP primer aims to contribute to this clarification by presenting the basic principles, proposing some possible elements of a national LCDS and NAMA preparation process, and providing a template for NAMA articulation. These proposals are not presented as ultimate thoughts, but as specific ideas for discussion and practical testing.

UNEP and the Risø Centre have over the last decade become a leading provider of capacity building, guidance materials and practical tools in the areas of CDM and Technology Planning. This primer is a first contribution in the emerging area of LCDS and NAMAs. It is complemented by work on MRV approaches in a separate publication.

Comments and feedback are most welcome to
unep@risoe.dtu.dk.

Introduction

Climate change is recognized as one of the most complex, multi-faceted, and serious threats the world faces. The response by the international community was the establishment in 1992 of the United Nations Climate Change Convention (UNFCCC, henceforth the Convention), as the global framework to address the climate change problem. The Convention is a comprehensive policy framework that outlines the principles for effort-sharing and ambitions to limit emissions. Guided by the Common but Differentiated Responsibilities (CBDR) principle of the Convention, the actual response to the climate challenge is determined by the ability of individual countries to adapt or build resilience to a changing climate, while contributing to the global GHG mitigation effort.

Since the Convention was established, the enhanced understanding of the urgency to address climate change and the experiences from the Kyoto Protocol has led to negotiations focusing increasingly on engaging all countries in the global mitigation effort while reflecting the convention principle of CBDR. The concept of Low Carbon Development Strategies (LCDS) has been introduced by the Conference of Parties to the UNFCCC as a common but differentiated approach to meet the overall emissions reduction objectives:

"*All countries shall prepare Low Emission Development Strategies …nationally-driven and represent[ing] the aims and objectives of individual Parties in accordance with national circumstances and capacities*" (Cancun Agreement).

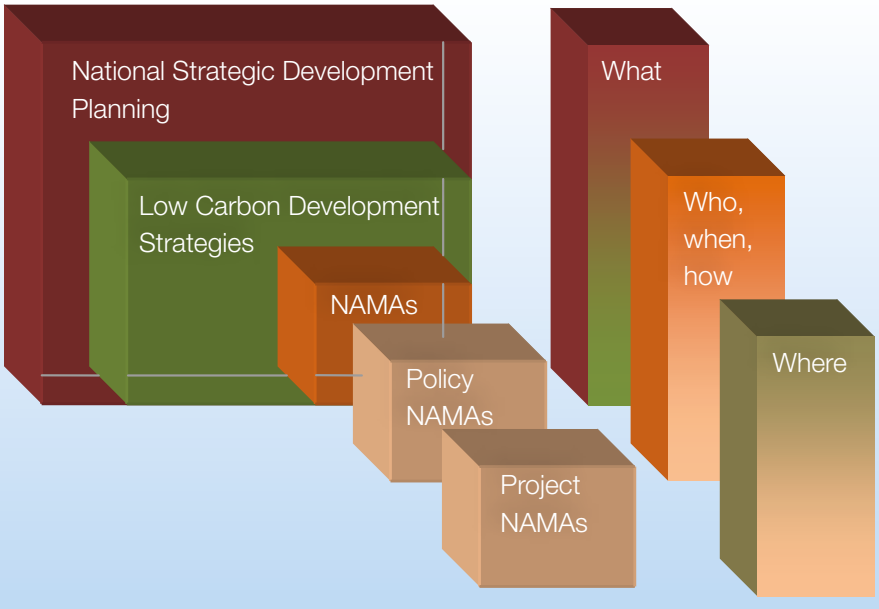
Low Carbon Development Strategies (LCDS) in this way become an overarching framework to design and achieve Nationally Appropriate Mitigation Actions (NAMAs) reflecting the CBDR of all countries.

LCDS and NAMAs are not new concepts. They are a return to and reformulation of the very foundation for the global climate negotiations 20 years ago. When revisiting the text of the Convention, the formulations are strikingly similar to those that are being used today:

"Policies and measures to protect the climate system against human-induced change should be *appropriate* for the specific conditions of each Party and should be *integrated with national development programmes*, taking into account that economic development is essential for adopting measures to address climate change." (UNFCCC, Art. 3.4, 1992)

With a focus on developing countries, this publication emphasizes the necessary relations between national

Figure 1: Relating LCDS and NAMAs to development planning



development plans, low carbon development strategies and nationally appropriate mitigation actions. Highlighting the importance of putting mitigation efforts into a national strategic development planning framework, Figure 1 presents the perceived linkages between National Development Plans, LCDS and NAMAs.

1. National Development Planning

National development objectives reflect particular national circumstances and generally have a multidimensional character representing economic, social and environmental priorities. National development planning includes goal-setting and definition of strategies to attain those goals, identifying strategic areas of focus, nation-wide policies and budgeting, sectoral plans and specific initiatives to address social issues, health, transport, energy, education and many other pressing development aspects. Most of these activities are initiated by national authorities; others are linked to regional collaboration or international frameworks.

While many environmental concerns have been mainstreamed in national development planning in the last decades, climate change has in most developing countries not been considered a development priority. Increasing scientific evidence of climate change impacts on basic livelihood and infrastructure has brought about a general recognition that climate change should be incorporated into socio-economic development planning, suggesting changes in the way countries meet their development goals following a less carbon intensive development pathway.

2. Low Carbon Development Strategies

National development strategy processes integrate a number of socio-economic and environment challenges. Increased awareness of the urgency to address climate change has resulted in many national level actions over the last 20 years, but in most cases not as concerns integrated with and prioritized against other development challenges in the national development strategy process. Rather the focus has been on specific emissions reduction or adaptation opportunities. The reasons are many, like the actually changing weather patterns or simply because it makes economic sense – with or without the opportunities created through the international climate negotiations.

With actions not being the result of strategic processes or careful national planning, they do not necessarily represent the most efficient or appropriate mitigation or adaptation responses – but probably the most immediately attractive for the policy maker or the individual project developer mostly driven by short term perspectives.

A long term strategic determination of options for addressing climate change in the context of national development objectives enhances the effectiveness of actions by linking them to a holistic nation-wide assessment of opportunities of low carbon development.
It is important to acknowledge that country circumstances differ significantly in terms of development context, possibilities and priorities. Establishing a LCDS will therefore be a distinctive process for each country. This is also underlined in a recent study[1] on national LCDS implementation by Energy research Centre of the Netherlands (ECN) underlining that:

"it is ineffective to approach developing an LCDS with a generalized template. … An LCDS development process can have different 'building blocks'. ... the specific (country) context may determine which of the building blocks … are included, and how much they are emphasized."

The development of a low carbon strategy requires a balanced focus on the *process* of government coordination, stakeholder involvement and the *result* in the form of a strategy document that is not separate from the general national development strategy, but rather the formulation of a sustainable pathway to achieve the established development goals. This pathway, called an LCDS, is likely to include the following elements:

- national options and prioritized actions for low carbon development in the mid- and long term
- sector-specific options and prioritized actions for reductions of GHGs

1 Paving the Way for Low-carbon Development Strategies, Energy research Centre of the Netherlands (ECN) 2011, X. van Tilburg L. Würtenberger, H.de Coninck, S. Bakker

» a roadmap on how to implement the priority options nationally and sector specifically

Grounded in national priorities and realities LCDS will logically need to identify options that are *nationally appropriate*. The national process for determination of appropriateness needs to include a broad range of stakeholders beyond the officially responsible ministries, like local government, community organizations, the private sector, etc. The process will be based on coordinated government leadership and involve:

» a multi-stakeholder process engaging government at sub-national levels and private and civil society players from the beginning of the process
» mainstreaming of low carbon strategy elements into national development planning processes
» a low carbon development strategy, roadmap or other relevant national framework

Some common elements in the LCDS preparation process are likely to be:

» description of the socio-economic, demographic and geographical context for low carbon development
» assessment of existing GHG emissions by sector and expected emissions in the mid- and long term
» assessment of technology options in priority sectors
» analysis of implementation opportunities for options for low carbon development in relevant sectors

A number of countries have existing institutional structures to coordinate climate change activities. Such structures should logically be the starting point for LCDS and NAMA activities but it is important that the ministries responsible for national development planning are closely integrated to ensure that LCDS activities are rooted in the regular national processes and not running as a parallel “climate exercise” .

3. Nationally Appropriate Mitigation Actions

While the LCDS provides the long term direction – the low carbon development pathway – for the national economy in meeting development goals and objectives, the NAMAs are vehicles to implement the strategy. NAMA prioritization and preparation will therefore address issues like:

» how would the initiative be implemented;
» who would be responsible and who would be targeted; and
» when would a timely action have to be launched?

A practical requirement for any action to be nationally appropriate is the ability of countries to actually implement it in practice and get buy-in by all involved stakeholders. So while general appropriateness determination is built into the low carbon development strategy process it is still a specific criterion at the level of defining actions flowing from the strategy.

Significant attempts to structure and define NAMAs according to different criteria and principles have been made by a sizeable number of stakeholders in the UNFCCC negotiation process. The negotiations, however, are still proceeding to produce a final definition and modus operandi for NAMAs. Currently, negotiation texts[2] differentiate only between supported and unilateral NAMAs for developing countries. However, there seems to be an emerging analytical consensus defining three types of NAMAs:

» Unilateral NAMAs (domestically funded and unilaterally implemented)
» Supported NAMAs (implemented with financial, technological and/or capacity building support from developed countries), and
» Credited NAMAs (generating revenues from carbon offsets relative to the amount of emissions reduced).

Credited NAMAs have not been formally agreed or accepted during negotiations and considerable disagreements remain. However, especially private sector entities consider crediting and carbon markets essential for attracting private finance for NAMAs.

How the three different types of NAMAs will relate to mitigation cost structures and possible funding sources are being debated. The immediate logic would be that negative or low cost options in a mitigation cost curve would mostly be done with domestic funding while the options higher on the cost curve would require external funding either in the form of international climate finance or revenue from a crediting system. Experience from the CDM process would indicate that crediting would be most realistic for the middle cost level and climate finance for the more costly reduction options. There is, however, no general agreement on this view and the reality will most likely be more complicated. Some NAMAs may even benefit from a combination of all three types of funding.

2 FCCC/AWGLCA/2010/8

Table 1: Policy NAMAs

Policy NAMAs that *represent* action	Policy NAMAs that *require* action
Grants	Energy efficiency target
Direct payment	GHG emission target
Fixed payment	Renewable energy target
Additional payment (e.g. feed-in tariffs)	Other quantitative targets/obligations
Public procurement guidelines	GHG emission below BAU level
Tax credit	GHG mitigation target
Tax reduction/exemption	R&D
Variable or accelerated depreciations	Enhancing forest carbon sinks
Building sector standards	Quota obligations
Labelling requirements for low GHG products	
Removing subsidies to non-RE	
Loan schemes	
Guarantee schemes	

From submissions made by Parties to the UNFCCC, it is evident that NAMAs will be a common terminology for a large variety of different action types. Two broad categories emerging from national pilot efforts are "policy" NAMAs and "project" NAMAs. This categorization is not meant to be exclusive, but simply reflects actions indicated through national submissions.

Policy NAMAs

The diversity of possible policy NAMA options is significant, but two categories can be identified, although the distinction between the two is not always straightforward:

Category 1: NAMAs that at the policy/regulatory level represent actions, i.e. require no further intervention as they are designed to promote a change of behaviour by different actors, mostly through economic incentives (or disincentives).

Category 2: NAMAs that require further implementation action.

A non-exhaustive list of possible Policy NAMAs is presented in Table 1.

The categorization may assist in providing a better understanding of the possible NAMA types. It can also contribute to answering questions like how, who, and when.

Project NAMAs

Project NAMAs typically refer to specific investment actions and therefore in most countries can benefit from CDM experience. While CDM has produced an impressive level of activity, it is by design a bottom-up mechanism with projects mainly evolving from bottom-up private sector initiatives. It is therefore often difficult to link these projects to more strategic considerations at the national level. A shift from CDM activities towards NAMAs implies a move from a bottom-up to a more top-down process in which countries formulate the most appropriate mitigation actions within their LCDS framework. . The reality may in many countries be more pragmatic, as sector plans and strategies often are built around a number of major planned projects and then combined into a strategy. This depends on national traditions and institutional capacity.

Nevertheless, project NAMAs will benefit from the CDM experience gained over the past decade including a well-developed methodological platform, tools for additionality assessment and principles for standardized baseline calculation. Possibly, the principles and formats introduced for CDM Programmes of Activities (PoAs) may fulfill many of the aspirations of scaling up mitigation actions through project NAMAs. In addition, it may be possible for countries to use the institutional framework established for CDM, if desirable, and develop it to accommodate NAMA specific requirements.

While the implementation of CDM activities provides valuable positive experiences, it is also important to address the recognized shortcomings in order to design more efficient future mitigation instruments. One of the particular challenges is that it has not been able to unlock the significant potential for greenhouse gas mitigation in e.g. efficiency improvements in buildings and transport. In these sectors, the number of CDM projects has been very small in spite of significant reduction potential. Another challenge that should be considered is the limited ability of CDM to attract real private sector investment capital from Annex I countries, the causes of which should equally be taken on board.

Project NAMAs may also relate to sectoral approaches, though in this context such approaches resemble the Policy NAMAs more. Sectoral approaches have many forms, but they typically operate with some form of benchmark against which the performance of entities in the sector is measured, requiring establishment of national registration systems.

Many market actors have discussed, specifically related to such sectoral approaches, if individual activities under the CDM would be conflicting with a sectoral activity in countries where both options are relevant. This will entirely depend on the national approach to designing sectoral models. Specifically, it depends on the definition of boundaries between project level activities. It is therefore important to stress that NAMAs could co-exist with CDM activities depending on the national approach.

4. The NAMA Cycle and its building blocks

The design and national prioritization of NAMAs will be influenced by the emerging international architecture for providing financial and technical support and registering achievements. Though the procedures have not been completed, the Cancun decisions indicate possible elements of a NAMA Cycle at the international level. Complementary national level processes will have to be developed by countries to develop and propose NAMAs to the Convention.

Figure 2 – The NAMA Cycle

In a first attempt to interpret the political signals, Figure 2 presents possible building blocks, links and related processes that are likely to be part of a future NAMA activity cycle. The right column presents the elements that reflect the flow of decisions on policies and procedures in a likely NAMA cycle based on discussions of the most important steps presented in previous sections. Step 1 in essence is turning the LCDS into concrete policies and proposed actions identifying how and when specific NAMAs are believed to fit into national circumstances and who would be the main stakeholders or 'target audience'. For national approval, in Step 2, countries will have to develop in-country institutional arrangements for considering and proposing NAMAs to the UNFCCC and to manage the NAMA Cycle at the national level. This will include designating a national focal point for communication with the UNFCCCC. Most countries have existing focal points for such communication, commonly in the ministry of environment, and a DNA for CDM.

It is also at this stage that it is decided under what conditions a given NAMA will be implemented, i.e. if it is a unilateral action or one that is dependent on international support. This process may be iterative, particularly in cases where NAMAs are interrelated or depend on other supporting elements for implementation. Hence, national approvals should be considered dynamic in the sense that implementation of approved NAMAs may be pending while support is being sought. Matching NAMAs with finance, technology and capacity building in Step 3 will effectively succeed through the NAMA registry (see later), which will serve a dual purpose: To facilitate the interaction between suppliers and demanders of any of the three kinds of support; and registering any such linkages having been established. This will equally influence the national approval process in Step 2. If already approved NAMAs turn out not to be able to attract the necessary support, linkages to other NAMAs may be influenced and the national 'NAMA structure' may have to be revised accordingly.

In Step 4, NAMAs move to the operational level, be it in the form of a policy NAMA or a project NAMA, as described above. The implementation process will also provide feedback to the elaboration of future NAMA policies and actions in Step 1. If the action changes during implementation it may need adjustment and even go back into the prioritization process.

The MRV structure in Step 5 serves the purpose of assessing the results of actions and, where relevant, report to the international level, probably linked to the NAMA registry.

The left side, in Figure 2, shows the support elements that most likely will be required to facilitate the implementation of NAMAs. The parallel representation of process and support activities is not implying a direct correlation, but is meant to be indicative.

For the process of matching NAMAs with possible funding sources envisaged in Step 3, UNEP Risø has developed what is called a NAMA Idea Note (NINO), which is attached in the Annex. It is designed as a simple format for outlining the main elements of a NAMA and support needed for its implementation. The NINO is aiming to provide national NAMA responsible entities and possible funding entities a standardized information platform to facilitate the process of making 'supply meet demand'. The definition of performance forms part of this interaction, which again will inspire the development of MRV methodologies – and vice versa.

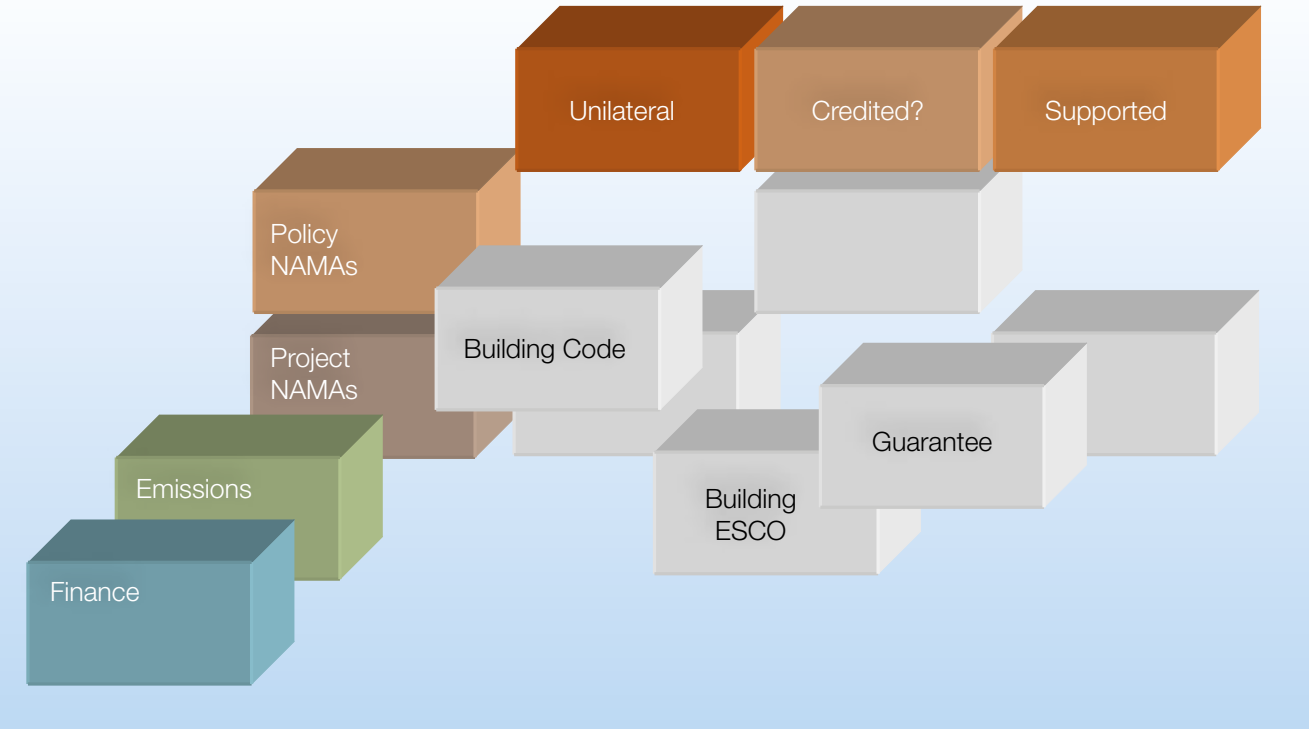
Not all central elements in the NAMA Cycle have been elaborated in the text as many uncertainties remain. Among the most important, and also most advanced in the negotiations, is the NAMA Registry and the procedures for Monitoring, Reporting and Verifying (MRV) mitigation actions.

Registry

In Cancun, it was decided to set up a registry to record Nationally Appropriate Mitigation Actions seeking international support and to facilitate matching of finance, technology and capacity-building support for these actions. Further, it was decided to establish a separate section of the registry to recognize unilateral NAMAs of developing countries. The structure of the registry is not established, but it seems likely that it will be a web based platform to display the actions and support available and at the same time facilitate matching of support to action. Though the details of information to be reported and reflected in the Registry are yet to be finalized, the Cancun agreements call upon countries to submit "information on Nationally Appropriate Mitigation Actions for which they are seeking support, along with estimated costs and emission reductions, and the anticipated time frame for implementation".

The registry will also be tasked to reflect the technical and financial support made available by developed countries and specific support for individual NAMAs once this process has started. The Registry would likely reflect an information matrix like the one indicated in Figure 3 – with additional registry options for matching finance.

Figure 3: NAMA Registry



MRV, internationally and nationally

The Cancun Agreements specify some important basic principles for MRV:

- Mitigation actions by developing countries shall be communicated every two years via biennial update reports to the National Communications.
- MRV of unilateral NAMAs will be conducted domestically in accordance with general guidelines to be developed under the Convention.
- Supported NAMAs will be monitored, reported and verified domestically according to guidelines to be developed by the COP and will be subject to international verification.

Developing countries will need to establish procedures and structures to collect information to assess and report the estimated impacts of their NAMAs on emissions reductions. For this process, it will be important to differentiate monitoring, reporting and verification by type of NAMA, as some actions may be amenable to direct measurements of the GHG reductions while others less so. The MRV structure should therefore be based on assessment of actual GHG emissions, while also providing options for other processes or proxy indicators. The guidance on what the MRV requirements for supported NAMAs will be is still under negotiation.

5. The way ahead

UNEP Risø has developed a NAMA Idea Note template – or the 'NINO' – that contains the essential information for an activity being proposed as a supported NAMA. The ambition is to contribute to the clarification both of the underlying terminology and approach for LCDS and NAMAs, and spur development of more detailed guidance and tools that assist national processes. The template, which is annexed, is intended to serve a purpose similar to that of the Project Identification Note or PIN for the CDM, namely providing NAMA developers with a common information platform to use when discussing actions with possible financiers.

If the NINO format turns out to be useful in articulating ideas for NAMAs, UNEP Risø will receive and publish NINOs on the recently established www.NAMApipeline.org website, until such time that a formal NAMA registry is in place. It must be stressed that this database would have no formal status and is only intended as a platform for sharing information.

NAMAs Information Note - NINO

Title of the NINO: _____

Country: _____

NAMA Proposal				
Name of Activity				
Entity/Organization				
Fill in Annex 1				
Activity information				
Scope of the activity	National	Sector[1]	Project/ Programme	
Objective of the activity *(Brief description)*				
Set of measures to obtain the objective				
Status of the activity	Feasibility study	National approval	Under implementation	Implemented
Expected start of implementation *(Month / Year)*				
Expected duration of implementation *(Months / Years)*				
Fill in Annex 2				
Brief explanation of the measures planned				
Sector background *(laws, regulations, policies and strategies of the Country that are of central relevance to the proposed activity, as well as any other major trends in the relevant sector)*				
Brief description of the current situation, including barriers to improvement *(without the intervention)*				
Brief description of measures/activity				
Brief description of the activity's relation to other NAMAs, proposed or under implementation/ implemented				
Brief description of the boundaries of the proposed activity				

1 Please indicate sector. E.g. Agriculture, Energy, Forestry, Industry, Renewable energy, Residential, Transport,

Impact of the NAMA			
The activity's contribution to the country's sustainable development			
How does the activity contributes to sustainable development priorities of the country? *Social, environmental, economic and any other benefits*			
GHG emission reduction			
Types of Green House Gases reduced by implementation *(CO_2, CH_4, N_2O, HFC, PFC, SF_6)*			
Estimate of potential GHG's reduction and the time frame of estimates (2020, 2030, etc) *($ktCO_2eq/year$)*			
Brief description of estimation methodology			
Financing of measures, including technology and capacity building			
Type of financing *(Short description of measures financed unilateral, international supported and/or by credits)*	Domestic		
	Internationally supported		
	Offsets/credits		
Technologies *(Identified technologies for implementation)*			
Capacity Building *(Identified capacity building needs for implementation)*			
Monitoring, Reporting and Verification (MRV)			
Brief description of parameters monitored to measure impacts			
Brief description of national system for collecting data			
Brief description of national system for verification			

Annex 1

Contacts details

1. National entity responsible for the activity
Name:
Postal address:

Phone:
Fax:
E-mail:

Person responsible for the activity[2]:
Phone:
Fax:
E-mail:

2 E.g. the Company manager, the project manager, the technical director, or any legally designated person.

Annex 2

Examples of national and sectoral policies/regulations

- Fiscal initiatives
  - Grants
  - Direct payment
  - Rebate payment
  - Tax credit
  - Tax reduction/exemption
  - Variable or accelerated depreciations

- Public/supported finance
  - Investments
  - Guarantees
  - Loans
  - Public procurement

- Regulations
  - Quantity-Driven
    - Quantity targets/obligations
    - Quota obligations
  - Price-Driven
    - Fixed payment
    - Additional payment
  - Quality Driven
    - Voluntary RE obligations
    - Labelling of low GHG products

- Other listing to be developed