Euroconsult Mott MacDonald

European Commission

EuropeAid/127404/C/SER/Multi

Service contract No
21.040100/2009/SI2.539350/SER/C1

Developing countries, monitoring and reporting on greenhouse gas emissions, policies and measures

Country Report Peru

Euroconsult Mott MacDonald
in association with:

- ECN (The Netherlands)
- Ecoprogresso (Portugal)

December 2010

A project funded by the European Union. The views expressed in this report are those of the consultants and do not represent the views of the Project Partners or European Commission

Developing countries, monitoring and reporting on greenhouse gas emissions, policies and measures

Final Country Report Peru

December 2010

Mott MacDonald, Amsterdamseweg 15, 6814 CM Arnhem, PO Box 441, 6800 AK, Arnhem, Netherlands
T +31 (0)26 3577 111 F +31 (0)26 3577 577 W www.mottmac.com

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
6	17 december 2010	Gonçalo Cavalheiro Maria Paz Cigaran Tolmos	Inês Mourão	Caroline La Chapelle	Submitted to client

Mott MacDonald, Amsterdamseweg 15, 6814 CM Arnhem, PO Box 441, 6800 AK, Arnhem, Netherlands
T +31 (0)26 3577 111 F +31 (0)26 3577 577 W www.mottmac.com

Content

Executive Summary

Project methodology and this report

The following document is the result of a process of stakeholder consultations and iterative thinking that took place from June to August 2010. Said process was aimed at identifying capacity barriers, gaps and recommendations for the monitoring and reporting of GHG emissions and mitigation policies and measures in Peru.

This report is structured following a logical sequence starting with an introduction of the country's circumstances relevant to the subject of monitoring and reporting of GHG emissions and mitigation policies and measures (MRV); followed by an overall presentation of the main findings on gaps and barriers for MRV. The third section focuses on overall recommendations for a way forward that sets MRV as an important need for seizing the opportunities for a low emission economy. Section four focuses on the analysis of gaps and barriers for the development of GHG Inventories and National Communications as key instruments for measuring and reporting.

Finally section five gives a more detailed overview of barriers and recommendations for two prioritized sectors: forests and energy. These sectors were selected for this study based on the following criteria: contribution to GHG emissions and reduction/ avoidance potential, mitigation initiatives and NAMAs, and priority areas for present and future development. The specific recommendations are grouped depending on the level in which barriers are identified and the scope of the actions that need to be undertaken to overcome barriers:

- policy, focusing on the high level decision making processed;
- institutional issues, including organizational skills and capacity;
- information and systems, referring to quality of the information used for decision making and the way it is organized; and
- finance and incentives, when the main gaps identified are related to the lack and/or inadequacy of resources and financial instruments.

Institutional Framework and key policy documents

- Ministry in charge: Ministry for the Environment (MINAM - 2008), in close coordination with the Ministry of Foreign Affairs (MRE) and the Ministry of Economy and Finance (MEF).
- Inter ministerial coordination: National Commission on Climate Change (CNCC, 1993) and working groups (adaptation, technology, finance, mitigation, REDD+).
- Climate Change Policy Planning:
  - National Strategy on Climate Change (ENCC) (2003);
  - Preliminary National Mitigation Plan (NMP) (2009);
  - Mitigation Action Plan (2010);
  - Forest Conservation Programme (includes zero deforestation plan and REDD strategy);
  - New Forest Law and Environmental Services Law;
  - Energy Efficiency Plan;
  - "Electricidad para todos" (Electricity for All) Program;
  - Energy Policy Guidelines till 2030.
- Peru is associated with the Copenhagen Accord:
  - NAMAs presented to the UNFCCC (2010): zero net deforestation rate in primary forests, 33% renewables in energy matrix and waste management measures to reduce GHG emissions by 2021.

1. Gaps, Barriers and Actions to overcome them. Opportunities for Cooperation

1.1 About MRV and this report

MRV stands for Monitoring, reporting and verification (MRV). This concept was first introduced by the “Bali Action Plan” -BAP (decision 1/CP.13) under the United Nations Framework Convention on Climate Change (UNFCCC). The BAP foresees MRV of nationally appropriate mitigation commitments or actions for developed countries, MRV of nationally appropriate mitigation actions (NAMAs) for developing countries and MRV of financial and technical support for NAMAs.

Later, the Copenhagen Accord provided a broad vision of the overall scope and main goal of the MRV procedures to be created.

" Non-Annex I Parties to the Convention will implement mitigation actions, including those to be submitted to the secretariat by non-Annex I Parties in the format given in Appendix II by 31 January 2010, for compilation in an INF document, consistent with Article 4.1 and Article 4.7 and in the context of sustainable development. (...). Mitigation actions subsequently taken and envisaged by Non-Annex I Parties, including national inventory reports, shall be communicated through national communications consistent with Article 12.1(b) every two years on the basis of guidelines to be adopted by the Conference of the Parties. Those mitigation actions in national communications or otherwise communicated to the Secretariat will be added to the list in appendix II. Mitigation actions taken by Non-Annex I Parties will be subject to their domestic measurement, reporting and verification the result of which will be reported through their national communications every two years. Non-Annex I Parties will communicate information on the implementation of their actions through National Communications, with provisions for international consultations and analysis under clearly defined guidelines that will ensure that national sovereignty is respected. Nationally appropriate mitigation actions seeking international support will be recorded in a registry along with relevant technology, finance and capacity building support. Those actions supported will be added to the list in appendix II. These supported nationally appropriate mitigation actions will be subject to international measurement, reporting and verification in accordance with guidelines adopted by the Conference of the Parties."

The general terms of the Copenhagen Accord as described above do not provide a clear understanding of how the MRV system will function and how its requirements will be implemented. It allows, however, to narrow down the key issues one must address when thinking ahead and start preparing for the establishment of an MRV system for climate policy.

The European Commission is implementing a scoping study aimed at understanding and exploring the needs of developing countries as regards enabling activities related to mitigation – focusing on measurement, reporting and verification (MRV) of emissions, the preparation of National Communications, Greenhouse Gas Inventories, and planning and development of nationally appropriate mitigation actions (NAMAs). The European Commission is in particular interested in understanding the needs related to capacity building in these areas.

The project, implemented by Euroconsult Mott MacDonald with Ecoprogresso and the Energy research Centre of the Netherlands (ECN), seeks to provide concrete recommendations on the structure and elements for a capacity building programme to be implemented between 2010 and 2013-2014 with a view to assist developing countries in implementing MRV requirements of a future climate change agreement. This capacity building programme will be designed based on and with a view to addressing institutional, procedural and methodological issues, relating in particular to data gathering, barriers, needs, constraints

and opportunities, identified during this scoping study through an intensive in-country interactive stakeholder engagement and consultation process.

1.2 Overview of national circumstances

Peru may be described as a developing country that has started an accelerated process of economic growth but still has structural social and organizational challenges to overcome. Peru is also going through a sustained decentralization process, in which competences are being transferred to sub-national levels of government. At the same time, a process of modernization and normative adjustment of the State's central role is taking place.

The cross-cutting nature of environmental issues and of climate change in particular, together with the country's geographical, social, political, climatic, biological and cultural diversity; poses a challenge for dealing with climate change mitigation, and calls for multiple stakeholder involvement. Furthermore, the Peruvian Ministry of Environment (MINAM) is of much recent creation (2 years). MINAM now faces the challenge of having to deal with inherited and new responsibilities while developing new institutional and technical capacity, since several capacities were lost in the transition towards a new environmental authority. See Annexes 8 and 9 for a quick view of institutional arrangements for the forests and energy sectors, respectively.

The country's current contribution to greenhouse gas emissions accounts to less than 1% of global emissions. However, Peru evidences an accelerated and continuous economic growth (2001-2009 annual economic growth rates of 6%) that is currently linked to Greenhouse Gas (GHG) emissions growth. The country has shown its determination to engage proactively in GHG mitigation.

At the national level, a preliminary version of a **National Mitigation Plan** has been developed as the result of several studies conducted during the last few years and is still under validation. See Annex 10 for other relevant legislative initiatives.

Perhaps another important milestone has been the presentation, as a response to the call for information by non-Annex I Parties relating to Appendix II of the Copenhagen Accord, of **nationally appropriate mitigation actions** (NAMAs). The Note Verbale sent by the government of Peru[1] states the will to strengthen action to mitigate climate change through a growing, sustainable and low carbon economy. With this purpose the country will undertake the following voluntary actions, in accordance with article 4 paragraphs 1 and 7; 12 paragraphs 1(b), 4 and 10 paragraph 2(a):

- cero net deforestation rate in primary and natural forests by 2021;
- modification of the current energy matrix so that, by 2020, renewable energies (non conventional, hidro and bio fuels) account for at least 33% of used energy;
- design and implementation of measures that reduce emissions caused by the inadequate handling of solid waste. See Annex 13 for current governmental projects and programs for the waste sector.

These actions may include the use of the Clean Development Mechanism (CDM) and other market mechanisms created under the UNFCCC. Also, the note expresses the need for international support through a range of available financial and cooperation mechanisms for the implementation of the actions.

1 http://unfccc.int/files/meetings/application/pdf/perucphaccord_app2.pdf

Neither the Plan nor the NAMAs include MRV provisions to underpin their implementation. The main country experience on MRV has is related to projects under the Clean Development Mechanism (CDM) and at project and subnational level to REDD+ readiness. Also MRV experience has been gained via the preparation of Peru's national communications. However, this experience is still limited as only two GHG inventories have been developed and reported in National Communications (year 1994 reported in 2001 and year 2000 reported in 2010). Regarding baseline and projections development for GHG emissions, even less experience has been developed. Methodologies used are standard IPCC recommended and emission factors are default IPCC factors, which don't represent national circumstances.

Still, the main stakeholders have a good idea of constraints, gaps, needs and priorities towards a monitoring and reporting system for mitigation. Furthermore, there are already some proposals, plans and projects in place for strengthening national capacities for measuring and reporting.

1.3 Gaps and barriers

The identification of capacity barriers, gaps and recommendations for the monitoring and reporting of GHG emissions and mitigation policies and measures in Peru, has been a process of stakeholder consultations and iterative thinking. The following steps have allowed the team to arrive to this final country report:

1. development of a first draft of country report which included national circumstances, based on secondary information.
2. first in-country mission: consultation with stakeholders and systematization of findings. During the first visit, stakeholders both from the energy and LULUCF sector where interviewed. Approximately 23 meetings were held with more than 35 key stakeholders such as Information providers, analysts, policy makers and research institutions.
3. second in-country mission: consultation with stakeholders, country workshop and systematization of findings. During the second mission interviews with stakeholders where completed, mostly on the energy sector. The country workshop took place in the Ministry of Foreign Affairs Headquarters on June 23, 2010. More than 50 representatives from government – environment, economy and finance, energy and mining, foreign affairs and agriculture-; the private sector; civil society and the international community attended the workshop. The objectives set for the workshop where to socialize and validate preliminary findings, to gather more information about barriers, gaps and recommendations, and to identify key work areas for a MRV capacity building project.
4. preparation of the final country report. The following report aims to analyze the process of planning, design, implementation and evaluation of nationally appropriate mitigation actions and low emission development strategies in Peru. It also includes existing instruments and processes for monitoring and reporting such as GHG inventories and National Communications to the UNFCCC.

The main gaps and barriers identified both for the energy and LULUCF sectors are focused around two main issues: lack of institutional and political articulation for effective planning, design and implementation of Nationally Appropriate Mitigation Actions such as the zero emissions from deforestation initiative and the energy efficiency and renewable energy plans; and the absence of sound information and harmonized methodologies for evaluating alternatives of growth and prioritizing mitigation measures; and for measuring GHG emission reduction and avoidance, and monitoring and reporting mitigation policy. Scattered information systems and outdated underlying information do not allow for effective planning and monitoring of climate change policies and measures.

1.4 Seizing the opportunities of low emissions growth: a way forward

First during the office work and afterwards together with all stakeholders it was agreed that the approach for working on strengthening MRV for mitigation actions in Peru was to seize the current opportunities for early adopters of a low emission future mindset. It became clear that while there are some opportunities in Peru for “reducing” emissions, the big opportunities lie in “avoiding” emissions by taking action in the near future to decouple economic growth from emission growth.

Under this approach a way forward has to include the development of capacity in all sectors of government and society in relation to four main challenges:

1. incorporating climate change in sectoral policy planning;
2. designing processes for dialogue and consensus building around development paths which include different mitigation options;
3. defining baselines and elaborating projections;
4. establishing systems for measurement/monitoring, reporting and verification.

For both sectors a government driven data-based participatory process is needed in order to accomplish 3 major objectives following 3 subsequent phases:

- **consolidation** which includes measuring actions taken and planned and creating a framework in which they can all be articulated;
- **planning** of future actions under a scenario based approach that uses the best data and modelling tools available and is guided by key stakeholders under a process of dialogue and consensus building. In this phase of planning and design it is vital that a measuring and reporting system or mechanism is also designed and put in place to monitor and evaluate actions taken; and
- **implementation** of mitigation policies, programs and projects including MRV.

Though the process is driven and implemented mainly by government it is vital that both the private sector and civil society are part of the scenario building exercise. Several stakeholders highlighted that perhaps the process could be complemented with initiatives driven entirely by civil society (such as a climate change forum for green consumers, business, communities and trade unions) and later by a “Greenhouse Gas Emissions Voluntary Reporting and Support Scheme“ under which companies can voluntary report GHG emissions as part of their sustainability and social responsibility strategy. Such a system could also help prepare the private sector for future constraints on GHG emissions.

In response to these needs a main priority is to establish a long term mitigation scenario generation and planning process. Such a process could: 1) assess and improve the current mitigation initiatives and also 2) design mitigation options from scratch using advanced modelling, contributions from interest groups, under a ‘facilitated scenario approach’. The process should have two pillars:

- one line of research, which ensures the use of the best available data and methodologies by a technical team with the best research capabilities in the country and international technical support;
- a line of dialogue and consensus, to ensure the effective participation of relevant stakeholders and policy-makers guided by a facilitation team with the best technical capabilities and international support. If "A plan is not inclusive it is not a plan".

In the forest sector a priority strategy is to establish a central coordination mechanism between MINAM, MINAG and OSINFOR, and these with MEF, Regional Governments, Private Sector and Civil Society to carry out the zero net emissions from deforestation plan. Stakeholders also considered three measures as “very important”: 1) generate economic value chains from the products / services of the forest: landscape, tourism, forestry, water, biodiversity, 2) develop a concerted and consensual national plan for zero

emissions from deforestation based on sound information, and 3) positioning the target (reduced deforestation) up on the public agenda.

In the energy sector a prioritized strategy was to implement state policies starting with a planning process that includes foresight work for generating energy alternatives and information for decision making and prioritization of actions, and to establish monitoring systems for policies and plans. The need to diversify the energy mix and promote more special auctions for renewable energy was also highlighted. In addition, two other measures were prioritized: calculate the useful energy balance; design an MRV system compatible with the sector's decentralized emission estimation system and update the country's energy potential maps.

1.5 Analysis of gaps, barriers and way forward regarding GHG inventories and National Communications

1.5.1 GHG Inventories

Peru has very little experience in the development of GHG emissions inventories. Monitoring, reporting and verification of NAMAs is expected to be an overall new experience for Peru. It is, nonetheless, expected that it will still be closely linked to the national greenhouse gas inventories. The main gaps identified under this subject include a large amount of uncertainties around the LULUCF sector and the role of forest in carbon emissions and capture. A draft proposal for a National GHG Inventory System covers most gaps but it is still only in a design phase.

The table on the next page summarizes the analysis of gaps, barriers and way forward for the development of GHG Inventories:

1.5.2 National Communications

National Communications are currently the only official reporting mechanism on actions taken in climate change mitigation. For both National Communications, Peru has followed the UNFCCC official guidelines but has not been able to develop a system that allows for monitoring and gathering all information required.

In sum, the country does not have acquired yet the full set of capacities needed to periodically produce such reports. In addition, the development of NCs relies entirely on external finance.

The following table summarizes the analysis of gaps, barriers and way forward for the preparation of National Communications:

1.6 Sectoral analysis of gaps, barriers and way forward

The sectoral analysis of gaps and barriers focuses basically on the issue of nationally appropriate mitigation actions (NAMAs) for two prioritized sectors: energy and land use, land use change and forestry (LULUCF). It identifies the main gaps throughout the NAMA cycle which includes planning, design, implementation and evaluation of such actions.

The main phases of the NAMA cycle could be described as follows:

- planning: relates to "macro" policy planning, including the information and modelling needed for developing "Low Emission Development Plans" or similar instruments;

- designing: means defining and creating specific instruments and mechanisms to reduce emissions. Baselines and methodologies to estimate the potential for emission reductions are needed for this phase. The issue of GHG inventories discussed above is highly relevant for this phase;
- implementation: under the concept of MRV is the phase in which the “monitoring” takes place. During this phase information system that collect the adequate data are needed, together with indicators that allow adequate monitoring of results;
- evaluation: refers to the phase in which the relevant players look into the monitored data and react to it by retro-feeding it and adjusting polices.

Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors
Information on level of activity exists in most sectors, but it does not systematically give feedback a national GHG inventory system	Information and Systems	Implement the national GHG inventory system, which includes the work of all institutions involved in all sectors. Some areas of cooperation include: • Strengthening the capacity of key institutions to collect, analyze, validate and synthesise activity data and to revise IPCC emission factors • Implement procedures for data quality improvement • Make legal and institutional arrangements: law and cooperation agreements between key institutions	MINAM, MINAG, MINEM	INEI, PRODUCE, INIA, IIAP, ICRAF, Regional Governments, CONCITEC, Universities and research centers	US$ 5,000,000	First National Communication (UNDP-GEF, 2001) provided funds for first GHG inventory, PROCLIM Program (Netherlands Government, 2003-2005) provided funds for the second GHG inventory, Second National Communication (UNDP-GEF 2006-2010) provided funds for the elaboration of the Proposal for a National Inventory System
High level of uncertainty in estimating emissions from the LULUCF sector in the national GHG inventory.	Information and Systems	Complete the design and implementation of the National Emissions Inventory Subsystem for the LULUCF sector, with decentralized nodes in the regions and research sector participation to improve levels of activity (information on land use changes and biomass, and emissions factor: emissions by type of species, sizes and surrounding properties.)	MINAM, MINAG, Regional Governments	IIAP, ICRAF, Regional Governments, Universities and research centers, IIAP	US$ 3,500,000 (this number is included in the previous cost)	Second National Communication (UNDP-GEF 2006-2010) provided funds for the elaboration of the Proposal for a LULUCF GHG Inventory Sub system.
Information related to deforestation and causes of deforestation is restricted to the Amazon and it is not generated systemically. Peru doesn't generate systematic information on degradation.	Information and Systems	Design and implement the National Decentralized Monitoring System for Deforestation and Forest Degradation (NDMSDD) addressing: • Definition of roles and functions • Analysis of alternative technologies for monitoring deforestation and degradation (remote sensing, satellite image analysis, rectification, fieldwork and validation sampling, equations for different types of forests in different regions, etc), integrating the different nodes. • Articulate the technological and institutional monitoring the community by local populations (surveillance, carbon measurement, recording of bioclimatic indicators).	MINAM, MINAG, Regional Governments	Universities and research centers, IIAP	included in previous cost	The latest map of deforestation was completed in 2005 (base year 2000) under the PROCLIM Project (funds by Netherlands Government, 2003-2005) , and there are partial updates for the year 2008 (for the Region of San Martín) Planned activity by MINAM and Moore Foundation for Forest

Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors
		• Financial, technical and management capacities required to implement the system and improve it over time, and design a capacity building program for this purpose. • Determine the budget, funding sources, implementation plan and draft a SNIP project.				Monitoring.
The classifications on land use and land use changes are heterogeneous	Information and Systems	Implement NDMSDD, addressing: • Harmonization of the classification of land use and land-use change.	MINAM, MINAG, MINEM, Regional Govs.	Universities and research centers, IIAP	included in previous cost	
Use of default emission factors	Information and Systems	Generate national emission factors, specially under land use change category (carbon capture potential and forest dynamics by ecosystem), and also transport under the energy sector.	MINAM, MINAG and MINEM	Universities and research centers	US$ 30,000 per EF	
Outdated information: last GHG emissions inventory developed for the year 2000	Information and systems	Update the 2000 GHG emissions inventory	MINAM, MINAG, MINEM, PRODUCE	Universities and research centers	US$ 600,000	
Very little experience on the establishment of baselines and projections development (2000)	Information and Systems	Capacity building for GHG emissions BAU and projection development.	MINAM, MINAG and MINEM	Universities and research centers	US$ 300,000	Second National Communication (UNDP-GEF 2006-2010) provided funds for GHG emission projections based on the 2000 GHG Inventory.

Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors
Information on results of projects, programs and policies is not available to be integrated into national communications.	Information and systems	Capacity building for the preparation of National Communications : Generate a system for climate change information gathering and Strengthen MINAM's capacity to monitor, collect, analyze and report information on climate change mitigation actions.	National Climate Change Commission, MINAM, MINAG	OSINFOR	US$ 200,000 per National Communication	First and Second National Communication financed by GEF
The periodic elaboration of National Communications relies on international funding.	Financing and incentives	Raising awareness to include National Communication costs into sectoral expenditure.	National Climate Change Commission, MINAM, MEF	Congress, other ministries	US$ 100,00	PROCLIM and Second National Communication Projects contributed to public awareness

1.6.1 Stakeholder analysis of gaps and barriers for the Forestry Sector

The stakeholder analysis of gaps and barriers for the forestry sector identified as a central problem for any MRV capacity building activity the “low implementation probability of the current zero net emissions from deforestation initiative”. For the complete “problem tree” constructed with stakeholders see Annex 15.

From a politics perspective barriers identified to solve the central problem revolve around four main topics: (1) the many interests, gaps and needs that drive policies that promote deforestation, (2) inefficiency in the use of financial resources driven by the lack of coordination among projects and the absence of capabilities in the relevant sectors and regions; (3) institutional disarticulation that complicates the design, implementation and monitoring of the initiative; and (4) the absence of information such as the valorization of environmental and ecosystem goods and services and the costs of the impacts of deforestation and degradation, as a crosscutting structural issue that causes most of the barriers above.

Under the first topic stakeholders realized that there is an uninformed wrong perception of the value of preserved forests which rises opportunity costs and generated deforestation policies. The implementation of said policies in turn leaves no choice for the people living from forest resources but to also contribute to deforestation.

On the technical side the barriers were mainly discussed under REDD+ because it is under this specific subject that discussions on MRV systems are taking place in the forestry sector. Regarding an MRV system for REDD+, stakeholders agree that the existing technical capacities for implementing such a system are weak in most governmental sectors and at sub national level. Also, the scattering of information systems, initiatives and methodologies was identified as a major barrier.

Some specific information gaps were identified, such as the Ministry of Agriculture’s Map of Main Land Use Capacity which is largely outdated.

The following table summarizes the sectoral analysis of gaps, barriers and way forward for the Forestry Sector:

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[2]
Planning	The vision on the value of forests and their use is divergent within the government at the sectoral level (MEF, Ministry of Transport, MINAM, MINAG, MINEM) and territorial level (the various Regional and Local Governments), and between the business sector and the civil society, including indigenous peoples.	Policy	Develop (detail) the National Zero Deforestation Plan in the Amazon, which should be based on: • Decentralized consensus processes based on comprehensive and impartial information on the potential causes of deforestation and forest degradation (Business as usual) at national and regional level. • Develop alternative investment scenarios and land uses of forest areas as input to the consultation processes (economic variables: costs, investments and benefits; social variables: job creation; environmental variables: GHG emissions and other impacts.) Develop and implement a strategy at the highest level (meetings with government leaders, businessmen and community leaders). Develop training, awareness and exchange of knowledge activities with indigenous communities in relation to: the value of forests, their sustainable management, the carbon market, and developing monitoring and registry systems of environmental change that combine science technologies with ancient knowledge.	MINAM MEF RREE	MINEM MINAG Regional Governments Universities/ Research institutions Facilitation team Indigenous peoples organizations, private sector, civil society	US$ 2,500,000 (for this sector only)	Mitigation Action Plans and Scenarios (MAPS) project, CIF is contributing US$ 450,000 for preparatory phase, NAMA development, facilitation and backstopping.
Designing	There are no reference level studies (baselines) for the regions on deforestation and degradation, or methodologies that can be applied to the diverse forest ecosystems of Peru. The lack of core information is : • Forest inventories (the latest national inventory	Information and Systems	Develop and validate methodologies and reference levels of deforestation and forest degradation for the country regions (projects / programs such as REDD+), as well as guidelines and protocols for articulating the three levels required for a MRV system (early action - project-, regional and national). It is necessary to: • Update the national forest inventory, especially the Amazon region one, and establish a funding system for regular updates.	MINAM, MINAG, Regional Governments	Universities and research centers, IIAP	n.d.	The San Martin Region has had various sources of funding (Carnegy, WWF) for the development of regional reference levels (Annex 11, number 13).

2 For a complete list of governmental forestry programs and projects currently included in MINAM's Adaptation and Mitigation Action Plan see Annex 11. Also, for crosscutting programs and projects see Annex 14

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[2]
	was elaborated on 1970) • Biomass and carbon stocks by major forest ecosystems and / or species.		• Estimate the biomass and the ability to capture the main forest ecosystems of Peru, at the regional level.				Annex 11, number 14
	Information is not available for stakeholders for the design of adequate policies and programs to address emissions from forestry	Information and Systems	Conducting research on forest dynamics and their ability to capture CO_2, as well as on the valuation of ecosystem services, taking into account the diversity of major ecosystems that exist in Peru and the costs of degradation and deforestation in the Amazon region. Design and implement a mechanism for dissemination, maintenance and public access to research and information generated related to sustainable forest management (the platform of the Scientific Research Agenda can be used) and incentives for conservation and sustainable use. The platform may include topics such as environmental services and recovery; forest dynamics, causes and implications of changes in land use, biomass and carbon sequestration capacity, carbon markets (regulated and voluntary) investment opportunities and financing.	MINAM MINAG Regional Governments	MINEM COFOPRI Local Governments Universities	US$ 1'000,000	Annex 11, number 13
Implementing	There are conflicts between various actors (government, communities, private sector) on the use of the land. Keep the standing forest is not necessarily an economically viable activity (environmental services are not recognized or have no market value). The institutions that grant land rights are diverse and have conflicts in the exercise of their functions.	Policy	Intensify efforts for the Economic Ecological Zoning and the Land Management Plans (so they allocate land uses in a consensual way), mainly in the regions of the Amazon rainforest: Loreto, Ucayali, San Martin, Madre de Dios and Amazonas. The EEZ and POT should be developed where possible, at the micro level, and agreed with the Local Governments. Establish a coordination mechanism among the institutions that grant rights to the territory, in order to establish a single cadastre system at the national level, and criteria for approval of land use (territorial-based approach rather than sectoral).	MINAM MINAG Regional Governments Local Governments	Organization of indigenous peoples, NGOs	n.d.	Annex 11, numbers 4, 8 and 10

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[2]
	There are various initiatives and plans for the development of information systems that have potential of overlapping. These initiatives can be the basis for an MRV system for the sector of land use change and forestry. SIVAN -SIPAN, SININGEI, MINAG Information Systems, SINANPE, OSINFOR, etc.	Information and Systems	Systematize information on the various information systems related to conservation and forest management, their objectives, scope and needs of capacity strengthening. Analyze points of complementarity, coordination and inputs for the two systems: the SININGEI and the National Deforestation Monitoring System	MINAM MINAG	OSINFOR	US$ 50,000	Annex 11 numbers 15 and 16
	The technical staff both in the Ministry of Environment (Directorate of CC), the SERNANP / MINAM and MINAG (Forestry Department) are relatively new and are learning about the CC issue and becoming familiar with the sector itself. Capacities are being transferred from the Forestry Department (MINAG) gradually to the regional governments. This transfer does not have the technical resources, infrastructure and funding required to allow the regions to exercise their function fully.	Institutional Issues	Develop a capacity building program in the central institutions of the government (MINAM, SERNANP, Forest Management MINAG, OSINFOR and regional governments) to develop, agree, implement and monitor the National Zero Deforestation Plan. The items to be addressed are: the management of climate change, opportunities of development with low carbon emissions, developing the Deforestation Program, and the design and implementation of systems for monitoring, reporting and verification of its implementation and compliance, and tools to control various sectors to enforce compliance; feasibility tools for analysis and prioritization of measures under the Plan. Using the findings and work already done under this project, the capacity building program would have the National Zero Deforestation goal as its main objective. Some of the specific activities that could be part of the program are: • Workshops (both training and experience sharing, with international forest experts) • Development, gathering and evaluation of relevant Information • Project management • Communication and incidence strategy (including a project website)	MINAM MINAG SERNANP OSINFOR Regional Governments		US$ 2'000,000	Annex 11, number 4

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[2]
	The control and supervision of the activities of conservation (Protected Areas) and forest concessions, to its various uses (plantations, tourism, etc), needs to be strengthened to be effective both at national institutions and regional ones.	Institutional Issues	Define roles and responsibilities of the central government (sectors), regional governments and communities in relation to monitoring of deforestation and degradation, and its compatibility with sectoral information systems planned or in progress. Define the legal and institutional framework of the forestry sector. We recommend: Develop a strategy of the forest sector, establish the legal framework on environmental services, specifically about its ownership, constitute the regulatory and institutional framework for the implementation of REDD+ schemes (if regional governments are developing baselines for REDD+, it is necessary to define who validates them), establish an institutional framework articulated that includes a forest MRV system; and determine the tax rules related to the economic benefits obtained as a result of the implementation of REDD +.	SERNANP MINAG		n.d.	Annex 11, number 1, 2 and 5
	While there are underway efforts for intersectoral coordination for the management of CC, especially in the field REDD+, the MINAG and the MINAM manage parallel programs, which have a high potential for synergy. Strengthened coordination is required within ministries and with the various ministries and levels of government (sub-municipal).	Institutional Issues	Establish a working space between the Forestry and Wildlife Directorate and OSINFOR (MINAG) and the Ministry of Environment (Directorate for Climate Change, the Directorate of Valuation, and SERNANP) to: • Exchange information on the various programs and projects underway and planned in relation to: Conservation and sustainable management of forests, and current and potential market incentives (REDD and CDM) • Articulate programs / projects / initiatives of the Ministry of Environment and the Ministry of Agriculture and deploy efforts with the Amazonian regions. • Develop plans and / or joint programs and unified guidance on the issue for regional governments. • Complement and make compatible the content and processes of the Forestry Law and the Law on Environmental Services (both in consultation processes for approval) This working space could include a combination of	MINAM SERNANP MINAG	Regional governments of the Amazon	US$ 200,000	There is currently a consultancy in course for the implementation of a Climate Change Agency that could systematically analyze complementarity and centralize financial incentives (UNDP)

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[2]
			meetings and workshops together with a web based platform for information sharing.				
	There are several REDD + initiatives by the private sector and NGOs, in coordination with some regional governments and / or communities. However, they don't respond to Central Government guidance (MINAM and MINAG).	Institutional Issues	Establish a voluntary central registry with regional nodes of the REDD+ projects and programs being developed at national and regional levels.	MINAM MNAG Regional governments NGOs Private investors		US$ 150,000	There is currently a consultancy in course for the implementation of a Climate Change Agency that could systematically analyze complementarity and centralize financial incentives (UNDP) Annex 11 no 3, 11 and 12
	There are several sources of cooperation and funding in Peru, and proposals from the private sector, but the projects are not necessarily articulated. The estimated funding amount is not enough yet (it is estimated that it is require at least U.S. $ 400 million annually for the Zero Deforestation Program in Peru).	Financing and incentives	Systematically analyze the complementarity of the various programs and projects aimed at reducing or avoiding emissions. Analyze financing schemes offered by the private sector (e.g., National Society of Industries, ADEX, Asesorandes) and its ability to complement the initiatives of the Government. Structure an incentives system for conservation and sustainable use of forests, where REDD + is an alternative.	MINAM, MEF, MRE		US$ 150,000	There is currently a consultancy in course for the implementation of a Climate Change Agency that could systematically analyze complementarity and centralize financial incentives (UNDP)
• **Evaluating**	Absence of culture of reporting, evaluating and giving feedback for future policy making.	Policy	Develop indicators and a methodology for evaluation that is incorporated in the National Communications' preparation process and helps retrofit future NCs and projects in general. This project could aim at having a mechanism to evaluate global country mitigation goals and establish guidelines for project and program evaluation.	MINAM, MEF Ombudsmen office, Comptroller office	NGOs	US$ 200,000	The Peruvian Government is already seeking funds for the Third National Communication Process.

1.6.2 Stakeholder analysis of gaps, barriers for the Energy Sector

The stakeholder analysis for the energy sector identified the fact that the “Reference Plan of Efficient Energy Use in its current state does not take advantage of the opportunities for low emission development strategies” as a central problem regarding MRV in the energy sector. The effects of not implementing the plan under a low carbon strategy could lead to a lock in of obsolete technologies and loss of competitiveness, also putting national energy security at risk. Renewable energies were also identified by stakeholders as a key issue under the energy discussion.

For the central problem the main barriers where identified under 4 topics: (1) Politics and development vision; (2) institutions and capabilities; (3) Information and systems; and (4) budget and finance. For the complete “problem tree” constructed with stakeholders see Annex 16.

Under the first topic the discussion led to identifying a diverging vision among stakeholders on the country’s development path due to the absence of standardized information and processed that allow for a participatory and consensus based construction of a vision, also due to disarticulation in management and the lack of prioritization of actions that will strengthen the decentralization process.

Regarding institutions and capacities barriers identified include the lack of policy continuity and the absence of technical expertise in new technological alternatives for energy efficiency. Even though the recent creation of the General Energy Efficiency Direction in the Ministry of energy and finance is seen by stakeholders as an important step forward, some budgetary, leadership and technical limitations where identified. A lack of capacities for the development of energy efficiency options in the private and academic sector was also acknowledged.

Under item 3, information and systems there is no system that allows for the monitoring, reporting and verification of the results and impacts of energy efficiency plans or other sectoral plans and policies. The information that needs to be urgently produced is: (a) updated information on final energy, (b) indicators for the Reference Plan which have been approved but not implemented; and (c) the baseline for the Reference Plan.

Finally on budget and finance the issue of difficulties in spending due to the management model of the government was raised, together with the lack of sufficient financial resources and the insufficient participation of stakeholders in the private sector such as banks and investors.

The following table summarizes the sectoral analysis of gaps, barriers and way forward for the Energy Sector:

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[3]
• **Planning**	The energy sector initiatives are carried forward without taking into account the impact on the increase and reduction of emissions both in the energy sector and other sectors, and the opportunities that avoiding emissions could bring.	Policy, institutional, capacity	Establish a long term mitigation scenario generation and planning process. Such a process could: 1) assess and improve the current mitigation initiatives and also 2) design mitigation options from scratch using advanced modelling, contributions from interest groups, under a 'facilitated scenario approach'. Such a process would allow a consensus to be reached on energy matrix medium and long term planning, including GHG emissions and other co benefits.	MINAM MEF RREE MINEM	MINAG Regional Governments Universities/ Research institutions Facilitation team	US$ 1,500,000 (for this sector only)	Mitigation Action Plans and Scenarios (MAPS) project, CIF is contributing US$ 450,000 for preparatory phase, NAMA development, facilitation and backstopping.
• **Designing**	Lack of information for NAMA design: e.g. Renewable energy maps are deficient (i.e. Peru doesn't have a rainfall map to supplement the information of the wind maps).	Information and Systems	Update the national and regional non conventional (with focus on solar and wind) renewable energy maps and other outdated information.	MINEM	Universities, Research institutions	From US$ 500,000	Annex 12, number 1
• **Implementing**	The fiscalization functions for the sector are being transferred to the OEFA, and there is a risk that such transfer will not be effective.	Institutional Issues	Elaborate a participatory study to determine skills, infrastructure and financial support needed to carry out GHG emissions related fiscalization duties at OEFA	OSINERGMIN, OEFA	MINAM, MINEM, PRODUCE	US$ 100,000	

3 For a complete list of governmental energy programs and projects currently included in MINAM's Adaptation and Mitigation Action Plan see Annex 12. Also, for crosscutting programs and projects see Annex 14

	Gap/Barrier	Classification	Action	Focal stakeholders	Other stakeholders involved	Overall estimate of cost	Past, ongoing and planned activities by other donors[3]
	Many initiatives have potential for mitigation (Electricity for All with the use of renewables, eco-efficiency in the public sector, Energy Efficiency regulation, Nocivity Index for pollutants) but their contribution to GHG reduction is not being measured.	Information and Systems Institutional Issues / Dispersion of efforts	Structure these programs as NAMAS or PRONAMIs, and establish a monitoring system for their implementation and the results in relation to past and present emissions reduced and avoided.	MINAM MINEM		US$ 100,000	Annex 12, number 3 and 3
	Peru doesn't have a monitoring and reporting system on its legislation and / or programs, beyond the specific projects that have to report when it is stipulated in their EIAs or PAMAs.	Information and Systems	Design a MRV system and build capacity so that all relevant legislation includes provisions for MRV which is both compatible with sectoral needs and CC needs. A pilot phase for this action could cover the rural electrification sub sector.	MINAM MINEM		US$ 500,000, US$ 100,000 for rural electrification	
	Regulation of efficient equipment that was developed for all sectors has not been successful.	Financing and incentives	Project for energy efficiency and ESCO promotion. Could include training, experience sharing workshops, awareness raising strategy and a fund for small loans for energy efficiency.	MINEM	Private sector	US$ 1'500,000	
• **Evaluating**	Absence of culture of reporting, evaluating and giving feedback for future policy making.	Policy	Develop indicators and a methodology for evaluation that is incorporated in the National Communications' preparation process and helps retrofit future NCs and projects in general. This project could aim at having a mechanism to evaluate global country mitigation goals and establish guidelines for project and program evaluation.	MINAM, MEF Ombudsmen office, Comptroller office	NGOs	US$ 200,000	The Peruvian Government is already seeking funds for the Third National Communication Process.

2. Background Information Relating to Climate Change Policy and Current

2.1 Introduction to the country

Peru may be described as a developing country that has started an accelerated process of economic growth but still has structural social and organizational challenges to overcome. Peru is also going through a sustained decentralization process, in which competences are being transferred to sub-national levels of government. At the same time, a process of modernization and normative adjustment of the State's central role is taking place.

The cross-cutting nature of environmental issues and of climate change in particular, together with the country's geographical, social, political, climatic, biological and cultural diversity; poses a challenge for dealing with climate change mitigation, and calls for multiple stakeholder involvement. Furthermore, the Peruvian Ministry of Environment (MINAM) is of much resent creation (2 years). MINAM now faces the challenge of having to deal with inherited and new responsibilities while developing new institutional and technical capacity, since several capacities were lost in the transition towards a new environmental authority.

Peru's ecosystems and populations are extremely vulnerable to climate change and thus need drastic mitigation in order to avoid the growing and unmanageable burden of adaptation. In the international negotiations, Peru calls for an effective and ambitious global mitigation effort that is led by the developed world but in which developing countries also have an active participation. Peru cannot afford a temperature rise beyond 1.5ºc.

The country's current contribution to greenhouse gas emissions accounts to less than 1% of global emissions. However, Peru evidences an accelerated and continuous economic growth (2001-2009 annual economic growth rates of 6%) that is currently linked to Greenhouse Gas (GHG) emissions growth. The country has shown its determination to engage proactively in GHG mitigation.

At the national level, a preliminary version of a National Mitigation Plan including NAMAs has been developed as the result of several studies conducted during the last few years. Nevertheless, these are just first steps towards a long term mitigation planning process that will allow economic development to "decouple" from emissions growth.

In terms of measuring and reporting GHG emissions, the country has little experience since only two GHG inventories have been developed and reported in National Communications (year 1994 reported in 2001 and year 2000 reported in 2010). Regarding baseline and projections development for GHG emissions, even less experience has been developed. Still, the main stakeholders have a good idea of constraints, gaps, needs and priorities towards a monitoring and reporting system for mitigation. Furthermore, there are already some proposals, plans and projects in place for strengthening national capacities for measuring and reporting.

2.1.1 National circumstances

Country's geographic, climatic, demographic and economic characterization

Geography & Climate
Peru is located in the western part of South America and ranks third in size after Brazil and Argentina. The Andean mountain range divides the country into three geographic regions: the coast, the "sierra" (the mountains) and the jungle. In the coastline there are dry sandy soils with high salinity and poor drainage. In the sierra, soils are thin and highly vulnerable to erosion. Due to its rugged terrain, its lands are much diversified according to climatic, biological and physiographic variation. The jungle has hills, plains and a large ecological biodiversity that consists in tropical rainforests, mountains forests, hills forests and terraced forests.

Peru is one of the top 10 mega-diverse countries in the world; it has the second largest Amazonian forest, the highest tropical mountain range area, 84 of the 104 life zones identified on the planet, and 27 of the 32 climates in the world. Of the four most important crops for human consumption, Peru has high genetic diversity for potato and corn.

Peru is also characterized by the occurrence of weather phenomena El Niño Southern Oscillation (ENSO) and La Niña, which generates a series of changes in ocean temperatures and in hydro-meteorological patterns, that impact negatively in socio-economic conditions.

It also has a wide glacier area (71% of the world's tropical glaciers) of great importance for human consumption, agriculture, power generation and mining, however, in the last 35 years, it has lost 22% of its area. Glacial retreat increases the problem of water stress generated by population distribution, as most of the population is settled on the Pacific slope, which has only 2% of the country's water resources.

Demographics
Peruvian population amounts to 28'220,764 inhabitants. 76% of the population lives in urban areas, 24% in rural areas, and around 30% of the total lives in Lima, the capital of the country.

Over 80% of the population speaks Spanish, 13% speaks Quechua and 2% Aymara, among other native languages.

Poverty figures in urban areas decreased by 48% from 2004 to 2008, while in rural areas it declined only by 19% in the same period. The national literacy rate is 88%, however only 7% of the population has a university degree. Only 54.8% of the total of households has access to safe water.

According to the Human Development Index of UNDP (UNDP, 2007), Peru is classified as a country with medium human development (HDI of 0.773). However, there are areas such as Huancavelica, where the HDI is similar to countries with low human development (HDI of 0.49).

Economic Situation
Peru has experienced high economic growth in the past years (by 2008 the GDP growth reached a record rate of 9.8%) that has allowed some improvement in social indicators such. This growth was mainly due to the development of the mining, oil, manufacturing, trade and construction sectors. The 2010-2012 Multi-Annual Macroeconomic Framework (MMM) indicates that the Peruvian economy will grow 5% in 2010, establishing itself as one of the fastest growing economies in the region (MEF, 2009).

The sectors that contribute most to the Peruvian economic structure are: manufacturing (15.5%), trade (15%) and agriculture (7%). Conversely, these sectors depend on international prices and raw material production conditions, besides being highly vulnerable to climate change. In Peru, 7.5% of the GDP is composed of highly climate-sensitive activities such as agriculture and fisheries, on which the country's food security largely depends.

Country's government structure and decision making processes

Peru is a presidential representative democratic republic. The President is the head of state and government for a five year term. He designates the Prime Minister and, with his advice, the rest of the Council of Ministers. It is a multi-party system with a unicameral parliament with 120 members elected for a five year term. Bills may be proposed by either the executive or the legislative branch and they become law after being passed by Parliament and promulgated by the President. The judiciary is set to be independent.

The national environmental authority in Peru is the Ministry of Environment (MINAM), established in May 2008. The Ministry has a General Office for Climate Change, Desertification and Water Management (DGCCDRH) that is the focal point of the UNFCCC and also chairs the National Commission on Climate Change (CNCC). The CNCC was founded in 1993, with the aim to coordinate the implementation of UNFCCC in various sectors and to design and promote the National Strategy on Climate Change (ENCC). The ENCC, adopted in 2003, is part of all policies and activities related to climate change taking place in Peru. The next regulatory milestone is the General Environmental Law, subscribed in 2005.

Since 2008, MINAM has expanded the role of the State in environmental policy, assuming the functions of the former National Environmental Council (CONAM). National pioneer institutions in climate change research such as the National Service of Meteorology and Hydrology (SENAMHI), the Geophysical Institute (IGP), the Institute for Amazonian Research (IIAP) and some offices from the National Natural Resources Institute (INRENA) have been attached to the Ministry. Both CONAM and MINAM have carried out climate change programs and projects in coordination with other key government institutions to manage the issue such as the Ministries of Foreign Affairs, Economy and Finance, Energy and Mining, Manufacturing, Agriculture, Transportation and Communications, Health, the National Council for Science and Technology, the National Civil Defence Institute, and regional and local governments.

Within MINAM, the Environmental Assessment and Control Agency (OEFA) was established with the aim of enforcing compliance with environmental legislation by all sectors, public and private. However, the OEFA is still in formation and the norm that created it did not specify the best characteristics and tools for its compliance; therefore the entity has limited capacities. By July 2010, the OEFA will assume the functions of the Supervisory Agency for Investment in Energy and Mining (OSINERGMIN) on mining. By January 2011, it will integrate electricity, gas and hydrocarbons.

Peru is currently undergoing a sustained process of decentralization and reallocation of responsibilities to the sub-national governments, and a parallel process of modernization, update and upgrade of environmental regulations. Following this process, in 2002 the Organic Law of Regional Governments was created. It establishes the obligation to generate Regional Climate Change Strategies. The local governments have the responsibility to control the implementation of the environmental legislation at the local level for small scale activities and they have to coordinate with the OEFA and the according Ministry.

The National Strategic Planning Centre (CEPLAN) has been created to drive and develop coordinated planning. Currently, CEPLAN is promoting discussion of the National Strategic Development Plan for 2021, which prioritizes policy guidelines on adaptation and mitigation of climate change in the country.

Civil society, universities and other organizations related to development, have a growing interest in analyzing the problem of climate change in Peru. They have helped to develop concrete actions to participate in emissions reduction and risk management, as well as capacity building, knowledge generation and methodological support for decision making.

In the country, environmental management is complicated by its multi-sectoral nature. It is also difficult to place the issue of climate change in the public and government agenda. Climate change transcends the environmental sphere since it affects the national base of natural resources, economy and society. Consequently, management of climate change is an issue that requires ongoing attention to ensure its insertion in the processes of development planning, financial forecasting, fiscal budget, rules and laws, creation of new agencies and natural resource management. Moreover, it is required to provide the schedules and institutional standards to ensure proper management of climate change impacts, and formulate a response to national and international commitments for mitigation and adaptation that the country must undertake, without prejudice to the sustainability of its future development.

Key drivers to GHG current and future emissions by sector

Energy production
In 2008 32, 443 GWh of electricity were generated in Peru. 60% (19,040 GWh) of electricity production is based on hydroelectric power; however, when demand rises above the installed hydropower capacity, because of high demand or water scarcity, other sources of thermal generation cover it (13,402 GWh). Currently, the energy matrix shows a positive change in the share of Natural Gas and Liquefied Natural Gas from 5% to 29% for the 2001-2008 period. Peru has great potential for generating electricity with renewable energy. The government is promoting that by 2012, the energy matrix will have one third of these sources. The hydropower sector has an important share of proven energy reserves of the country and it is expected that the demand will grow by a 100% by 2030. On the other hand, this sector is very vulnerable due to glacier mass loss and the incidence of El Niño that affects water volume, hydraulic capacity and hydropower infrastructure.

Among the main drivers of current and future emissions are: a fuel price policy that does not incentivize clean fuels, informality, low investment in renewable energy sources, insufficient natural gas coverage and low environmental public awareness.

Transport
Transport is the subsector that contributes most to GHG emissions from the energy category. The car fleet consists of 1.5 million vehicles. In this regard, the country year average for the units is 15 years old, and there is a significant percentage of vehicles older than 20 years.
Emissions in the transport sector are due to the low car fleet renewal, bad driving practices, inadequate traffic planning and design and poor vehicle maintenance.

Industry and Construction
In Peru, the industrial and construction sectors are significant in the national GDP. In 2008, their share was 15.5% and 5.9% respectively. Peruvian industry concentrates its activity in the manufacturing sector (non-primary goods, but little developed, such as garments and handicrafts) and in agro-export.
The growth of these two subsectors, in 2008, was 8.9% and 7.6% respectively and is strongly linked to its GHG emission growth. Industry shows high oil consumption and low efficiency especially in small industry.

Waste
Currently approximately 71.52% of solid waste generated at national level are arranged in dumps or burned, thus adversely affecting the environment. On the other hand, treated waste is taken to landfills where a great amount of methane is produced.

This lack of service coverage, together with the promotion of inadequate practices in family units, not only generates GHG emissions but also causes several environmental problems.

Agriculture and cattle breeding
The agricultural sector in Peru includes cattle breeding and involves 23.3% of the national EAP (Economically Active Population) and 65% of the rural EAP. It generates foreign exchange worth U.S. $ 1.800 million and it accounts for 4.7% of national GDP. For the countryside households, 45% of their income comes from this activity.

34% of agricultural land is irrigated and mainly concentrated on the coast, while 66% of agriculture is conducted under dry, depending entirely on rainfall and is mainly located in the mountains and the jungle.

A large part of agricultural activity has very low yield rates and contributes to GHG emissions and other kinds of pollution because of manual labour and the use of agrochemicals. Another source of methane emissions is flooding from rice production.

The main source of GHG emissions in the sector is enteric fermentation that generates methane. Due to deficient genetic and productivity improvement of the cattle, Peru requires a greater number of animals to satisfy the demand, thus generating more emissions. Manure management also emits methane and nitrous oxide.

Forestry
Peru has a high potential for forestry. It owns 13% of the Amazon tropical forests and houses over 70 million hectares of forests, which contain high diversity of species. Of the total national forest cover (72 million hectares), the forests in land reserves of native and rural communities represent 21% of it, while timber and other concessions account for approximately 12%, and the available permanent production forest concessions account for 17%. The forestry sector accounts for only 1% to 4% of the national GDP.

The national rate of deforestation from 2000 to 2005 was -0136%, which places Peru among the countries with less deforestation in the region. Nevertheless, between 1985 and 2000 there has been a constant deforested area. In addition, the current process of economic growth, raises important medium-term trade-offs for the conservation of forests. The national planning of investment projects for upcoming years - such as the Initiative for the Integration of Regional Infrastructure in South America (IIRSA) and mining and oil projects-, which combined with the current threats of slash-and-burn agriculture and illegal mining, set a high potential changes in land use.

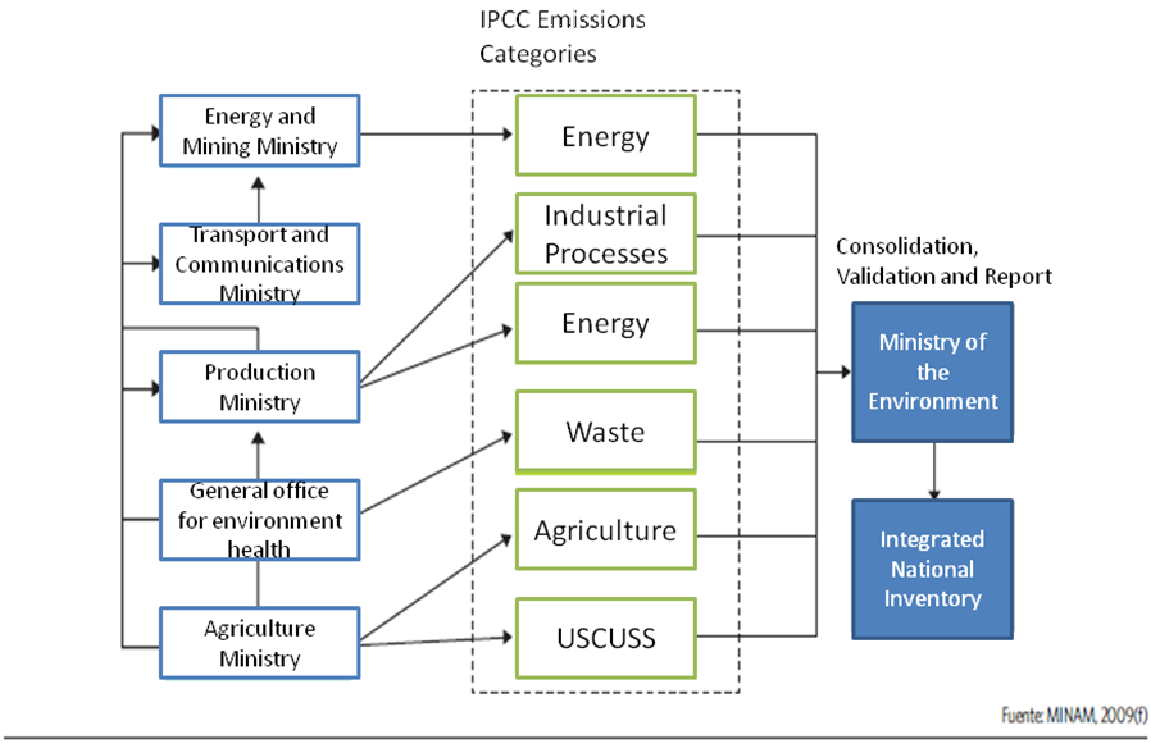
2.1.2 Sectoral assessments

For the 2000 GHG emissions inventory the formal and technical guidelines from the UNFCCC and IPCC where used. The Inventory presents the information in Giga grams of CO_2 eq. The figures are compared with the ones from the year 1994, the first GHG Inventory elaborated for the First National Communication.

The methodology proposed in the IPCC guidelines demands activity data in the sectors, and then turns them into emissions using emission factors. The emission factors that were used are the ones provided by

IPCC, so they don't necessarily reflect Peru's technological and productive reality. Furthermore, quality checks consist on national consultants verifying the data, there is no international verification.

For these levels of activity there arrangements were made so that the relevant public institutions in each sector would be responsible for gathering the necessary information and for the assessment of emissions from the sector, like so:



These agreements helped to conduct the inventory using the bottom-up approach, whereby information is obtained in detail about the amount of emissions from these sources. An example of interagency coordination occurred in the Energy sector which required energy consumption data compiled by the Energy and Mining, production (including industrial and fishery), Agriculture and Transport sectors.

For LULUCF and agriculture sector, estimates of CO_2 emissions were made from the statistics on forest area, forest plantations and agro forestry crops. Information was also collected on forest biomass and carbon stocks in different land use systems, the Research Institute of the Peruvian Amazon (IIAP), the International Centre for Research in Agro forestry (ICRAF), the National Agricultural Research Institute (INIA), The Nature Conservancy (TNC) and other institutions and professionals were involved in the issue.

However, there were many difficulties for the collection of information, such as the existence of more than one source of information for the same level of activity, and in some cases estimates had to be done using national reference data. It should be noted that in Peru, the categories used in the IPCC methodology do not follow the division of the productive sectors, so we have a scheme in which sectoral emissions are distributed among the IPCC categories.
According to the latest National Inventory of Greenhouse Gas Emissions (2000), total emissions / removals of GHGs amount to 120, 023Gg CO_2eq. In turn, per capita emissions amount to 2.5 tons of CO_2eq per

year, and 4.7 when considering the LULUCF sector. The year 2000 GHG Inventory summary table can be found in Annex 1.

Emissions increased approximately 21% compared to 1994 (98.816 Gg of CO_2 eq), a fact that is related to the demographic, economic and technological changes, but in particular to LULUCF. Moreover, for the same period, the GDP increased at a rate of 23%, similar to the increase in emissions. Peru makes 0.4% of the global emissions.

The distribution of national GHG emissions by gas, in CO_2eq is as follows: 74% is CO_2 (88.584 Gg), 17% is CH_4 (20.274 Gg) and 9% of N_2O (11.166 Gg).

LULUCF

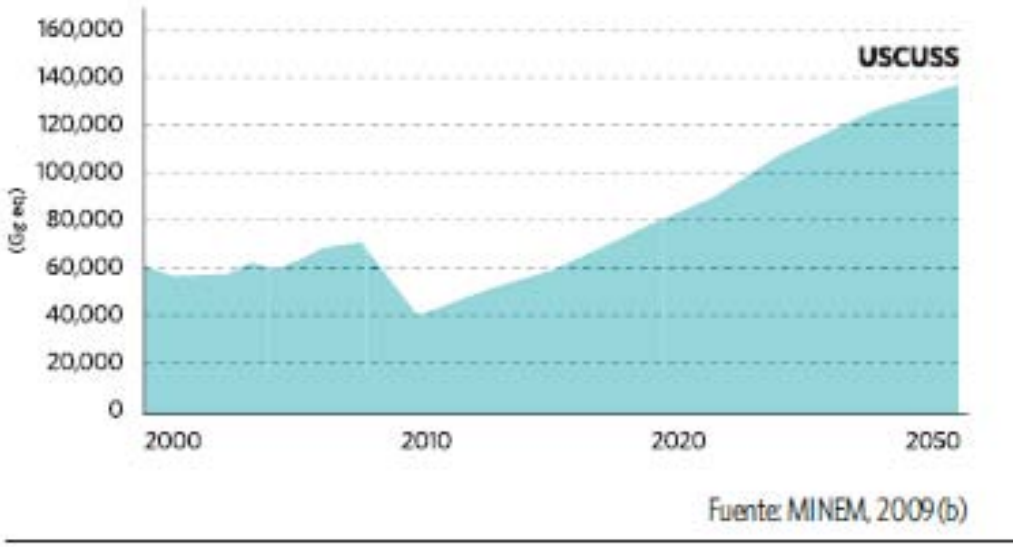
The main source of GHG emissions at the national level is the conversion of forests and pastures (110,368 Gg CO_2eq), attributed to the deforestation of the Amazon to change the land use to agriculture. Agriculture and animal breeding are the main direct causes of deforestation in Peru; farmers cause a great impact on the burning of vast tracts of forests for open areas to cultivate. Other factors that increase deforestation are urban development, communications infrastructure, mining and oil and illegal coca plantations. The removals of GHG is only attributed to changes in the forest biomass (-53,541 Gg CO_2eq). A key aggravating factor is the weak land tenure. The LULUCF sector, considering emissions (excluding removals), accounts for 63.6% of the total of emissions.
It is important to note that the sources of information and estimates of emissions have been improved for 2000. The design of the map of the Peruvian Amazon Deforestation used in the inventory provides updated information on the surface and types of deforestation. This map was drawn visually interpreting satellite imagery at 1:100,000, and to date is the most detailed study that has been performed in this field.

It wasn't included estimates of other components of forest biomass, such as dead organic matter and carbon flux in the soil, because of the difficulty and uncertainty for the quantification. For that reason, there is an apparent overestimate of the balance of the LULUCF sector emissions. In the Inventory of 2000, unlike the previous (1994), it wasn't considered the removal of CO_2 from the abandonment of marginal lands (biomass growth) due to the uncertainty in the base information. If it had been considered, emissions would be lower than in previous years.

GHG emissions from forest land remaining as forest are estimated by changes in reserves of CO_2.In the case of forest fires or fires because of the conversion of forests, it is reported emissions of gases of CH_4, N_2O, NOx and CO emissions.

For reviews of CO_2, it was used as a reference the secondary forests and young plantations because this vegetation type captures more carbon than mature state forests that have already reached their climax and whose ability to convert atmospheric carbon into biomass is in equilibrium. Primary forests are carbon "stores", not sinks, because there is no flow of carbon into the atmosphere and vice versa, the opposite occurs in secondary forests where there is a more dynamic flow of carbon, because they are in growth.

The base year for emission is 2000 with 56.827 Gg of CO_2 eq. Emissions are projected 43.116 Gg of CO_2 eq by 2010 (24% reduction in 10 years), 58.377 Gg by 2020 (35% increase in the next 10 years) and 138.074 Gg by 2050. Therefore, there will be an increase of 137% increase in 30 years.



Energy

The second source is energy (25,400 Gg CO_2eq), where the main sector is transportation (9,938 Gg CO_2eq). These emissions are based on the low renewal of vehicle fleet, poor management practices, an inadequate road system and lack of maintenance of vehicles. Among the factors that hinder the change of practices that generate emissions in the sector there are: the policy of pricing of fuels, which does not favour the cleanest ones; the informality; the low investment in renewable energy, the insufficient coverage of natural gas and the low level of environmental awareness.

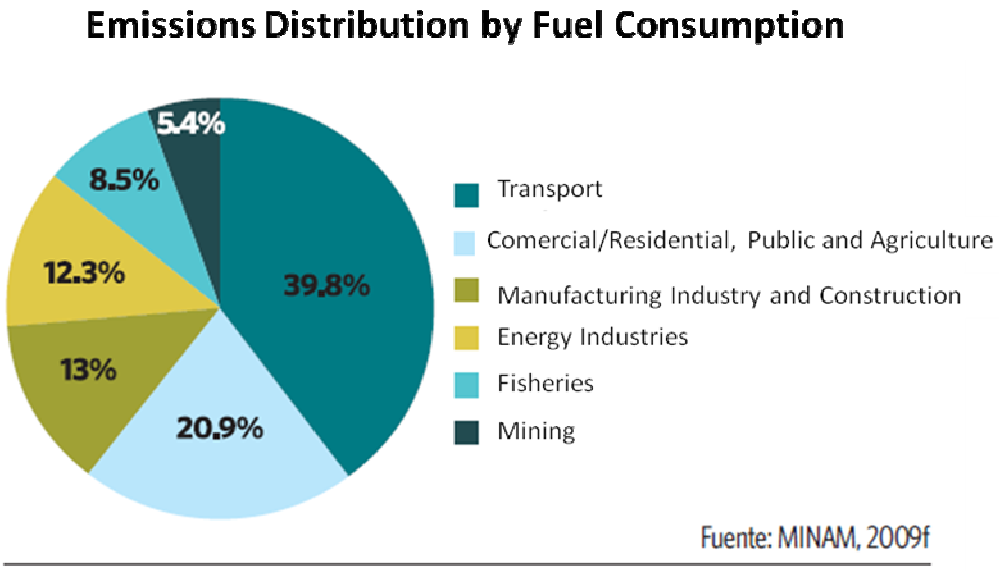
The category is subdivided into emissions from fuel combustion and fugitive emissions.

Fuel combustion contributes the most with 98.4% of the sector. Although the main contribution is of CO_2, there is a significant contribution coming from the fuel consumption of commercial / residential, public and agriculture in CH_4, with 552 Gg of CO_2 eq and N_2O, with 117 Gg CO_2 eq.

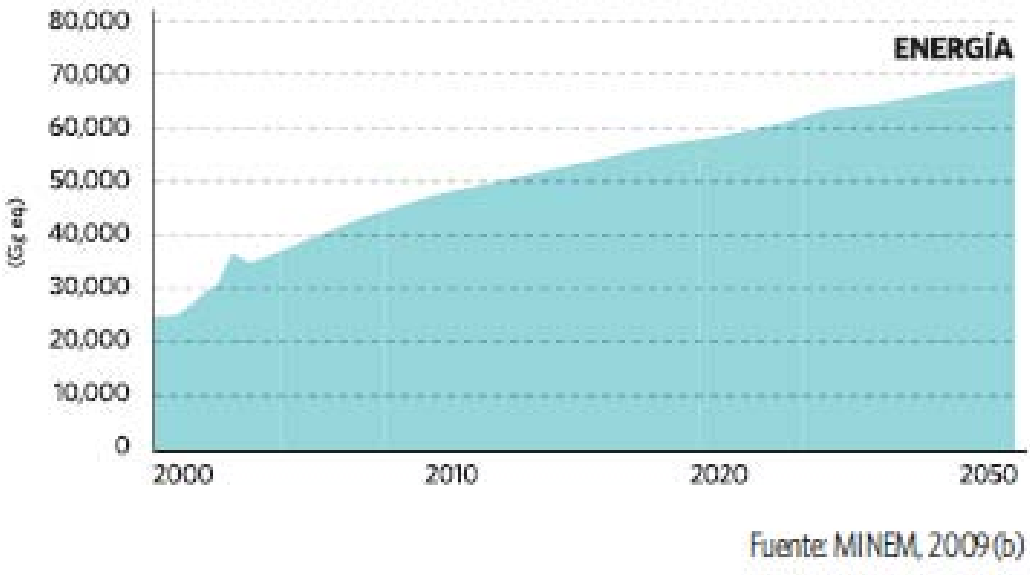
The largest contributor to emissions from fuel consumption of transportation is 9.938 Gg of CO_2 eq, which represents approximately 39.8% of total emissions. Most fuel combustion emissions come from land transport (which emits 9.071 Gg CO_2), the commercial / residential sector (which emits 3.069 Gg of CO_2) and electric energy production (which emits about 3.070 Gg CO_2). It should be noted that much of the emissions of the manufacturing and construction comes from activities whose common practice is the use of coal and residual fuel oil.

In the fugitive emissions section it was considered CH_4 emissions from coal mining and handling of ore, and CH_4 emissions from activities of oil and natural gas. The estimation of the emissions of CH_4 by the activities of oil and natural gas, that amounts 407 Gg CO_2 eq, takes into account all issues related to ventilation and burning during the production of oil and gas.

The estimated amount of CH_4 emissions generated by mining activities and coal handling is around 4 Gg of CO_2 eq.



The base year for emissions is 2000 with 25.400 Gg CO_2 eq. Emissions are projected to 42.500 Gg CO_2 eq by 2010 (67% increase in 10 years); of 51.147 Gg by 2020 (20% increase in 10 years) and 70.961 Gg by 2050 (39% increase in 30 years). Hence, emissions from this sector will nearly triple in 50 years (2000-2050).



2.2 Climate change policies: planning and designing NAMAs

In 1993, Peru ratified the UNFCCC. The Ministry of the Environment (created in May 2008) took over CONAM's function as focal point to the Convention, and as such has the following tasks: 1) to develop National Communications reporting GHG emissions and actions taken to implement the UNFCCC; 2) to promote capacity building for climate change scientific research, technical expertise and management; 3) to develop national adaptation and mitigation strategies; 4) to elaborate and periodically update the national GHG emissions inventory; 5) to formulate, apply, publish and update national and sub-national programs aimed to mitigate climate change. Peru has also ratified the Kyoto Protocol and participates actively in the Clean Development Mechanism (CDM). MINAM is also the Designated National Authority (DNA) for CDM.

Peru's National Environmental Policy Act (S.D. No. 012-2009-MINAM) established the following policy guidelines related to mitigation: 1) to incentivize preventive climate change mitigation and adaptation measures, considering the particularities of the regions, with emphasis on the spontaneous action by peasant communities and indigenous peoples; (…) 3) to promote the development of forestry, waste management, health, renewable energy and other projects in order to contribute to climate change mitigation; 4) to conduct adaptation and mitigation processes securing the dissemination of knowledge about the consequences of climate change and training stakeholders improving their organizational skills; 5) to promote the use of adequate technologies, both for adaptation and mitigation, and for reducing air pollution.

The National Climate Change Strategy (NCCS) is the governing law for climate change management in Peru. It was approved by supreme decree in 2003 which establishes its obligatory nature and the need for its inclusion in sector and regional policy making and planning. The NCCS builds upon two policies from the National Accord: Poverty Reduction (policy #10) and Sustainable Development and Environmental Management (policy #19). The NCCS' main goal regarding mitigation is to "control emissions from GHG and air pollutants through renewable energy and energy efficiency programs in productive sectors". The Strategy has 11 strategic action lines, 8 of which refer directly or indirectly to mitigation.

The Inter Ministerial National Climate Change Commission (NCCC) was initially created in 1993 and reformed in 2009 to better fit the rulings of MINAM's creation Decree. In March 2009, the NCCC was extended to increase the number of participating sectors. Currently, a new extension is in process. The NCCC follows up on the implementation of UNFCCC commitments and is in charge of designing and promoting the NCCS. Within the Commission seven (7) technical working groups have been established: 1) adaptation, 2) REDD, 3) Mitigation and CDM, 4) Research and Technology, 5) Finance, 6) International Negotiations, and 7) education and public awareness.

Peru presented its First National Communication to the UNFCCC in 2001, including a GHG emissions inventory for year 1994. Said inventory confirmed that the main source of CO_2 emissions was the non-energy sector (Land Use, Land Use Change and Forestry – LULUCF) and projections showed that the energy sector (mainly transport) would become a main source towards 2020. Peru's Second National Communication is almost ready and includes a GHG emissions inventory for year 2000. The inventory shows that the LULUCF sector (mainly deforestation in the Amazonia) continues to be the main source of CO_2 emissions (47% of the total emissions). The Second National Communication also includes a proposal for a National Inventory and GHG Management System and a Mitigation Plan containing 5 possible ProNaMi (equivalent to programmatic forms of NAMAs) that is still being discussed by the sectors.

Peru, as explained in section 1.1 is undertaking since 2002 a decentralization process. There is some sub-national progress to date through the development of Regional Climate Change Strategies (RCCS) and the formulation of Public Investment Projects both for adaptation and mitigation. From a total of twenty four three (3) Regions (Junin, Amazonas and Ayacucho) have already approved regional strategies, four (4) more (Piura, Cajamarca, Arequipa and Lima) have developed proposals for RCCS, and another 4 (Cusco, Apurímac, Loreto and Callao) are starting the RCCS development process.
There are currently 31 climate change projects in the National Public Investment System 70% (19) are related to Adaptation, 26% (7) are projects that deal with both adaptation and mitigation and only 1 project is strictly related to mitigation.

In 2009 a National Coordination Group for the Development of Amazon Communities was formed. A working group within the Group developed the National Proposal for Amazon Development in which concrete proposals regarding climate change (specifically avoiding deforestation and the inclusion of indigenous peoples in mitigation actions) are included. The Andean Communities' Integral Development Plan is also worth noting. It establishes strategic guidelines for risk management, mitigation and adaptation to climate change, including specifically the increase of carbon capture through massive forestation and reforestation, ecosystem restoration and the establishment of enforcement mechanisms.

In terms of the participation of civil society the recent creation of the Citizen Movement for Climate Change (MOCICC), integrated by NGOs, networks and other organizations has increased civil society participation.

During the last ten years the Peruvian government put in place policies that aimed to incorporate environmental considerations in productive sectors and had an indirect positive impact in climate change mitigation. These policies incentivized energy matrix diversification, car fleet renewal, solid waste management and renewable energy.

The strategy towards climate change mitigation has had two mayor focuses: 1) identifying emissions reduction potentials based on an analysis of the main social, legal, and technological causes of GHG emissions and 2) promote projects under the CDM and lately under REDD+.

Isolated initiatives have been put in place in different sectors that promote mitigation both directly and indirectly. These policies and measures are in different stages of planning and implementation. Summarizing, these actions are:

- In the **LULUCF Sector**, main focus of the Peruvian mitigation strategy, there has been some progress on institutional arrangements and a policy framework for the sector. Some private, civil and public actions have been put into place to restore and preserve forest ecosystems.
  - The establishment of protected areas has been a national policy for ecosystems conservation that has contributed with forests conservation.
  - The Peruvian Government led by MINAM has formulated two complementary projects, that are very relevant for mitigation: One is the National Initiative for Forest Conservation which intends to stop deforestation by preserving 54 million hectares of forests; and the "Conservando Juntos" Special Project whose goal is to preserve at least 10.5 million hectares of Amazon forests located in indigenous community lands.
  - REDD+ projects area also seen as an important opportunity for the country, not only for climate change mitigation but also to improve local economies, promote private investment and preserve environmental forest services for the world. Different initiatives that are looking forward to establish base lines for protected areas regarding REDD in the Amazonia and the mountain range have been identified. Those initiatives count on initial budget to initiate studies.

- Although at a national level specific programs for REDD have not established policies, there are initiatives to develop REDD activities:
  - the Community of Andean Nations - CAN: has developed a diagnosis of the REDD potential within Latin American countries;
  - development of proposals for REDD pilot projects: two have been incorporated in the national portfolio of Peruvian Projects and were presented in the International Expo in June 2008, Germany;
  - special projects as Interoceanic (road infrastructure) and Camisea (natural gas extraction) who's environmental monitoring Systems has been in charged to the Environmental Ministry;
  - development of projects that uses mining canon administrated by Regional Governments.

It is important to underpin that even though some progress has been made in the sector, the current and future process of economic development, which includes road infrastructure and fuel extraction, imposes serious threats to forest conservation.

- In the **energy sector**, initiatives are being put in place, including tax incentives for the promotion of natural gas use, generation of renewable energy, bio fuel production and energy efficiency. However, the energy matrix is still oil based.
- In the **Transport Sector** the regulatory and tributary efforts to promote the import of new vehicles, the building of high capacity segregated corridors in Lima, the use of natural gas, the withdrawal of diesel powered vehicles, increased taxes imposed to highly contaminating vehicles, and the implementation of compulsory technical inspection for vehicles represent mitigation actions in this sector even though the reduction of GHG emissions was not initially contemplated in their objectives. There is still a need to promote better planning of urban transportation, strengthen regulations for the import of less contaminating vehicles and expand the coverage of natural gas, among others.
- In the **Industry and Fishing Sectors** regulatory efforts have been put in place, and even though they are mainly directed towards improving competitiveness, efficiency and cleaner technologies, they can generate reductions in GHG emissions. This is the case, for example, of the promotion of new technologies in the manufacturing sector, technical regulations for boilers, and environmental obligations for fisheries.
- Finally, in the **Waste Sector** the Integrated National Plan for Solid Residues (PLANRES) has been implemented. This is an initiative to reduce national production of solid wastes and control sanitary end environmental risks generated by these. There is also a potential to develop a National Plan for CDM for this sector, analyzing the potential of the reduction of GHG emissions delivered by an adequate management strategy for residues of 21 districts at a national level. Today approximately 71.52% of all solid waste is disposed in landfills or burned, which has a negative effect on the environment.

Also relevant for MRV is the Country's experience with CDM. After 2001 a number of efforts have been done to create and strengthen institutional capabilities in the promotion of the Clean Development Mechanism (CDM). In 2003 the National Strategy for CDM was approved with the aim of identifying the investment potential in mitigation projects and developing national policies directed towards the participation of Peru in CDM.

Between 2001 and December 2009, MINAM approved 39 CDM projects, from which 21 are registered by the CDM Executive Board and 6 are already receiving benefits from Certified Emission Reduction (CER). Altogether the projects represent reductions greater than 67million tons of CO_2eq. Hydroelectric plants (61%) are the most common projects so far, followed by fuel change (13%) and solid waste (11%). Peru is considered as one of the most attractive countries to invest in CDM projects worldwide.

There are potential economic and social benefits to mitigation in Peru. The Country's development profile in contrast with the actual composition of its emissions situates Peru in a negative net cost perspective for early mitigation efforts. The efforts that require immediate implementation should be aimed at increasing energy efficiency, prioritizing hydroelectric generation, and developing renewable and clean energies. In the mid-term, more efficient and less costly results should be obtained by seeking reductions in deforestation and forest degradation, an increasing forest carbon stocks. These actions will also achieve benefits regarding biodiversity conservation, environmental sustainability, and life-quality improvement for the populations that depend on these ecosystems.

Different mitigation efforts require effective planning with an integrated vision. Under this framework, Peru elaborated a National Mitigation Plan in 2009, which is currently undergoing a validation process. The Plan seeks to become an important management tool to orient the national efforts of reducing emissions; identify the sectors that will allow the achievement of the goals with lower costs and better efficiency; promote the use of renewable and clean energies in terms of incentives and benefits for investments; and formulate National Mitigation Programs or ProNaMis (equivalent to programmatic versions of NAMAs).

Currently, ProNaMis have been identified for 5 main sectors: energy, transport, industry, waste management, and forestry. Forestry and energy sectors have been prioritized.

Future efforts should aim to integrate the National Mitigation Plan into national and sectoral policies and regulations, creating agreements around scenarios and long term mitigation plans with the most relevant stakeholders, such as the CEPLAN, the most relevant Ministries for ProNaMi implementation, and the private sector. It is also important to estimate the abatement costs of the mitigation options, as well as its impacts in terms of social and environmental costs and benefits.

An "Immediate Mitigation Action Plan" has been recently developed and published by MINAM. The plan describes recommendations for attending urgent needs under thematic lines. It also presents a list of programs, projects and initiatives.

Thematic line 1 deals with GHG Inventories and MRV Systems. The main goal is to "Establish a National Inventories System that prioritizes the LULUCF sector and includes a National Reporting and Registry Platform together with a set of indicators and sectoral baselines". For the achievement of this goals the following actions are proposed: 1) Strengthening of sectoral information systems that produce and centralize precise and homogenous information on activity levels and emission factors; 2) Implement a LULUCF Monitoring System including the establishment of unified criteria for land use classification, research on ecosystem carbon stocks and carbon capture capacity of different forest species, and update of information on deforestation rates and deforested and degraded areas. These actions will allow Peru to fulfil its international commitments, define indicators to assess the efficiency of mitigation actions, establish interaction platforms among sectors and sub-national governments, and reinforce national mitigation policies.

The Proposal for a National GHG Inventory and Management System is being designed as a Public Investment Project and has a preliminary calculated budget of approximately 10 million US dollars.

Another relevant soon to be developed project is a Capacity Building Project for Monitoring Forest Carbon. This 683 000 US dollar project will be implemented with the financial support of the Moore Foundation.

Thematic line 2 deals with Mitigation Measures. The following objectives are sought:

- to validate and launch the National Mitigation Plan (which includes ProNaMis). In order to fulfil this goal the following actions are proposed:
  - develop common criteria for prioritization of mitigation options by sector, identifying autonomous action, carbon market opportunities and NAMAs for external finance;
  - analysis of mitigation potential and development of national abatement cost curve including the appraisal of environmental services;
- to adequate the legal framework for enforcing emission limits and payment for environmental services;
- to finish the REDD+ readiness phase.

A list of current projects that will help fulfil these goals is presented in Annex 2.

Peru has also been selected for the first round of the Technology Needs Assessment Project to be implemented, with the support of UNEP-Risoe, in 2010.

2.3 The MRV system

Information about the existing and future plans to set up a system to MRV mitigation actions will be further elaborated after meetings with stakeholders. However, an important action foreseen to implement MRV for mitigation is the proposal of a National GHG Inventory and Management System, which also includes an analysis of current problems and viable solutions of the current MRV schemes.
The proposal fits within the criteria proposed by the Intergovernmental Panel on Climate Change (IPCC) for the development and management of uncertainty in national GHG inventories, but it also takes into account the institutional reality of the country in terms of the availability of human and financial resources.

A GHG Inventory and Management System seeks to develop a formal and permanent mechanism to provide a basis of current information on emissions of greenhouse gases, in order to define public policies that are necessary to comply with international commitments. This target will only be achieved by using contemporary developments offered by modern information technology and communications, and by developing a legal basis that strengthens the access to and exchange of information available.
The System will be strongly base on the National Energy Balance, statistics of mineral and non-mineral (e.g. cement) production, statistics of agricultural and cattle breeding production and a System for Monitoring and Surveillance of Deforestation and Land Use Change. The development of the latter is based on the country's need to be aware of the state of deforestation and its impact on emissions. Also, there is a growing need to share and disseminate these information among the institutions that work with Geographic Information Systems and generate standards for comparability.

The general objective of the System is to bring regularity to inventory development considering methodological, data base management and institutional arrangement aspects necessary for the success and continuity of GHG inventories.

2.4 Gap analysis and identification of barriers

This section will be further elaborated after undertaking meetings with stakeholders. The main gaps and barriers identified for the implementation MRV systems are:

- Regulation in the sectors that feed the national GHG inventory, especially those regarding environmental protection presents many gaps and does not promote the measurement and report of different levels of emissions.
- There is major overlapping of functions and lack of coordination among sectors. There are certain activities like agro industries that fall upon the Agriculture and Production sectors, or bio fuels, which are related to the Energy, Agriculture and Production sectors. On the other hand, there are certain shared responsibilities between the national, regional and local governments. This lack of clarity presents a risk at the moment of defining a mechanism for collecting information.
- Public entities face serious problems in the accomplishment of their functions due to a lack of human resources to carry out supervision and enforcement tasks, the absence of specialized staff that can perform the designated functions, small budgets, among others. In addition, environmental competences have been distributed depending on the sector related to each activity, inhibiting a joint inter-sectoral vision and affecting institutional integration.
- In some sectors there is a lack of information of the activities they regulate. Even though the energy sector shows a significant improvement with the appropriate use of information technologies, this example has not been replicated in the other ministries. In the agricultural sector there is no specialized organism in charge of centralizing and systematizing the information.

2.5 Identification of capacity building needs and proposals for initiatives and action

This section will be further elaborated after undertaking meetings with stakeholders. The capacity building needs, deriving from the gaps and barriers previously identified are:

- it is necessary to promote regulations regarding emission limits of air pollutants and GHGs in the energy, industry and waste sectors; and in the agricultural sector define criteria to classify land uses;
- there is a clear need to delimitate the functions and competences of each sector in the framework of a National Inventory System;
- there is a clear need to achieve the strengthening of capacities in the sectors, the development and transfer of technologies, and inter institutional coordination oriented towards building over the incipient efforts to elaborate inventories that are already a part of the efforts of the country to contribute to the climate change global actions;
- there is a need to improve the quality of the data, including the determination of activity levels and the elaboration of emission factors; perfect the data collection mechanisms and institutional coordination, especially in the LULUC sector and the productive areas, incorporating every actor and economic agents;
- the main challenge is to establish the National Inventory System that includes as a priority the Land Use and Land Use Change (LULUC) sector, a Report and Registry National Platform, as well as a number of indicators and sector base lines. These actions will require: (1) To strengthen the sector information systems that centralize and systematize the information, in an accurate and uniform way, regarding “activity levels” and emission factors; and (2) Implement a monitoring system of land use change and deforestation, for what the following is required: 1) To establish unified criteria about the classification of land use; ii) Investigate about the carbon stock of forestry ecosystems, and species´ carbon uptake capacities; iii) Update existing information regarding deforestation index, deforested land, degraded land, and the situation of the occupancy of land throughout the country;

- finally, there is a need to optimize the uncertainty quantification methodologies and quality control in the process of elaborating inventories.

2.6 Conclusions and recommendations

The roadmap that visualises actions and milestones along with relevant actors will be developed after interviews and the workshops with relevant stakeholders have taken place.

National GHG Inventory for the Year 2000

GEI Sources and Sinks	CO_2 emissions (Gg)	CO_2 absortions (Gg)	CH_4 (Gg eq)	N_2O (Gg eq)	TOTAL (Gg eq)	%
1. Energy	24,226	0	1,003	170	25,399	21
A. Fuel combustion (sectoral methods)	**24,226**		592	**170**	24,988	21
1. Energy Industries	3,073		2	7	3,082	3
2. Manufacturing and Construction Industries	3,248		2	11	3,261	3
3. Transport	9,881		29	28	9,938	8
4. Commercial/ Residencial/ Public and Agricultural	4,555		552	117	5,224	4
5. Fisheries	2,121		2	4	2,127	2
6. Minning	1,348		5	3	1,356	1
B. Fugitive emissions from combustion	**0**		**411**		**411**	0
1. Solid fuels systems			4		4	0
2. Oil and Natural Gas systems			407		407	0
2. Industrial Processes	7,839	0	0	79	7,918	7
A. Mineral products	2,000			0	2,000	2
B. Chemical industry	7		0	79	86	0
C. metal products	5,832		0	0	5,832	5
D. Other productons	0		0	0	0	0
E. Halocarbons and SF6 production					0	0
F. Halocarbon and SF6 consumption					0	0
G. Others (foods and beverages)	0		0	0	0	0
3. Solvents and other product uses	0			0	0	0
4. Agriculture			12,150	10,395	22,545	19
A. Enteric fermentation			10,410	0	10,410	**9**
B. Manure management			336	620	956	**1**
C. Riceproduction			894	0	894	**1**
D. Agricultural soils			0	9,666	9,666	**8**
E. Prescribed burning of savannahs			424	78	502	**0**
F. Field burning of agricultural residues			86	31	117	**0**
G. Ohers			0	0	0	**0**
5. Land Use, Land Use Change and Forestry (LULUCF)	110,060	-53,541	261	47	56,827	47
A. Changes in forest and other woody biomass		-53,541	0	0	-53,541	**-45**
B. Forest and grassland conversions	110,060		261	47	110,368	**92**
C. Abandonment of managed lands		0	0	0	0	**0**
D. Emissions and absortions of soil CO_2	0	0	0	0	0	**0**
E. Others	0	0	0	0	0	**0**
6. Waste			6,860	475	7,335	6
A. Solid waste disposal on land			6,190	0	6,190	**5**
B. Waste water handling (domestic and industrial)			670	475	1,145	**1**
C. Waste burning				0	0	**0**
D. Others			0	0	0	**0**
7. Others	0	0	0	0	0	0
Memo items				0	0	**0**
International Bunker fuels	**0**		**0**	**0**	**0**	**0**
Aviation	0		0	0	0	**0**
Maritime	0		0	0	0	**0**
Emisiones de CO_2 de biomasa	**0**					**0**
TOTAL EMISIONES / REMOCIONES	142,124	-53,541	20,274	11,166	120,024	1

2.7 Forestry Institutional Arrangement

With the creation of MINAM (mid-2008), the competences of the forest sector were divided into two state entities: MNAM has the responsibility of forest conservation and MINAG the forestry production one.

2.7.1 Ministry of the environment - MINAM

The MINAM gives priority to the conservation of forests. It must ensure compliance with the constitutional mandate on the conservation and sustainable use of natural resources, biodiversity and natural protected areas, and the sustainable development of the Amazon. The National Service of Protected Areas by the State (SERNANP) has this task.

SERNANP

SERNANP is responsible for leading and setting the technical and administrative criteria for the conservation of protected areas - ANP, and have a precautionary maintenance of biological diversity. The SERNANP is the governing body of the National System of Protected Natural Areas by the State - SINANPE, and as the technical and regulatory authority does its work in coordination with regional and local governments and owners of properties recognized as private conservation areas. The competences of SERNANP are, among others:

- direct the SINANPE as the governing body and ensure its functioning as a unitary system;
- approve the rules and establish technical and administrative criteria and procedures for the establishment and management of ANPs;
- to guide and support the management of the ANP, which are administered by regional governments, local and owners whose properties are recognized as private conservation areas;
- establish mechanisms for monitoring and control, as well as related administrative violations and penalties; exercise the power to impose penalties in cases of default;
- ensure interagency coordination among national government agencies, regional governments and local governments to act, intervene or participate directly or indirectly in the management of ANPs;
- issue an opinion on all regulatory proposals to involve the ANP.

2.7.2 Ministry of Agriculture - MINAG

MINAG, by the Forestry and Wildlife Dictectorate, is responsible for proposing policies, strategies, plans, programs and projects related to the sustainable use of forest resources and wildlife associated genetic resources.

The Directorate for the Promotion of Forestry and Wildlife is responsible for:

- propose policies, strategies, standards, guidelines, plans, programs and projects to promote conservation and sustainable use of forest resources and wildlife and their associated genetic resources, in line with national policies;
- establish guidelines, propose and monitor forest zoning and the management of national forests, and the inventory and valuation of forest resources and wildlife, as part of the National Policy on Land Management;
- develop a sector strategy on biodiversity and access to genetic resources;
- develop proposals for the promotion of private investment in sustainable use of forest resources and wildlife.

The Forest and Wildlife management Directorate is responsible for:
- promote research on the conservation and sustainable use of forest and wildlife resources, genetic resources and associated microorganisms and disseminate their results;
- advice and train public institutions and private sector in conservation and sustainable use of forest and wildlife resources;
- maintain updated the forest and wildlife inventories and their assessment on the extent of their competence;
- promote, support and advise the forest and wildlife management of the regional governments and forest management committees.

The Forest and Wildlife Information and Control Directorate is responsible for:
- conduct the National Forest and Wildlife Information and Control System;
- conduct and consolidate the national forest and wildlife records;
- consolidate and analyze historical data on forest and wildlife resources.

2.7.3 Supervision of Forest and Wildlife Resources Agency - OSINFOR

OSINFOR is responsible at the national level, to oversee and monitor the sustainable use and conservation of forest and wildlife resources, and environmental services from the forest granted by the state through various forms of use.
OSINFOR functions are to:
- monitor and control the compliance of the enabling titles and management plans;
- comply with the assessment program (every five years);
- to establish the scope of their competence, standards and / or procedures regulations as well as those relating to obligations or rights contained in the enabling titles;
- declare the expiration of use rights contained in the enabling titles, in case of non-compliance of these rights or of the forest legislation in force;
- exercise their power to impose penalties within the scope of its jurisdiction, for violations of forest and wildlife law;
- perform training activities for various actors involved in the exploitation of forest and wildlife resources.

2.7.4 Regional Governments

In respect of agriculture, regional governments can monitor and control to ensure sustainable use of natural resources under their jurisdiction, issue permits, licenses and concessions in forest areas within the region, and exercise control advocacy and in strict implementation of the national forest policy.
Thus, regional governments, after the effective transfer of agro-related functions, will perform functions directly related with forest resources management and control under their jurisdiction, which directly affects the establishment of payment for environmental services schemes such as REDD.
Environmental and land use planning competences of regional governments should be taken into account. These competences include “to formulate plans, to develop and implement programs for environmental services sale in forest regions or protected areas”. Therefore, regional governments should actively participate in defining policy on environmental services and payment schemes.
The regional governments in forest issues should:
- facilitate international market oriented processes for agriculture, agribusiness, handicrafts, forestry and other productive sectors, according to their potential;
- promote sustainable use of forest and biodiversity resources;

- grant permits, authorizations and forest concessions in areas within the region, and promote and control in compliance with the national forest policy.

2.7.5 Environmental Assessment and Control Agency - OEFA

The OEFA directs the National Assessment and Control System and is responsible for ensuring accomplishment of the environmental legislation by all natural or legal persons, public or private. It also oversees and ensures that the functions of assessment, monitoring, supervision, control, sanctioning authority and incentives application in environmental issues by the various state agencies, are carried out in a independent, impartial, prompt and efficient manner, according to legal provisions under the National Environmental Policy.

2.8 Major government programs / projects identified in the forestry sector

#	Name	Target	Institutions	Funding	Amount	Status
I. Forest Mitigation Projects						
1	National Forest Conservation Program	To conserve 54 million hectares of tropical forests as a contribution to mitigate climate change generating income for the most vulnerable population, in poverty, risk and exclusion. - Promote sustainable and integrated management of forests - Promote the development of sustainable production systems. - Promote incentives for forest conservation	MINAM	MINAM	S/. 2 100 000	In implementation, with allocated budget
2	Forest Conservation Project in Protected Natural Areas – MACC Project	To keep a representative sample of species of flora and fauna and contribute to regional development through the rational use of resources from these forests.	MINAM, SERNANP	MINAM – SERNANP (KFW)	S/. 16 107 863 (Amazon - ANP) S/. 1 322 256 (Dry forests - ANP) US$ 250 000 for the information, participation and consultation phase	In implementation, with allocated budget
3	Private Conservation of Forests with the REDD mechanism	To promote private investment for conservation efforts and sustainable management of forests	MINAM, MTC, MINEM, MEF	Moore Foundation	S/. 950 000	In implementation, with allocated budget
4	Forest sector diagnosis of the Public Investment Program for the Strengthening of Capacities for Forest Conservation	To implement the National Forest Conservation Program, based on forest issues, priority areas and / or component and lines of action as a basis for the formulation of public investment studies in order to strengthen capacities for conservation.	MINAM	JICA	S/. 150 000 000 (JICA – Perú) (US$ 40 000 000 □ JICA) (US$ 10 000 000 – Gob. Perú)	Under negotiation
5	Conservando Juntos Project	Contribute to the conservation of tropical forests located on lands of indigenous peoples	MINAM, MEF, INDEPA, SERNANP, Regional	MEF	S/. 10 000 000 (etapa inicial)	Under negotiation

#	Name	Target	Institutions	Funding	Amount	Status
		Amazon, through the direct transfer of financial resources, as applied to portfolio investment, contributing to poverty alleviation.	governments of Junín and Cuzco			
6	Forest of Permanent Production Conservation Project	Contribute to reducing the degradation of the Permanent Production Forests and its goods and services associated through financial mechanisms (carbon credits) which could permit the sustainability of these areas, thus contributing to the reduction GHG emissions.	MINAG, MINAM, Regional Governments	To be determined	To be determined	Requires funding
7	Designation and protection of forest land suitable for forestry (F) and protection (X)	To strengthen the capacity of interpretation and rapid action from MINAM and the institutions involved in favor of preserving the Amazon forest.	MINAM	To be determined	To be determined	Requires funding
8	Climate Investment Fund for Mainstreaming Forest and Biodiversity Conservation in National Development Policies	Initiate and facilitate transformational change in relation to forest policies and practices, using models that generate understanding and learning between the implementation of forest investments, policies, emissions reductions, conservation, sustainable management of forests and protection of carbon stocks.	MINAM	Climate Investment Fund □ CIF	US$ 60 000 000	Proposal
9	Forest Plantations Program Design for CO_2 Capture	To design a Crops and Forest Plantations National Program for carbon sequestration.	MINAM	MINAM	S/. 200 000	Idea
10	Sustainable, Inclusive and Competitive Forestry Development, in the Peruvian Amazon Program	The purpose is the recovery and conservation of forests in the Peruvian Amazon, and to help improve the quality of life of the goods and environmental services users of these forests and their associated resources.		CAF	US$ 50 000 000	Approved and it has been authorized to elaborate the feasibility study
11	REDD Strategy Implementation and some early actions		MINAM	FIP (Forest Investment Program)	US$ 60 – 70 million	
12	REDD Preparation Phase in Peru - R-PP		MINAM	FCPF - Forest Carbon Partnership Facility	US $ 3.6 million	

#	Name	Target	Institutions	Funding	Amount	Status
13	Estimating Carbon Stocks and Emissions with High Resolution in Madre de Dios	To measure the regional carbon stock in Madre de dios based on satellite images. Also, to measure the historical deforestation and its projection in the region.	MINAM	Carnegie Institution for Science, WWF, BSD		In implementation
14	National Forest Inventory	To establish the basis for sustainable management of forest resources at the national level and contribute to improving the living conditions of the population and in particular the users of forest resources.	MINAM, MINAG	FAO-Finland	US $ 5'168,021	Soon implementation
15	Monitoring and Protection System for the Amazon in Peru SIVAN - SIPAN	Integration of Peru to the Monitoring and Protection System of the Brazilian Amazon Sivan – Sipan	FAP, MINAG, MINEM, MTC, PCM, MINAM, MRE, MINEDU, MINSA, MINJUS, MININTER, MINEF, GGRR, GGLL.			
16	Strengthening Capacity for Monitoring Forest Carbon	To strengthen capacities at national and regional level to implement the REDD mechanism in order to reduce GHG emissions from deforestation and forest degradation, loss of biodiversity and poverty. To strengthen scientific and technical capacities at national and regional levels for the design and implementation of the National Forest Carbon Monitoring System.	MINAM	Moore Foundation	S/. 5 049 000	In implementation, with allocated budget

2.9 Institutional Arrangement of the Energy Sector

2.9.1 Ministry of Energy and Mines - MINEM

The MINEM aims to develop and evaluate, according with the general policy and plans of the government, national policies on sustainable development of mining and energy activities. It is also the competent authority on environmental issues related to mining and energy activities.

In addition, the MINEM promotes the integral development of mining and energy activities; and, it regulates, inspects and / or supervises its accomplishment, cautioning a wise use of natural resources.

2.9.2 Supervisory Agency for Investment in Energy and Mining – OSINERGMIN

The OSINERGMIN is responsible for regulating, monitoring and control, at the national level, the enforcement of laws and technical issues relating to the activities of the sub-sectors of electricity, oil and mining, and the compliance with legal and technical standards concerning conservation and environmental protection in the development of such activities.

OSINERGMIN conducts quarterly environmental supervision and for this there is an internet monitoring system for lots and refineries as well as reporting process by companies. They also have a monitoring process, the Electric Enterprises Environmental Monitoring, which is conducted annually.

OSINERGMIN environmental functions are being transferred to the OEFA without ensuring that there is the least infrastructure and technical capacities and financial standards required in order to carry out the functions.

2.10 Major government programs / projects identified in the Energy sector

	Name	Target	Institutions	Funding	Amount	Status
1	Program for the Use of Renewable Energy to promote an Energy Matrix change toward cleaner sources	To encourage the use of unconventional renewable energy as an alternative energy source in hotels and public and private entities.	MINAM, MINEM	To be determined	S/. 450 000 000	In implementation, with allocated budget
2	Biofuels Action Plan	Evaluation of the deforested areas and / or degraded land with potential for the production of biofuels with the aim of contributing to the process of preparing a Biofuels Strategic Operations Plan in these areas for the implementation of future projects and the implementation of a pilot.	MINAM	IADB	US$ 400 000	Under negotiation
3	Automotive Park Renewal with a Chatarreo Bonus	Promoting change in the vehicle fleet energy matrix to a less harmful one to the environment.	MINEM, MINAM, MEF	MTC	S/. 192 000 000	Under negotiation

2.11 General legislative initiatives underway

#	Name	Target	Status
1	National Immediate Mitigation and Adaptation Plan	The objectives of this proposal are: • To identify national and global priorities of action, in terms of country contribution to climate change mitigation. • To promote the inclusion of actions addressing climate change in investments and short and medium term development activities that the regions and sectors are undertaking. • To propose priority actions to sectors and regions related to risk prevention and climate change adaptation in the country; • To ensure the inclusion in government plans and projects of the proposals on climate change by the National Coordinating Group for the Amazon Peoples Development and the Roundtable for the Integral Development of Andean Peoples in Extreme Poverty. • To guide the priorities of public spending and investment for inserting climate change in national development programs and projects. • To guide the efforts of international cooperation and negotiation for technical and financial support for implementing actions in the country and, • To help to place the foundations for a low carbon sustainable development of the country.	
2	Environmental Services Compensation Regulating Law	The law aims to establish the general framework for Environmental Services compensation and / or payment in order to contribute to the conservation, restoration and sustainable use of biodiversity and national resources. When the source of the environmental service is a public good or the land where is located is owned or by the state, the benefit of compensation of the service is for the State, which may assign it or transfer all or part of it to individuals who cooperate in the conservation of the natural heritage as it is the source of the environmental service.	Law project
3	Native and Indigenous people consultation Law	Legal normative that regulates the prior consultation right of the indigenous or native people for discussing legislative or administrative measures that affect them directly. It states that the final decision for adopting a legislative or administrative measure shall be taken by the competent state body, after a consultation process.	The law has been observed by the executive power in order to include that consultation is not a veto mechanism.
4	Forest and Wildlife Low	The objective is to achieve integration and alignment of stakeholder interests related to forestry, reconciling private interests with national objectives. The proposal main ideas: • Ecosystem Approach: Forest ecosystems and other wild vegetation ecosystems. • Granted forest rights reach the economic benefits released from management (concessions, permits). • Specific reference to Climate Change: Recognition of the importance of forest ecosystems conservation for mitigation and adaptation to climate change.	Reviewing and updating process.

2.12 Major cross-cutting government programs / projects identified to the sectors (capacity building, information systems, etc)

#	Name	Target	Institutions	Funding	Amount	Status
1	National Inventory of Greenhouse Gases Emissions System	To have a National Inventory of Greenhouse Gases Emissions System.	MINAM	To be determined		Proposal - Requires additional funding
2	Information and Support System for Decision Making (SISTD)	Process databases and produce information that can be easily interpreted, taking advantage of the availability of modern information tools, in order to be used by agents of the agricultural sector for the planning and decision making processes.	SENAMHI, IRI, MINAM	APCI	US$ 500 000 (aprox.)	Proposal
3	National Dissemination of adaptation and mitigation measures for Climate Change Program	Disseminate successful experiences in relation to mitigation and adaptation activities to climate change.	MINAM, MINAG	MINAM, MINAG and other sectors	S/. 65 000	Proposal
4	Capacity Strengthening for public institutions to access incentives of the Carbon Market	Strengthen the capacities of public institutions to access incentives for carbon markets, incorporating as a viable alternative to implement programs activities or the Programmatic CDM.	MINAM	UNDP	S/. 120 000	In implementation, with allocated budget
5	Strengthening Environmental Institutions	To support the organization and the institutional strengthening of the Ministry of the Environment, specifically the Vice Ministry of Environmental Management and the Environmental Assessment and Control Agency (OEFA)	MINAM	GTZ	S/. 7 700 000	In implementation, with allocated budget .
6	Capacity Building Support to Regional Management for Climate Change	To build and to contribute to the strengthening of regional capacities in the management of climate change through the design and formulation of regional climate change strategies to guide decision making in the context of the regional and local development agendas.	MINAM, FONAM	BID	US$ 500 000	Under negotiation
7	Strengthening the promotion of investment projects in the Carbon Market	Strengthening national capacities for implementing CDM projects applicable to carbon markets in order to determine the potential emission reduction nationwide.	FONAM, MINAM	MINAM – FONAM, International Cooperation	S/. 580 000	Proposal

3. Working Material for Activities Implemented During the Project

3.1 List of interviewed stakeholders

Name	Last name	Role/Area	Institution
Ada	Alegre	General Manager	Ada Alegre Consultores
Alberto	Cortés	Especialista – Dirección General de Asuntos Agrarios Specialist –General Directorate of Agrarian Affairs	Ministry of Agriculture
Alberto	Hart	Director of Environment and Sustainable Development	Foreign Affairs Ministry
Augusto	Castro	Especialista REDD	MINAM
Beatriz	Dapozzo	Forest Engineer	Ministry of Agriculture
Carlos	Centeno	Jefe del Gabinete de Asesores	MINEM
Cirila	Gutiérrez	Executive Director of Social Indicators	National Institute of Statistics and Informatics
Eduardo	Durand	General Director for Climate Change, Desertification and Water	Ministry of Environment
Eduardo	Calvo	Adviser	Foreign Affairs Ministry
Elvira	Gomez	Especialista REDD	MINAM
Erasmo	Otárola	Consultant	(former) Research Institute of the Peruvian Amazon
Erika	Vizcarra		OSINFOR
Freddy	Garro	Energy Specialist	National Environment Fund
Guillermo	Tardillo	Oficina de Planeamiento e Inversión (OPI)	MINEM
Iván	Lanegra	Assistant Secretary for the Environment, Public Services and Indigenous Peoples	Ombudsman
Iván	Maita	General Directorate of Environmental Affairs	Ministry of Agriculture
Javier	Roca	Director of the International Relations Office	Ministry of Economy and Finance
Jorge	Samanez	Responsible for negotiating management folder of the IDB, CAF and GEF	International Cooperation Agency of Peru
Jorge	Lozada	Conservation and Natural Resources Management Specialist	National Service of Protected Areas by the State
Jorge	Mattos	Chairman of the Technical Committee of Standardization of the Fishing Sector	National Agrarian University La Molina
Jorge	Castañeda	Environmental Advisor (CDM)	EDEGEL
Jorge	Suárez	Head of Renewable Energy	Ministry of Energy and Mines
Jorge	Álvarez	Carbon Finance Consultant	UNDP (Former Ministry of the Environment)
Jorge Luis	Núñez	Policy and Programs Director	International Cooperation Agency of Peru
José	Martínez	Consultant, Bureau of International Economics, Competition and Private Investment	Ministry of Economy and Finance
Juan	Olazaval	Environmental Project Specialist	National Environment Fund
Juan	Peralta	Chemical Engineer	Supervisory Agency for Investment in Energy and Mining
Julio Cesar	Romani	Asesor del Viceministro de Energía	MINEM
Kelly	Soudre	Project Director	WWF
Liliana	Miranda	Land Management and Sustainable Development	National Agrarian University La

Name	Last name	Role/Area	Institution
		Department - Faculty of Agricultural Engineering	Molina
Manuel	Leiva	Vice-Ministerial Office Advisor	Ministry of Agriculture
Mariano	Castro	Lawyer	Peruvian Environmental Law Society
Miguel	Lleellish	Biologist, Forest Management and Wildlife Department	Ministry of Agriculture
Nancy	Hidalgo	Executive Director of Census and Household Surveys	National Institute of Statistics and Informatics
Omar	Guerrero	Sub Dirección de Supervisión de Concesiones Forestales y de Fauna Silvestre	OSINFOR
Patricia	Camacho	Andean Region Delegate	Intercooperation
Pedro	Belber	Forest Control	Ministry of Agriculture
Pedro	Gamio	Former Deputy Minister of Energy	Ministry of Energy and Mines
Renzo	Silva	Management and Negotiation Bureau	International Cooperation Agency of Peru
Renzo	Barrón	Strategic Development Division	National Service of Protected Areas by the State
Roberto	Persivale	Consultant	Asesorandes
Rocío	Malleux	Direccion General forestal y de Fauna Silvestre	MINAG
Rofilia	Ramírez	Technical Director of Demography and Social Indicators	National Institute of Statistics and Informatics
Sofía	Carrasco	Liquid Hydrocarbons	Supervisory Agency for Investment in Energy and Mining
Tatiana	García	Thematic Programme Manager - Cooperation Section	European Commission
Verónica	Gálmez	Adaptation to Climate Change Programme Officer	Intercooperation

3.2 Summary report from the interview minutes

Developing countries, monitoring and reporting on greenhouse gas emissions, policies and measures
First Mission
PERU

3.2.1 Introduction

The European Commission is developing a project to provide proposals and recommendations for capacity building program on monitoring, reporting and verification (MRV) of mitigation actions in developing countries. It seeks to provide concrete recommendations on the structure and elements that must have a capacity building program for MRV, on which the European Commission could cooperate. In Latin America, Peru and Mexico were chosen to assess their barriers and gaps in designing mitigation actions and in the construction of MRV systems. These systems could enable them to contribute to mitigating climate change and to seize investment and funding opportunities available worldwide for those countries that undertake low carbon initiatives.

During the second week of May 2010 the mission composed of consultants of the European Commission met with representatives of public and private sectors, NGOs and analysts in Peru, to develop an overview of the country's situation regarding mitigation policies and relevant information systems.

3.2.2 Findings

Peru is in a sustained process of decentralization and modernization and it is currently upgrading the central role of the State. The central government is transferring responsibilities to the regional and local governments. In turn, the Ministry of Environment (MINAM), since its creation in 2008, is in the process of consolidating and strengthening its functions, communicating with the citizens and influencing public opinion on environmental issues.

In the country, the politics of climate change (CC) rely under the National Climate Change Strategy (ENCC) (Supreme Decree N° 086-2003), which is scheduled for revision this year. Peru has a Mitigation and Adaptation Action Plan for the next three years, and is in the process of developing a National Mitigation Plan for long term. The latter will provide a framework for initiatives that are being implemented and carried out in the country and is intended to provide the regulatory and institutional framework for the development of the National Mitigation Programs (NAMAS or PRONAMIs, as named in the country). Preliminarily the PRONAMIs are been elaborated for five areas: waste, transport, energy, forestry and industry. The National Climate Change Committee (CNCC) is the official channel for coordination of CC policies between sectors. Under the CNCC, there is a technical group working GHG mitigation guidelines.

With the establishment of MINAM, the Environmental Assessment and Control Agency (OEFA) was created. According to recent rules, the OEFA will be responsible for overseeing mining environmental issues from July 2010 and oil environmental issues from January 2011 (both previously in charge of the Supervisory Agency for Investment in Energy and Mining – OSINERGMIN). Later on, the OEFA will also supervise production and transport sectors. The institution also has the task of assessing the environmental situation and suggesting adjustments to policies.

Under the jurisdiction of MINAM, there is the National Environmental Information System (SINIA). The National Inventory System of Greenhouse Gases (SNINGEI) is being planned to be subsystem within the SINIA. The SNINGEI proposal has been presented to the Ministry of Economy and Finance as a public investment; its viability has not yet been given, though. In addition, MINAM is in the process of defining the legal status of the proposed system. In the SNINGEI, the sectors collect the sectoral information; the regional governments collect the regional information; and, they all report it to MINAM, which is the coordinator of the system.

In Peru, there is institutional progress on climate change. Mitigation activities are underway within various sectors (energy efficiency programs, new corridors, forest conservation initiatives, renewable energy development and use of natural gas, among others); however, these do not necessarily have been created with the intention to mitigate GHG. Some ministries are creating climate change teams that will be MINAM counterparts, including the Ministry of Economy and Finance (MEF), the Ministry of Agriculture (MINAG) and the Foreign Affairs Ministry.

Energy

The MINEM has developed an Energy Efficiency Plan which is being implemented for several years, where the potential impacts of GHG reduction have been projected. However, it does not have a monitoring component of its implementation.

Currently, with support from IDB, the FONAM is conducting an energy efficiency project for small and medium enterprises (SMEs). The main objective of the project is to improve the competitiveness of SMEs through enhancing opportunities, provision of economic incentives and development of local capabilities.

The project has four components: promoting use of clean energy and energy efficiency, development of a regulatory framework and local capacity building, technical assistance to businesses and dissemination of project results. Furthermore, it has an ecolabeling program with the IDB. There is a Promotion of Market Opportunities on Clean Energy and Energy Efficiency project of FONAM. Moreover the Ministry of Production (PRODUCE) has developed a boiler change project that reduces GHG emissions, which will be inserted under the CDM program.

Forest

With the creation of MINAM (mid-2008), the forest powers were divided: forest conservation is a responsibility of MNAM and forestry production responsibilities is of MINAG.

The MINAM has submitted to the international community a national project to stop deforestation by voluntarily sustainable conservation of 54 million hectares of forests, achieving the goal of zero net deforestation in 10 years. Under this scheme, it has been created a Conserving Together Project which aims to contribute effectively to the Amazonian native communities to overcome poverty through compensation for the conservation of forests on their land (S /. 10.00 soles per ha / year), the target is to conserve 10.5 million ha. Furthermore, MINAM has formed a Technical Working Group on REDD + CNCC, which was installed by the MINAM in May 2009.

The MINAG proposes policies, strategies, programs and projects related to the sustainable use of forest resources and wildlife. The MINAG has the promotion, management, control and information functions for forestry. On the generation of information, the ministry has information (raw data) based on timber and concessions; however, it is working to produce valuable information with it.

It is important to note that it is in process the approval of a new forestry law that would give executive powers to regional governments while the federal government would continue to give guidelines and OSINFOR would be responsible for giving the forest rights, concessions and authorizations. Furthermore, soil management would pass to MINAM.

Progress made	Institutional	Plans, Policies & Instruments	Information and Assessment Systems
The MEF would be implementing a new unit of Climate Change.	*		
The MEF plans to launch a counterpart fund to capture, organize and implementing in an orderly manner international finance allowing, that the spending of the money does not create duplications. It will also allow that support will be monitored, reported and verified.		*	*
The climate change unit of the MEF would monitor national progress towards a national mitigation goal (still to bet set).		*	
The MEF and the MINAM are working on the development of indicators for mitigation projects.		*	*
The MINEM has energy efficiency and renewable energy plans and projects (such as the Rural Electrification project) that are compatible with mitigation efforts.		*	
The MINEM has the capabilities to collect information through the energy balance and Environmental Impact Assessment (EIA) instrument of the companies in its sector and the Environmental Adjustment Programs.			*

Progress made	Institutional	Plans, Policies & Instruments	Information and Assessment Systems
The Ministry of Production (PRODUCE), under the Environmental Impact Assessment System, can ask information to companies related to their sector, however, this is not a systematic mechanism for information gathering.			*
The MINAG has created a group on Food Security and Climate Change that promotes initiatives on adaptation and lately, plans to do that on mitigation as well.	*		
The Controller General's Office is evaluating how to implement the National Climate Change Strategy		*	
The regional and local governments, are having initiatives around climate change, specially REDD +.	*		*

Modelling Experience

Peru's experience in monitoring and reporting of GHG emissions is reduced to two emission inventories (1994 and 2000) produced under the method less complex or "default" (Tier 1) and reported in the two national communications to the UNFCCC (2001 and 2010). It also has experience within the private sector through their participation in the CDM. There is not to date, a regular process of development of GHG emission inventories nor a plan to improve it or devote research for national emission factors. The Ministry of Energy and Mines (MINEM) is the only Ministry that has carried out regular inventories and projections, for the energy sector. The MINEM and OSINERGMIN have some information available about the energy sector (especially regarding activity data), but non related to GHG emissions, since there is no mandate to report this.
The categories used in the IPCC methodology for the GHG inventories do not follow the division of productive sectors in Peru. For that reason, a scheme has been elaborated where sectoral emissions are divided between the IPCC categories.

Socioeconomic Modelling
Peru uses the IPCC socioeconomic methodology for defining the variables necessary for estimating GHG emission levels and also to represent the levels of economic activity, using Peruvian information. The development of Peruvian socio-economic scenarios in the context of the Second National Communication to the UNFCCC, had a macroeconomic and sectoral approach. Through this process, scenarios were established based on short, medium and long term for the years 2010, 2020 and 2050 respectively. In addition, the resulting scenarios were subjected to sensitivity analysis, to obtain conservative and optimistic scenarios. It generated a total of nine socio-economic scenarios for use as a basis for GHG emissions projections.

LULUCF Modelling
The Map of the Peruvian Amazon Deforestation 2000, prepared by INRENA-CONAM, required the visual interpretation of a set of 45 satellite images. Its elaboration demanded great technical effort and budget, and it showed the lack of an expeditious and reliable mechanism to provide current and historical information on deforestation and changes in land use.

The greenhouse gas fluxes have been estimated in the following categories:
- forest land remains forest;
- crops that remain as crops;

- forest land converted to pasture;
- forest land converted to crops.

Emissions of greenhouse gases from forest land that remain as forest are estimated by changes in carbon stocks or CO_2.

Carbon sources used for each type of land use were:
- air biomass;
- groundwater biomass;
- organic carbon in soil.

Estimates of emissions of carbon dioxide (CO_2) for each of these components of forest were made based on the statistics of the forests surface, forest plantations and agroforestry crops, obtained from the Institute National Natural Resources (INRENA) and the Ministry of Agriculture (MINAG). Information was also collected on forest biomass and carbon stocks in different land use systems, Research Institute of the Peruvian Amazon (IIAP) of International Centre for Research in Agroforestry (ICRAF), National Institute Agricultural Research (INIA), The Nature Conservancy (TNC) and other institutions.

Energy Modelling
The energy emissions are calculated in the National Energy Balance using the methodology that is an adaptation of the source categories created by the Latin American Energy Agency – OLADE. The procedure for estimating emissions is divided into the following sectors: Energy Industries (areas of processing and energy sector); Manufacturing and Construction Industries; Transport (domestic aviation, road, railway, national shipping); Commercial / institutional, residential, agriculture; Fishing; Mining; and others.

Finally, it is important to remark that in Peru within universities, research centers and some government agencies, modelling capabilities exist for socio-economic scenarios and GHG inventories.

International Cooperation and Projects in Peru

Peru has the ability to build on the work supported by international cooperation, despite the changes in governmental authorities.

There are many different and dispersed projects being implemented at the time, especially in the Forestry sector related to REDD+ readiness, but those not necessarily follow common objectives or a common framework[4] . The REDD+ mechanism is expanding rapidly in Peru with many projects, which in turn generate a lot of international cooperation. Peru and other Latin American countries (Paraguay, Mexico, Argentina, Honduras, Chile and Panama) support a Nested Approach. This is a flexible approach that allows these countries to move from a sub - national sphere to a national one as their capacities are strengthened (this approach exists only as a proposal). The regional governments, the private sector and NGOs have taken a very proactive position on REDD + that could be inserted in such approach. On the REDD+ mechanism, MINAM is undertaking several projects for future implementation:

4 There is a special focus on REDD initiatives in the country. There are many projects that could be complementary and up scaled (i.e Project funded by the Moore Foundation that seeks to strengthen capacities for monitoring deforestation and the MACC project that will produce baseline studies, including forestry inventories in the Central Jungle).

1. The Forest Carbon Partnership Facility (FCPF) of the World Bank is supporting the design and implementation of a scheme for REDD +. The investment is $ 3.6 million dollars. For this, the MINAM has submitted a Readiness Plan Idea Note (R-PIN) which contains general information about the patterns of land use, causes of deforestation, public consultation processes and potential institutional arrangements in relation to REDD+ within the country. MINAM is currently preparing the Readiness Preparation Proposal (RPP) to be submitted also to the FCPF. The RPP includes a national baseline.
2. The MINAM is developing a project with support from the Moore Foundation with the aim of strengthening capacities for forest carbon monitoring at the stage of readiness, it seeks to implement a national system for monitoring deforestation. The investment is $ 2 million dollars.
3. The project "Reducing Emissions from Deforestation and Forest Degradation, through Protected Areas in the Amazon Region - Central Selva MACC" is being implemented by the PROFONANPE, GTZ and SERNANP in the region of Cerro de Pasco. Its investment is $ 250 thousand dollars. The objective is to help avoid emissions of greenhouse gases and curb the loss of biodiversity resulting from the accelerated process of deforestation in the Amazon region of Peru high through participatory management of the NPA and its areas buffer with a holistic approach to conservation and development. This involves developing a baseline diagnosis of localities with orthorectified methodology. In addition, there will be a forest inventory, mapping and change detection based land use. The project intervention area is in six protected areas and forest buffer zones with 2'347, 306.79 hectares:
    - National Park Yanachaga Chemillén (PNYCh): 122 000 ha ;
    - Community Reserve Yanesha (RCY): 34 744 ha;
    - Protected Forest San Matias San Carlos (BPSMSC): 145 818 ha;
    - Community Reserve El Sira (RCS): 616,416.41 ha;
    - Pui Pui Protected Forest (BPPP): 60,000.00 ha;
    - National Shrine Pampa Hermosa (SNPH): 11543.747 ha.
4. The Carnegie Institution, World Wide Fund for Nature (WWF) and Forest, Society and Development (BSD) are conducting a pilot study measuring regional carbon scale in the Madre de Dios region The Carnegie Institution's Department of Global Ecology at Stanford University has developed a tool to extract better data from Landsat images. The Carnegie Landsat Analysis System (CLAS) uses automated image analysis and pattern-recognition to examine satellite photographs pixel by pixel, a scale that corresponds to parcels of land measuring about 100 square feet. Through these minute computations, the program can detect fine differences in vegetation patterns. It will also study the historical deforestation and its projection.
5. The European Commission is working with the IIAP to promote a regional management group of forests and indigenous communities. It has developed the Information System of the Amazon Forest (Amazonia SIF) that seeks to improve the profitability of forest management and equity in the negotiations in the forest products market in the Loreto region.
6. The FIP (Forest Investment Program) is investing 60-70 million dollars for the implementation of the REDD strategy and some early actions.
7. International cooperation has conducted studies on renewable energy, which serve as input for setting targets in the country. In addition, there are national centers of renewable, which enable connection to other countries, universities and governments, and micro-renewable energy centers in Tacna, Cajamarca, Piura and two in Lima (UNI, PUCP).

Another effort of coordination is the "Mesa REDD+" (REDD+ Table, Civil society runs it) which articulates almost all the sectors involved in REDD initiatives in Peru, with the aim of contributing to its implementation and development of its mechanisms. Currently, it consists of about 60 public organizations, NGOs, indigenous cooperative institutions, research institutions, promotion funds and companies. This institution is divided into three sub-working groups (technical, legal and institutional and financial). A similar initiative has been carried out in the regions of Madre de Dios, Piura and San Martin, with the installation of regional

REDD tables. It has also been established an European Union Roundtable on climate change which meets every two months and presents the programs of cooperation of each agency.

Even though there is instability of public officials, the people that have been trained in the past are actively working on climate change issues from other sectors (NGOs and private sector). In addition, the MINAM regularly works and consults with non-governmental agencies that provide information on priority policies and measures in the sector.

Generally in Peru, in the field of mitigation it may be considered that the actions so far are only first steps towards a real long term planning of mitigation that can "decouple" economic growth from emissions growth. For example, in the case of REDD +, there are many initiatives and MINAM needs to start planning and grouping them. It is important to mention that REDD+ would only be one of many tools to manage forests in Peru.

3.2.3 Barriers, Gaps and Steps Forward

a) Planning and implementation:	
Gap	Mitigation policies in the country respond to political circumstances and are not the result of a participatory process of generating scenarios and plans for long-term mitigation. This design does not guarantee its implementation and is a barrier to monitoring and reporting the actions. Moreover, many sectoral policies that mitigate greenhouse gases are carried out without such proposed action.
Recommendation	The country has two sectors with the opportunity to mitigate GHG emissions and develop MRV systems: the energy sector, because of the accessible data and the tangible benefits (potential win-win measures); and the forest sector, because it allows to avoid potential emissions, work on new threats to the Amazon and generate a new social contract between civil society, NGOs, businesses and state.
Recommendation	An important task to perform would be to account these efforts in terms of reducing emissions and figure out which mechanisms could be implemented to monitor compliance and its impact on the reduction / avoidance of emissions.
Recommendation	It is also indispensable to generate scenarios and mitigation options from scratch using advanced modelling, with input from stakeholders (government, private sector, NGOs), in order to set mitigation goals and identify growth opportunities generated by a low carbon growth plan.
Recommendation	In relation to REDD, the main challenge is to coordinate the different efforts being made in Peru in the context of the Readiness and the construction phase of the REDD strategy, with the National Forest Program. Therefore, the Moore and MACC projects need to be reviewed on how they contribute with the aim of coordinating the work with the MINAM and use their products as a starting point to implement a MRV system.
b) Information systems, modelling and research	
Gap	National GHG Inventories in Peru are available for 1994 and 2000, and are only developed with the support of international cooperation (with special projects or the National Communication support).
Recommendation	There is need to adopt and implement the project of the SNINGEI. While the government emits its law or resolution, MINAM could begin to apply it as an exercise in two sectors: energy and LULUCF.
Gap	Peru does not have a system of local air pollutants inventories in place, as many other cities in the Latin American region do.
Gap	With regard to the national inventory system (SNINGEI), it is important to note that Peru has not developed national emission factors, neither national nor regional. In the case of the forestry sector, some efforts are done in this regard, but much more need to be done since Peru's forests are very diverse, as well as their carbon capture and storage capacity.
Recommendation	Under the SNINGEI, through a regulation a system of local inventories could be established. There is need of a Land Information System and Forest Information System, which should provide basic sectoral information to the SNINGEI.
Recommendation	Under the SNINGEI, it is suggested to build a subsystem that generates a network that integrates

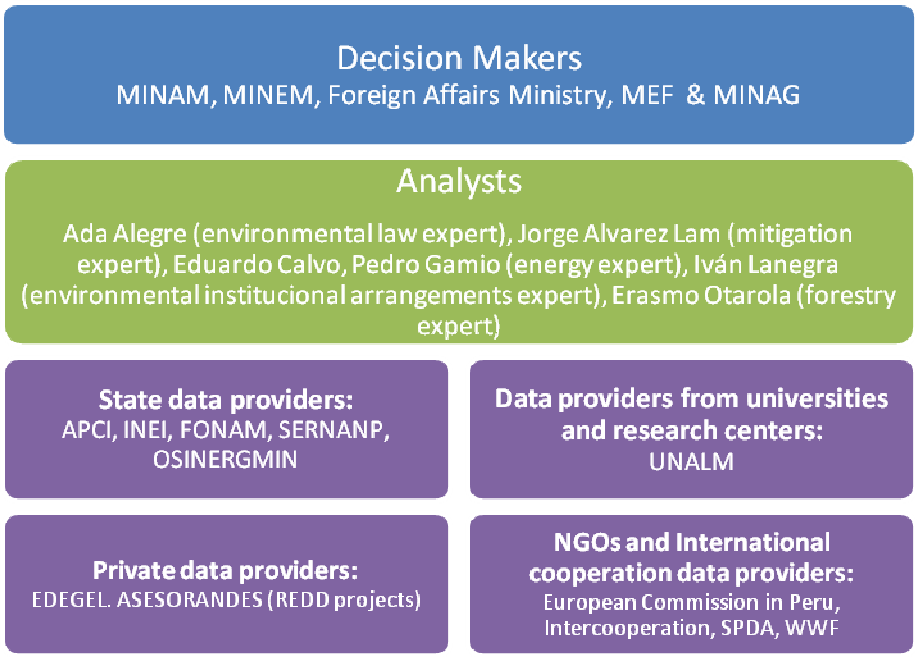
	and provides sectoral information on greenhouse gases and a technology network that would enable all authorities to manage information on sectoral GHGs.
Gap	The environmental information obtained through the SINIA, is widely scattered and uses multiple technologies.
Recommendation	It is desirable to strengthen the capacities of universities, research institutions and government entities that are up to date capable of modelling scenarios and socio-economic GHG inventories, but would benefit for technical support and interchange of experiences.
c) Institutional:	
Gap	It is evident that during the transfer of functions of the former environmental authority (CONAM) to MINAM, technical capacities were lost as well as previous relationship established with other sectors and regional and local governments. Transfer of roles and functions to regional governments is not always supported by adequate capacity building efforts and budgetary support. The institutional arrangements of the national government (MINAM) and the local and regional governments on environmental issues is presently emerging, therefore it generates management problems. On the other hand, the environmental issue became more important and powerful.
Recommendation	MINAM must assume a leadership role, providing strategic and operational guidance for mitigation efforts and systematization of information. It is important that MINAM works with relevant areas of each ministry to build a stronger team with whom MINAM can coordinate on technical issues building complementary public policies. These coordination efforts should also help raise awareness in the sectors on climate change.
Recommendation	The national government when transferring certain powers to regional and local governments should ensure that there are effective capacities to implement and verify the sectoral plans. Moreover, all public sector entities should begin to prepare for scenarios involving global technological changes and requirements of standards, taking into account the barriers identified.
Gap	Coordination under the CNCC is weak, since the level of its representatives is very low (technical people) and some sectors have not yet nominated their representatives (especially MINEM and MTC).
Gap	There is lack of coordination and certain conflicts between the MINAM and the MINAG, and the MINEM. This could lead to duplication of activities and lack of clarity about the responsibilities of each sector.
Recommendation	MINAM needs to strengthen its ability to manage processes and guide effectively the implementation of the environmental policy, especially with regard to mitigation efforts. The National Mitigation Plan (the long-term one) may be an opportunity to articulate various state efforts and create mechanisms for coordination of instruments and sectors, achieving policy convergence. The Plan may serve as an articulating mechanism to see the compliance of policies and their assessment. It is essential that the plan incorporates elements of MRV. Furthermore, the roles for policy implementation and the role for a comprehensive assessment should be carefully designed within the National Mitigation Plan.
Recommendation	As a pilot project, MINAM could set an issue (i.e. biofuels, energy efficiency in buildings or certain sector) to integrate all its relevant public policy and coordinate among state institutions. For this, it is necessary to establish mechanisms and build capacities to enable public officials understand and evaluate the instruments realizing the potential of converging policies. Specifically, MINAG and MINAM must work together in the area of REDD+. A potential project for EC cooperation would be to set up and support the functioning of network of sectoral focal points in each relevant ministry, building upon the representatives in the CNCC. It is very important to enable regional and local governments for REDD+. The national government should find channels of communication with NGOs and regional governments on REDD+ in order to exploit and / or complement what they are doing, replicate methodologies in other regions and create a management REDD+ system.
Gap	Nationally there is a serious instability of public servants due to the lack of public career, incentives and appropriate wage levels.
Recommendation	On capacity building projects, specifically those related to monitoring and reporting, it cannot be taken as a premise that people are going to stay in public entities, so the focus should be on upgrading the capabilities but also on shifting them within entities.
Recommendation	For the tasks that are incumbent to MINAM, more technical staff is needed as well as a more appropriate organizational structure and managerial capacities.
Gap	Currently, the environmental control (enforcement) system is very weak. The transfer of the environmental inspection responsibility from sectoral agencies to the OEFA represents a risk

	since many capacities may be lost (human, technical and financial resources). A potential danger is that public officials of the oversight agencies (as OSINERGMIN) would not necessarily be going to the OEFA; hence learned skills could be lost.
Recommendation	In relation to the institutional arrangements for assessment, there is need to evaluate how to leverage the role of assessment and audit of the OEFA, so MINAM achieves a strong control policy and law enforcement capabilities. The OEFA could be in charge of verifying and monitoring compliance of the PRONAMIs.
Recommendation	The OSINERGMIN is an organism that could serve as a benchmark in regard to monitoring, reporting and verification systems; the electricity sector is the one with the best information in Peru because it is very well regulated.
Recommendation	The private sector has the potential to play an important role in low-carbon development in the country, mainly for REDD+ and energy (including renewables and energy efficiency), and generally moves faster than the public sector and can go pushing changes in the government and the consumer before the regulations or explicit incentives frameworks. For the private sector working on these issues could be an opportunity and go beyond the idea of emission reduction obligations and its report by the country. Companies need to know the carbon footprint and the opportunities to mitigate greenhouse gases, and begin with voluntary efforts (i.e. voluntary reporting).
Recommendation	Civil society, especially organized groups, has the ability to put issues on the public agenda. Therefore, it would be interesting to retrieve projects on environmental citizenship as the AARHUS Convention of the European Community that guarantees public access to environmental information that is held by public institutions, with electronic databases easily accessible. The convention ensures access to environmental justice at the community level. There is also a Strategy for Public Participation in Decision-Making for the Environment and Sustainable Development in the Americas (ISP - OEA), which aims, by strengthening public participation in decisions and policies on environmental management and natural resources, that governments contribute to sustainable development. Making decisions on a consensus basis would reduce the possibility of conflicts and increase the likelihood of improved and sustainable solutions.

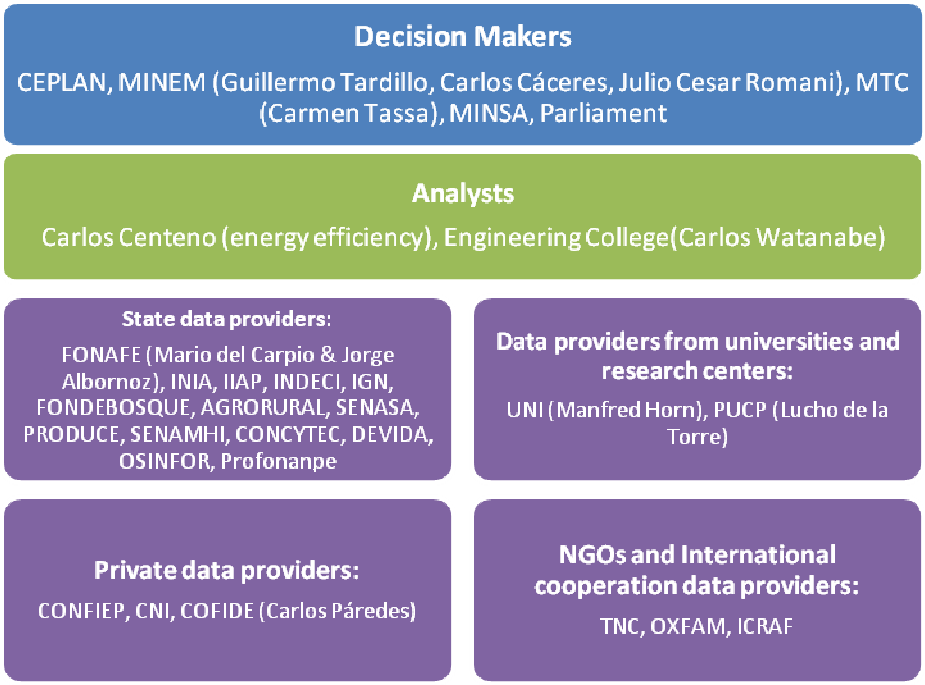
3.3 Stakeholder Map

A Map of stakeholders interviewed during the first mission of the European Commission to Peru is presented below (see 5.1), as well as a detailed list of them (see 5.3). A proposal to interview stakeholders to supplement the first mission with the aim that all the information of all stakeholders (decision makers, analysts and suppliers of data) is included in the assessment of the structure and elements for a capacity building program in MRV.

3.3.1 Interviewed Stakeholders (First mission)



3.3.2 Proposal of Stakeholders to be interviewed during second mission



3.4 Workshop Report

Reporte del Taller sobre el Proyecto "Monitoreo y Reporte de Emisiones de Gases de Efecto Invernadero (GEI), Medidas y Políticas de Mitigación en Países en Desarrollo"
Lima, 23 de junio del 2010

3.4.1 Introducción

EL 23 de junio de 2010, se llevó a cabo el primer taller sobre el Proyecto "Monitoreo y Reporte de Emisiones de Gases de Efecto Invernadero (GEI), Medidas y Políticas de Mitigación en Países en Desarrollo" en la sede del Ministerio de Relaciones Exteriores del Perú, en Lima. La agenda y objetivos del taller se encuentran en el Anexo 1 del presente informe. El taller congregó a más de cincuenta representantes de gobierno – entre ellos los sectores de economía y finanzas, energía y minas, relaciones exteriores, medio ambiente y agricultura-, de la empresa privada, la sociedad civil y agencias de cooperación internacional (ver Anexo 2: lista de participantes).

Este taller se enmarca en un proyecto de la Comisión Europea, dirigido a comprender y explorar las necesidades de creación y fortalecimiento de capacidades en países en desarrollo para la medición, reporte y verificación (MRV) de actividades relacionadas a la mitigación de emisiones de GEI. Dicho proyecto busca realizar un estudio de alcance donde se analiza el proceso de planificación, diseño, implementación y evaluación de medidas de mitigación apropiadas para cada país (NAMAs en inglés, llamados PRONAMIs en el Perú) y Estrategias de Desarrollo Bajas en Carbono (LEDS, por sus siglas en inglés). El estudio incluye asimismo instrumentos y procesos existentes de medición, como los inventarios de emisiones de gases de efecto invernadero (GEI), y de reporte, como las Comunicaciones Nacionales a la Convención Marco de las Naciones Unidas para el Cambio Climático (CMNUCC).

El proyecto, ejecutado por Euroconsult Mott MacDonald con Ecoprogresso, con el Centro de Investigación de Energía de los Países Bajos (ECN) y Libélula en el Perú, busca hacer recomendaciones concretas sobre la estructura y los elementos para un programa de fortalecimiento de capacidades a ser ejecutado entre el 2010 y el 2013-2014, con el fin de ayudar a los países en desarrollo en la implementación de un sistema de MRV para un acuerdo global sobre cambio climático. Este programa de capacitación será diseñado sobre la base de las principales barreras identificadas en los países piloto (Perú, México, Indonesia y Kenia) a través de procesos interactivos de consulta con grupos de interés en el país; y con el fin de abordar barreras, necesidades, limitaciones y oportunidades tanto institucionales como de procedimiento y metodológicas, identificadas en el estudio de alcance.

3.4.2 Objetivos del Taller

Los objetivos del taller fueron:

- socializar y validar los resultados preliminares del estudio, productos de investigación preliminar y entrevistas con actores[5] ;
- recopilar mayor información que permita completar el estudio de barreras, vacíos y recomendaciones para el fortalecimiento de capacidades para el MRV de emisiones de GEI y medidas y políticas de mitigación;

5 Trabajo realizado en Lima por Ecoprogresso y Libélula entre los días 10 y 14 de mayo de 2010

- identificar áreas potenciales de trabajo a ser abordadas por un proyecto de construcción de capacidades en MRV.

3.4.3 Metodología y secciones del Taller

La metodología del taller se enfocó en el cumplimiento de los objetivos y buscó combinar presentaciones informativas con trabajo práctico. El día de trabajo se dividió en 3 secciones:

1. La **sesión de apertura** que consistió en presentaciones introductorias sobre las expectativas de las instituciones anfitrionas (CE, MINAM y MRE), la metodología y objetivos del taller, así como una explicación más amplia del proyecto en el cuál se enmarca. Esta sesión se centró en poner en contexto a los participantes mediante presentaciones y una sección para preguntas y respuestas.

2. La **sesión de circunstancias nacionales** que consistió en presentaciones con ronda de preguntas y un panel de discusión. Esta sección se centró en brindar un panorama de logros alcanzados, acciones en marcha y especialmente barreras relacionadas con políticas y medidas de mitigación, así como los sistemas de información relacionados que contribuyen a su monitoreo y reporte. Las presentaciones a cargo del MEF y el MINAM buscaron dar el marco económico - ambiental y mostrar las interdependencia entre el sistema económico y el medio ambiente, bajo el cual se realizan las políticas de mitigación en el Perú. El panel de discusión buscó complementar este marco central con perspectivas sectoriales y regionales de instituciones clave del sector público y la sociedad civil.

3. La **sesión de trabajo en grupo** se desarrolló durante la tarde y tuvo como objetivo validar y complementar información en torno a barreras, iniciativas y oportunidades para diseñar e implementar medidas de mitigación y los sistemas de información relacionados a su monitoreo y evaluación. Los participantes se dividieron en grupos dedicados a la discusión de los siguientes temas: 1) Sector energético (producción energética, eficiencia energética, energías renovables y transporte); y 2) Sector no energético (forestal –incluyendo REDD-, agrícola y residuos). Cada uno subdividido en: a) Grupo Técnico (centrándose en las necesidades de datos para supervisar las acciones y las emisiones); y b) Grupo Político (centrándose en el diseño y aplicación de políticas). Para esta sección se utilizó la metodología del árbol de problemas para la identificación de barreras, complementada con el uso de tarjetas y otros materiales que permitieron dinámicas de discusión y lluvia de ideas en torno a un problema central. En base al problema central identificado se revisó las causas y consecuencias del problema. Cada participante tuvo la oportunidad de esclarecer las ideas, señalar su acuerdo o desacuerdo con lo identificado y agregar nuevos problemas al árbol en forma de causas. Los mismos materiales y dinámicas se utilizaron luego para abordar las medidas necesarias para superar las barreras existentes.

3.4.4 Desarrollo del Taller

SESIÓN DE APERTURA

Palabras de bienvenida

Marianne Van Steen, Jefe de Misión Adjunta de la Delegación de la Unión Europea en el Perú

Explicó que el proyecto busca evaluar las necesidades para la planificación, implementación y evaluación de Medidas de Mitigación Apropiadas para cada País (NAMAs). Agregó que el objetivo es identificar aéreas potenciales de trabajo en los ámbitos de diseño y medición de políticas. Recalcó además que este proyecto debiera estrechar vínculo entre los diversos actores. Resaltó la elección del Perú por ser uno de

los países con mayor diversidad en el mundo, tener una gran área de bosques que contribuye a la mitigación, y encontrarse en una situación de alta vulnerabilidad al cambio climático. Estas condiciones se complementan con crecientes índices de efectividad ambiental, institucionalidad política y democrática y, expansión económica.

Eduardo Durand, Director General para Cambio Climático del Ministerio del Ambiente

Destacó que el taller es el inicio de un trabajo intenso de evaluación de necesidades del país para que la mitigación se realice de forma medible. Recalcó que para el MINAM el taller es un diálogo con los sectores para articular esfuerzos, a fin de que la voluntad peruana de contribuir con la mitigación global sea verificable y confiable ante la comunidad internacional.

Alberto Hart, Director General de Medio Ambiente del Ministerio de Relaciones Exteriores

Señaló que la colaboración entre los ministerios que se refleja en el taller ilustra la voluntad política que el Perú tiene frente al cambio climático. Indicó que el país se ha propuesto como objetivo el desarrollo de una economía de crecimiento sostenible baja en carbono y que con ese propósito el Perú había recientemente presentado a la Secretaría Ejecutiva de la CMNUCC, en el marco de la Convención (artículos 4, 10 y 12) y del párrafo 5 del Acuerdo de Copenhague, las medidas voluntarias de mitigación que llevará adelante. Señaló que dichas medidas deberían ser tomadas en consideración por el taller.

Metodología y Objetivos del Taller

Maria Paz Cigarán, Libélula

Explicó que el taller se dividiría en dos componentes principales, tal como se presenta en la sección III del presente informe. Sobre el objetivo, indicó que el trabajo serviría para que la cooperación de la Unión Europea pueda aportar un valor agregado al trabajo nacional. Resaltó que los documentos entregados como insumo eran preliminares y serían sujetos de discusión para ser mejorados en el taller, ya que fueron el resultado de una primera aproximación con actores. La presentación se encuentra disponible en: http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/1.%20Agenda%2C%20objetivos%20y%20metodolog%C3%ADa%20%28230610%29.pptx

Medidas Nacionales de Mitigación y Sistemas de Monitoreo, Reporte y Verificación: Perspectiva de la Unión Europea

Erasmia Kitou, Comisión Europea

La exposición estuvo centrada en cuatro temas: 1) el marco internacional de cambio climático; 2) la experiencia de la Unión Europea y algunas lecciones aprendidas; 3) las bondades de implementar sistemas de monitoreo, registro y verificación (MRV) de planes de mitigación; y 4) los beneficios que podría traer para el Perú el desarrollar planes de mitigación y monitorear sus avances. Las principales conclusiones que se derivan de la presentación, son las siguientes:

1. La planificación y el MRV son partes de un mismo ciclo y están interrelacionadas.

2. Implementar un sistema MRV de un plan o de una política de mitigación como parte de un esfuerzo global, permite: construir confianza entre países, contar con un seguimiento del desempeño que tenemos en relación a una meta de mitigación global y ajustar o incrementar acciones en la medida en

que sea necesario, reconocer las acciones que los países están haciendo en el mundo en términos cuantitativos, hacer mejores evaluaciones sobre las necesidades de soporte y la provisión del mismo, e intercambiar lecciones aprendidas y buenas prácticas que permiten mejoras en los procesos.

3. La implementación de Iniciativas de mitigación y sistemas MRV permitió a la Unión Europea: cumplir con los compromisos establecidos en el tiempo, identificar áreas de mejora y contar con información cuantitativa para formular mejores políticas, generar nuevas inversiones y flujos financieros así como co-beneficios en seguridad energética, creación de empleos y salud pública, y plantear un mejor plan y metas para la Segunda Fase, por contar con información cuantitativa.

4. Para el Perú, el desarrollo de Planes de Mitigación y el establecimiento de un sistema para monitorearlos, reportarlos y verificarlos, permitiría atraer nuevas inversiones y participar del mercado de carbono, ser más costo eficientes, pues permitiría integrar accione y por tanto ahorrar recursos, implementar mejores políticas pues las mismas serían formuladas, implementadas y modificadas en base a buena información cuantitativa disponibles, y contabilizar las reducciones de emisiones o emisiones evitadas y mostrar globalmente, de manera veraz y confiable, la contribución del país al mundo en términos de mitigación y el potencial para incentivos de desarrollar LEDs (inversiones, mecanismos REDD y mercado de carbono, etc).

La presentación completa se encuentra disponible en: http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/2.%2020100622_EKA3%20MRV%20Peru.ppt

Estudio de Alcance para el Proyecto Monitoreo y Reporte de Emisiones de Gases de Efecto Invernadero (GEI), Medidas y Políticas de Mitigación en Países en Desarrollo - Principales Resultados en el Perú

Gonzalo Cavalheiro, Consultor de la Comisión Europea

La presentación buscó informar a los participantes sobre el contexto internacional en el que se desenvuelve el proyecto, los objetivos del proyecto en sí y, especialmente, los avances logrados en el trabajo hecho con el Perú hasta el momento. En términos generales explicó que, a través de 2 misiones; más de 20 entrevistas con actores del gobierno, de la sociedad civil, del sector privado y de la academia y, el presente taller, se buscaba identificar acciones prioritarias para afrontar vacíos y barreras de MRV de mitigación en el Perú y dar recomendaciones de apoyo a la Unión Europea para un potencial programa de fortalecimiento de capacidades.

Sobre los principales hallazgos mencionó que se ha encontrado, por un lado, que (1) el marco institucional ambiental en Perú está en proceso de renovación desde hace unos años y por lo tanto los mecanismos de coordinación intra e intersectorial son incipientes; (2) las oportunidades para la mitigación de GEI y un desarrollo bajo en carbono no son totalmente consideradas en las políticas sectoriales; y (3) la desarticulación de los sistemas de información y la incompleta y desactualizada información de base no permite la planificación y monitoreo efectivos de políticas y medidas de mitigación. Por el otro, ~~lado~~ resaltó la diversidad de medidas y proyectos identificados, avocados a fortalecer estas capacidades y la importancia de articularlos.

Como propuesta inicial mencionó que para ambos sectores (USCUSS y energía) se debe iniciar un

proceso que permita consolidar, planificar e implementar las metas de mitigación actuales.

La presentación completa se encuentra disponible en:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/3.%20Presentation_GoncaloCavalheiro_Lima.ppt

Preguntas y comentarios

- Un primer comentario a la presentación de Gonçalo Cavalheiro fue que el análisis hasta el momento no incluía el proceso de descentralización, y la importancia del rol de los GOREs y las estrategias regionales de cambio climático. Otro comentario estuvo dirigido a la importancia de considerar la interdependencia entre los sectores (por ejemplo entre lo forestar y la energía) en la mitigación. Se acordó incluir en el reporte final este nuevo reto de fortalecimiento de capacidades y articulación a nivel regional, así como la importancia de fortalecer los mecanismos de coordinación intersectorial para poder analizar de manera holística las causas de las emisiones.

- Sobre la presentación de Erasmia Kitou, un participante expresó la importancia de tener clara la diferencia entre los mercados de carbono y los esfuerzos o acciones que los países desarrollados deben implementar, así como la diferencia entre los países que hacen un esfuerzo con sus propios recursos y aquellos que recurren al mercado de carbono. La expositora respondió que es necesario considerar las necesidades de políticas y desarrollo y hacer uso de instrumentos que permitan hacer más costo-efectiva la mitigación. Agregó que no es fácil hacer la diferencia entre lo que hacen los países y el mercado de carbono.

- Una pregunta estuvo dirigida a conocer si existía un reporte del proceso seguido por la UE, que explicara cuáles han sido las barreras que encontraron en la implementación de sus políticas y medidas de mitigación. Erasmia Kitou respondió que no existe un reporte de lecciones aprendidas pero si recalcó la diferencia entre la fase 1 en la que Kyoto les impuso una meta que debían cumplir, que incluía la implementación de un sistema nacional, y la fase 2 donde ellos mismos se impusieron la meta por los beneficios que traía y para mantener su competitividad.

- Un participante expresó que los países amazónicos tienen mucha responsabilidad, y si bien existen algunas normas y regulación, todavía queda mucho por hacer. Recalcó que los vendedores no tienen claridad sobre los compradores ni las reglas. Resaltó especialmente la situación de las comunidades nativas que están negociando con *brokers* sin tener suficiente información. Sobre esto Gonzalo Cavalheiro habló de la importancia de que los sistemas de información se hagan con los actores en el terreno. Mencionó la importancia de un registro para REDD, con el fin de no generar falsas expectativas; y que las reglas sean impuestas nacionalmente, y no desde el exterior. . Recalcó que hay mucho trabajo en las regiones y muchas oportunidades para consolidar y poner reglas.

- FONAM informó a los participantes que la institución cuenta con un registro de proyectos para el MDL y para el mercado voluntario. Dicho registro es opcional y sus proyectos actualmente alcanzarían reducciones por 25 millones de toneladas de CO_2eq. Incluyó que el esfuerzo está ya institucionalizado, pues se viene haciendo desde hace ocho años. Es importante porque registra proyectos del sector privado, especialmente del sector energía (80%); y sirve como un nodo de información para un sistema de MRV.

CIRCUNSTANCIAS NACIONALES

Oportunidades para un Desarrollo Bajo en Carbono

Javier Roca, Director General de Economía Internacional, Competencia e Inversión Privada – MEF

La presentación explicó la situación actual de la economía peruana, con una tendencia positiva de crecimiento y una proyección de aumento de 5 a 6% en los próximos años, basada en exportaciones primarias. No obstante, se ha identificado que este crecimiento económico ha implicado un crecimiento de emisiones de GEI, es decir, hay evidencia de una alta intensidad de uso de energía y de recursos naturales. A medida que la economía crezca con este patrón – bajo valor agregado e intensivo-, la sostenibilidad del crecimiento y desarrollo que en un futuro se generaría mayor presión sobre las cuentas fiscales en el futuro para obras de reconstrucción y rehabilitación por los efectos climáticos.

Por otro lado, el cambio climático pone en riesgo la sostenibilidad del modelo de desarrollo del país por la disminución de agua y energía, impactando el PBI. Esto significa que se necesita cambios en la política de desarrollo que acompañen el crecimiento económico, pero con bajos niveles de emisiones. Para ello, sería necesario invertir en investigación y fomentar la innovación en tecnologías que mejoren la productividad con un bajo impacto ambiental. Asimismo, sería necesario mejorar la institucionalidad, la coordinación, planificación y fiscalización por parte del estado, generando estrategias de largo plazo que tomen en cuenta los criterios para la sostenibilidad. Una herramienta importante sería el presupuesto por resultados. Se sostuvo que en el sector energético, se debería dar mayor sostenibilidad a la matriz para cubrir los vaivenes por l impacto del clima en la hidroenergía. Para el sector forestal, un esfuerzo importante sería implementar el plan de cero deforestación neta en 10 años.

Por último, se resaltó que se debería aprovechar los mecanismos internacionales de financiamiento y mercados de carbono; y fomentar que el sector privado sea más eficiente y valore más los servicios ambientales. La presentación completa se encuentra disponible en: http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/4.%20Peru%20Economia%20baja%20en%20emision%20de%20carbono.ppt

Actividades de Mitigación en Curso y Sistemas de Información y Monitoreo en el Perú

Eduardo Durand, Director General de Cambio Climático – MINAM

Luego de presentar un diagnóstico, la presentación informó que el Ministerio ha iniciado las primeras discusiones para implementar mecanismos interministeriales para el Plan de Mitigación. Mediante estos esfuerzos se busca manejar una interfaz entre la oferta de financiamiento o internacional y las demandas sectoriales y regionales. Para el trabajo de planificación, implementación y monitoreo, cada ministerio deberá tener su equipos y se deberá contar con información de base para la toma de decisiones, como las curvas de abatimiento para las diferentes medidas y tecnologías de mitigación. Asimismo, informó que la eficiencia energética y la conservación de los bosques son prioridades para el país. Se presentó la situación de los diferentes sectores donde se busca implementar programas nacionales de mitigación: sector forestal y uso del suelo, sector energético, manejo de desechos urbanos y residuos, actividades agropecuarias, sector transporte y sector industrial.

Por otro lado, se informó que el Perú ha presentado sus metas para NAMAs en el marco del acuerdo de Copenhague, ellos son: 1) Reducción a una tasa cero de la deforestación neta de los bosques primarios o naturales; 2) Modificación de la matriz energética actual para que el 33% de energía consumida sea renovable al año 2020; 3) Medidas para reducir las emisiones causadas por la gestión adecuada de los

residuos sólidos. Finalmente recalcó que estos compromisos son voluntarios y constituyen un aporte del Perú a la mitigación global.

La presentación completa se encuentra disponible en:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/5.%20Presentacion%20Plan%20Nacional%20de%20Mitigacion%20MRV.ppt

Proyecto *Readiness* para REDD+

Augusto Castro, MINAM

El expositor identificó en su presentación, los desafíos en el Perú para REDD+, y los avances e iniciativas. Asimismo, presentó las necesidades para el mecanismo, entre ellas están: (1) Información y capacitación; (2) Mecanismos de coordinación; y (3) Diseño de fase de implementación REDD+ articulada a iniciativas existentes. Por otro lado, aseguró que es indispensable trabajar sobre las amenazas de la deforestación, y contener las fugas en los bosques. Se consideró que hay zonas en donde no funcionaría REDD+ por lo que sería necesario un planeamiento integral.

Sobre las iniciativas en marcha, algunos proyecto identificados son:
1. FCPF - Fondo Cooperativo de Carbono Forestal, 3.6 millones de dólares para la Fase de Preparación para REDD en el Perú – R-PP
2. Fundación Gordon and Betty Moore, 2 millones de dólares para el Fortalecimiento de Capacidades para el Monitoreo de Carbono Forestal –.
3. KFW, a través de PROFONANPE – Proyecto MACC, 250 mil dólares para la Fase de Información, Participación y Consulta
4. El FIP (*Forest Investment Program*), con 60 – 70 millones de dólares para la implementación de la Estrategia REDD y algunas acciones tempranas

La presentación completa se encuentra disponible en:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/6.%20Presentacion%20REDD%20-%20Taller%20MRV.ppt

Preguntas y comentarios sobre las presentaciones
- En los comentarios sobre la presentación de Javier Roca, los participantes identificaron desafíos importantes como asegurar la sostenibilidad de las políticas, establecer coherencia entre la planificación de largo plazo y la acción al corto plazo, y asegurar un marco legal que promueva la carrera pública en lugar de desincentivarla. Roca destacó la importancia de diseñar instituciones con objetivos claros y sostenibles en el tiempo, que no estén sometidas a presiones de índole político. Destacó como ejemplo el caso de la SUNAT.

- A una pregunta sobre el NAMA de reducción a una tasa cero en deforestación neta, Eduardo Durand enfatizó que se deberá reducir o compensar un promedio de 15.000 hectáreas por año aproximadamente, en 10 años. Sobre el sector transporte recalcó que si bien hay iniciativas para mejorar los combustibles y mejorar la calidad del aire, no existe un programa articulado al respecto.

- A la presentación de Augusto Castro, varios participantes complementaron la información informando que Noruega también sería un potencial donante.

Panel de discusión

Ernesto Barreda, Director General de Hidrocarburos – MINEM

Destacó que las leyes en el país son hechas sin trabajar con los actores, y sin saber cuánto tiempo toman los cambios. Explicó que estas circunstancias no permiten aprovechar las oportunidades. Por otro lado, llamó a la acción respecto al tema de los vehículos en circulación y en venta, sector con un gran potencial de reducción de emisiones. Explicó que la tecnología de los carros es EURO 2, y que damos normas sin coordinación con actores del mercado. Para mayores detalles sobre el tema ver:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/7.%20ACTIVIDADES%20DE%20MITIGACION-SECTOR%20ENERG%C3%89TICO.ppt

Elvira Gómez, Especialista en REDD - MINAM

Recalcó la necesidad de que los sistemas regionales se articulen con sistema nacional, cuyos lineamentos son dictados por MINAM. También habló sobre la necesidad de articular políticas y definir roles y competencias de las entidades que tienen funciones en los bosques. Señaló que actualmente se están usando lineamentos de MDL para proyectos REDD, pero estos proyectos tendrán que se adecuarse a lineamientos que el MINAM diseñe en el futuro. Sobre las prioridades a considerar mencionó los procesos de participación, consultas, y la resolución de conflictos; la información sobre inventarios y tasas de deforestación; la mejora de la capacidad instalada por regiones, y la priorización de ecosistemas por su capacidad de captura. Para mayores detalles ver:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/8.%20MRV_23.06.10.ppt

Juan Carlos Riveros, Director del Programa de Cambio Climático - WWF

Explicó que WWF está enfocándose en REDD con un programa internacional que ve sistemas de política, capacidades, la inclusión de comunidades indígenas y el mercado justo. A nivel nacional ha contribuido al trabajo de construcción del R-Plan y participa en la mesa REDD. En Madre de Dios se tiene un proyecto piloto que evalúa medir carbono a larga escala, de modo que tengamos rápidamente una línea base, e imágenes de avión para determinar densidad, reconstruyendo imágenes a 3D para calcular la biomasa. Finalmente recalcó la importancia de investigar el carbono almacenado en el suelo, pues según el IIPA del 50 al 60 % del carbono estaría en el suelo.
Para ver la ponencia ir a:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/9.%20WWF%20Lima%2022Junio2010.ppt

Patricia Santamaría, Consultora del Proyecto MACC Selva Central - SERNANP

Presentó el Proyecto MACC de la Selva Centra que busca contribuir a una estrategia peruana de REDD+. Trabaja en 3 millones de hectáreas y tiene 4 componentes: (1) Fortalecimiento institucional; (2) Programa de Actividades económicas sostenibles; (3) Plan de vigilancia comunal; y (4) Desarrollando línea base de deforestación evitada y desarrollar un sistema de MRV. El enfoque es ver a los proyectos dentro de un paraguas de Servicios Ambientales. Resaltó la figura del comité de gestión en el marco del SINANPE, como un caso de éxito replicable.

Para mayores detalles ver:

http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/10.%20Presentaci%C3%B3n%20SERNANP_23%20junio.ppt

Sylvia Reátegui, Gerente de Recursos Naturales y Gestión del Medio Ambiente - GORESAM

Resaltó que un sistema de monitoreo es fundamental para hacer las políticas acertadas. Luego explicó que la Región de San Martin quiere ser Carbono Neutral y para poder trabajar el tema ambiental sería necesario tratarlo de modo territorial y ya no de forma sectorial. Explicó que hay ciclos políticos nacionales pero que las regiones tienen potencial de alimentar al ciclo político nacional. Expuso que San Martin ha decidido ser una región verde y que esta es una nueva realidad que trasciende periodos de gobierno. Finalmente, resaltó los "tres ejes" que se deben seguir para conseguir la meta: (1) Gobernabilidad (que incluye un marco jurídico con una red de fiscales ambientales, así como mecanismos para valorar recursos y daños ecológicos); (2) Mercados (para los cuales se necesita trazabilidad, concesiones certificadas e incentivos desde lo nacional); y (3) Ciencia y Tecnología.

Manuel Leiva, Asesor Despacho Viceministerial - MINAG

Señaló la necesidad de una nueva política agraria y la modernización del sector. Además, enfatizó que en el sector tal vez se vaya a proponer un nuevo eje –forestal – para la organización de los ejes de MINAG. Las propuestas del sector agrícola son: (1) Propuesta técnica para el estabelecimiento del Sistema Inventario para las actividades agropecuarias, incluida la deforestación y cambios de uso de suelo.; (2) Tener un inventario de GEI actualizado; (3) Tener un Inventario forestal. Leiva identificó como el reto más grande un mecanismo multisectorial.
Ver detalle de la ponencia en:
http://dl.dropbox.com/u/8638536/Taller%20MRV_presentaciones/11.Agricultura_230610.pptx

Como conclusión en este segmento, se puede resumir de la siguiente manera las ideas principales y compartidas entre las intervenciones realizadas

1. Un desarrollo bajo en cabo representa una oportunidad para incrementar nuestra competitividad, basados en inversión en innovación y conocimiento, para lo cual se requiere priorización interna y apoyo externo. Las oportunidades serán mejor aprovechadas en la medida en que se pueda demostrar que estamos avanzando y evaluando de manera continua las posibilidades de mejora y las necesidades específicas de soporte y de inversión.

2. Es necesario articular y coordinar visiones e iniciativas al nivel nacional y de los distintos actores del desarrollo, poniendo especial atención en a las regiones, las que tienen la responsabilidad de implementar los planes en el territorio. Esto incluye reducir la acción sectorializada a este nivel, y migrar a un enfoque de planificación e implementación con enfoque territorial; e incluye también la necesidad de iniciar de inmediato un proceso de socialización de las iniciativas en marcha (especialmente en el sector forestal y donde haya ofertas de financiamiento); y determinar su alcance, para identificar complementariedades y necesidades específicas (el nivel de entendimiento actual de los actores no permite hacerlo).

3. La importancia fundamental de llevar adelante procesos de participación y búsqueda de consenso, con base en información confiable actual y futura, sobre las diversas alternativas a escoger que permitan hacer ejercicios conjuntos de priorización, y generen en el camino, capacidades en los distintos actores - gobierno, sociedad Civil y empresas - en torno a las oportunidades de un futuro bajo en carbono y las necesidades de intervención.

4. Lo implementación prioritaria de una institucionalidad ad hoc para la gestión del cambio climático (por su complejidad y carácter transversal) que incluya: una clara definición de roles y responsabilidades que evite conflictos y aseguren complementariedad; aproveche, modifique y potencie instrumentos con los que ya se cuente; y que aprenda de los esquemas que ya funcionan, tanto en el país como internacionalmente (p.e la SUNAT, los Comités del SINANPE; la experiencia de Costa Rica en servicios ambientales, entre otros).

RESULTADO DE LOS TRABAJOS EN GRUPOS SOBRE PLANES DE MITIGACIÓN Y SISTEMAS DE INFORMACIÓN: OPORTUNIDADES Y BARRERAS

Durante la tarde los participantes del taller se dividieron en dos grupos: el energético –que trató los temas de eficiencia energética y energías renovables-, y el no energético – que trató el sector uso de suelo, cambio de uso de suelo y silvicultura (USCUSS). La finalidad de esta dinámica grupal fue evaluar los resultados preliminares encontrados por el estudio e identificar las barreras, vacíos y propuestas adicionales para cada sector.

Ambos grupos contaron con insumos sobre los cuales comenzar la discusión, a saber:
1. documento resumen de cada sector elaborados como parte del estudio preliminar objeto del proyecto;
2. árbol de problemas mostrando causas y efectos alrededor de un problema central (resaltado en rojo) formulado en base a iniciativas en marcha por cada sector y documento resumen de cada sector;
3. tarjetas con medidas identificadas en el estudio preliminar;
4. otros materiales para facilitar la discusión ayudando a los participantes a expresar duda, rechazo o aprobación respecto a los problemas y medidas presentadas.

Como resultado del trabajo en grupo y las sesiones de intercambio entre ellos, se obtuvieron los siguientes resultados por cada sector:
- un árbol de problemas (vacíos y barreras) modificado, ampliado y acordado[6];
- una tabla de propuestas de solución acordadas;
- una priorización sobre los problemas principales a abordar y recomendación de cómo hacerlo.

A. Grupo Energético

El análisis en el grupo se enfocó en el siguiente problema central: **"El Plan Referencial de uso eficiente de la energía, en su estado actual, no aprovecha totalmente las oportunidades para estrategias de desarrollo bajo en carbono".** Los efectos de no implementar el plan aprovechando estas oportunidades podrían llevar al país a "engancharse en tecnologías obsoletas" y por tanto, a perder competitividad en el mediano plazo y, por otro lado, poner en riesgo la seguridad energética nacional.

La primera fase del debate estuvo en la pertinencia de este problema como central, pues algunos participantes consideraban que era más importante discutir la problemática referida a las energías renovables, las mismas que debían ser consideradas dentro del concepto de eficiencia energética. El acuerdo fue trabajar sobre este problema central, considerando a las energías renovables como parte del

6 En los árboles de problemas finales y matrices de propuestas presentados a continuación en este documento, se puede observar cuadros de distintos colores. En los árboles, el color amarillo señala los problemas identificados en los documentos preliminares de trabajo; y el azul, verde o rojo, los nuevos problemas identificados o los cambios y/o reformulaciones realizadas durante los grupos de trabajo. En el caso de los cuadros de medidas y estrategias, el color rojo representa aquellas medidas propuestas en los documentos de trabajo preliminares y el color verde o azul lo propuesto durante el taller.

problema y de la solución a la eficiencia energética; y luego, si el tiempo permitía, realizar un intercambio sobre las energías renovables específicamente.

Para la sección de energías renovables, por falta de tiempo, sólo se llegó a realizar una lluvia de ideas sobre los principales problemas y propuestas, sin que se pudiera llegar a un consenso sobre las mismas.

Barreras y Vacíos. Los principales problemas centrales acordados giran alrededor de cuatro grandes temas:

1. *Política y Visión de desarrollo*: Se identificó que existe una visión divergente sobre el camino de desarrollo del sector por los diferentes actores: intraministerial, interministerial, los gobiernos regionales, las empresas y la sociedad civil organizada, incluyendo la universidades. Esto fue atribuido a:
   a. ausencia de información y de procesos de concertación que permitan elegir sobre alternativas de desarrollo, bajo una base de información homogénea; es decir, información relevante para la toma de decisiones de manera articulada;
   b. desarticulación de la gestión del desarrollo entre los actores a nivel central y regional, así como con otros actores del desarrollo, como son las universidades y el sector privado;
   c. escasa priorización en el proceso de descentralización hacia las regiones, que genera desarticulación entre las instituciones para consensuar políticas del sector.

2. *Institucionalidad y capacidades:*
   a. Sobre la política de eficiencia energética se concluyó que el hecho de no haya continuidad y lineamientos de política, por la renovación de las autoridades, limita la efectividad en la implementación del Plan de Eficiencia Energética. Además, la falta de “expertise” en los cuadros técnicos sobre nuevas alternativas tecnológicas es una barrera al desarrollo del sector.
   b. En relación al órgano rector, se resaltó la fortaleza que representaba la reciente creación de la Dirección General de Eficiencia Energética en el Ministerio de Energía y Minas en la la planificación energética del país (incluyendo eficiencia energética y energías renovables). Sin, embargo, se resaltó que se encuentra en proceso inicial de implementación, presenta limitaciones de presupuesto para ser puesta en operación, y que el responsable aún r no ha sido designado. Los cuadros técnicos, en su mayoría, provendrían de otras Direcciones del Ministerio.
   c. Se mencionó especialmente la ausencia de capacidades, incluyendo información, en el sector empresarial y las entidades científicas para el desarrollo de alternativas de eficiencia energética.

3. *Información y sistemas*: Se mencionó que no se cuenta con un sistema de monitoreo, registro y verificación del avance e impacto de los planes de eficiencia energética, así como de otros planes y políticas del sector. En relación a la información que prioritariamente debería desarrollarse para ello, se mencionó: (a) información de energía útil actualizada; (b) los indicadores del Plan Referencial, que se han aprobado, pero no han sido implementados; y (c) la línea de base para el Plan Referencial de Uso Eficiente de la Energía, que aún no ha sido desarrollada. Parte del acuerdo estuvo centrado en que la falta de un sistema MRV afectaría el aprovechamiento de las oportunidades para un desarrollo bajo en carbono para el Perú.

4. Presupuesto y Financiamiento: En relación a este tema se destacaron tres cuestiones:
   a. La dificultad de la ejecución de recursos del Estado, debido al modelo de gestión.

b. La disponibilidad insuficiente de recursos para implementar varias líneas del Plan de Eficiencia energética, así como la nueva Dirección General.
c. La insuficiente movilización de recursos de la banca privada nacional para inversiones en eficiencia energética en el país

El árbol de problemas que se presenta en el Anexo 3, detalla todas las barreras y vacíos encontrados durante este segmento:

Estrategias. Las principales estrategias acordadas para superar los problemas (vacíos y barreras) encontrados fueron se dividen en 5 bloques: (1) capacidades, (2) institucionalidad, (3) financiamiento, (4) información y sistemas, y (5) política. A continuación se presenta una breve discusión de lo acordado, así como una tabla con mayor detalle líneas abajo.

- Se consideró que para construir una visión conjunta y acordar prioridades para la implementación, el proceso de desarrollo e implementación de políticas debe seguir un proceso de generación de información y alternativas realizando un análisis de prospectiva energética, en el cual se genere escenarios y alternativas, y por tanto, información de base para la toma de decisiones. Esta generación de información y escenarios, debe abarcar no solamente los sectores, sino la información por regiones. Estos procesos, además, deberían incluir el diseño de un sistema de monitoreo de la políticas con sus indicadores.
- Para el desarrollo de capacidades, se enfatizó la necesidad de capacitar a los funcionarios del Estado en sistemas de monitoreo y verificación.
- En cuanto a la institucionalidad, el grupo resaltó la importancia de tener alianzas estratégicas entre el sector público y el sector privado, de manera que se pueda a aportar con investigación. Además, se resaltó la importancia de que se asegure que la OEFA cuente con las capacidades técnicas, de infraestructura y financiera adecuadas.
- Sobre financiamiento se acordó que lo necesario es desarrollar incentivos, esquemas innovadores, e información sobre posibilidades de financiamiento.
- Las estrategias para mejorar sistemas de información para el sector energético fueron las más numerosas. Entre ellas se destacan: (a) diseñar un Sistema MRV compatible con el sistema de estimación de emisiones del sector descentralizado, y (b) establecer un sistema de monitoreo a implementación de PRONAMIs o NAMAs descentralizado. Para ello, se sugirió desarrollar PRONAMIs en: eficiencia energética y energías renovables. Todos estuvieron de acuerdo en que es necesario actualizar los mapas y potencial energético del país.

A continuación se presenta una tabla resumen de la lluvia de ideas y priorización de las estrategias:

CAPACIDADES	INSTITUCIONALIDAD	FINANCIAMIENTO	INFORMACION Y SISTEMAS	POLITICA
Crear centrales de excelencia Instituto de Investigación Energética	Asegurar capacidades técnicas, infraestructura y financiera de la OEFA*	Desarrollar incentivos e información sobre las oportunidades de la eficiencia energética y EERR	Realizar el Balance de energía útil**	Implementar las políticas de estado mediante la planificación, realizando la prospectiva energética y monitoreo******
Implementar programas de desarrollo de capacidades en RRHH: • Técnicos • Profesionales • Especialización de Postgrado	Alianza Estratégica Pública- Privada Universidad*	Desarrollar/promover esquemas (innovadores) de financiamiento*	Diseñar Sistema MRV compatible con el Sistema de estimación de emisiones del sector descentralizado**	El proceso de desarrollo de políticas debe seguir secuencias: • Opciones de desarrollo por regiones. • Apuestas energéticas renovables por regiones. • Opciones de eficiencia energética.
Sistema de monitoreo y verificación en línea	Continuidad de lineamientos y políticas más allá de la renovación de autoridades.		Establecer sistema de monitoreo a implementación de PRONAMIs o NAMAs descentralizado	Diversificar Matriz Energética***
Dinamizar usos productivos y desarrollo rural	Desarrollo de capacidades locales		Establecer como Benchmark y punto de partida el sistema de reporte y estadísticas del sector eléctrico	Avanzar en aplicación de política tributaria a combustibles al 2016 según Ley 28694.
			Determinar los factores de emisión locales de los energéticos	Seguir focalizando inversiones en electrificación rural
			Desarrollar PRONAMIs en: • Eficiencia energética. • Energías renovables. • Otras iniciativas*	Promover más subastas especiales renovables***
			Contabilizar reducciones de GEI pasadas de iniciativas	
			Actualizar mapas y potencial energético	

*Nota: los * representan las veces que los participantes priorizaron la estrategia*

Por último, como un esfuerzo del grupo se identificó problemas y propuestas para el subsector de Energías Renovables. Se resaltó la necesidad de promover el uso de energías renovables dando esquemas de incentivos económicos que faciliten la inversión y el empleo de tecnologías en el subsector. Una propuesta interesante fue el cambio del subsidio de combustibles contaminantes a un subsidio a energías renovables en forma transitoria.

A continuación se presenta el resultado de la lluvia de ideas sobre medidas del grupo energético, para el tema de energías renovables:

ENERGIAS RENOVABLES		
PROBLEMA	PROPUESTA	
Falta de política agresiva para la promoción de energías renovables	Desarrollar una matriz energética limpia con participación progresiva y significativa de las energías renovables	Promover mas subastas especiales renovables
Energía eólica asegura energía pero no potencia. Percepciones distintas, información "divergente"	Aprovechar adecuadamente y oportunamente el interés de los países desarrollados en invertir en energías renovables Utilizar el INRENA para mejorar nuestras capacidades	Implementar esquemas de incentivos económicos (subsidios) y/o tributarios que facilitan la inversión en ER
Falta proceso para identificar ER competitivas para el desarrollo de cada región	Desarrollar / investigar tecnologías para ER según realidad nacional	Alternativas: Mayor difusión en los medios de comunicación de las potencialidades de las energias renovables
Introducción rápida de ER puede encarecer la energía	Promover la gestión descentralizada de la energía renovable (cambio paradigma)	
Falta de incentivos económicos y/o tributarios para el empleo de las tecnologías de ER	Cambia subsidio a combustibles contaminantes por subsidio en ER en forma transitoria **	
Falta de información apropiada para el desarrollo de los estudios de factibilidad de las ER	Desarrollar mapas del potencial de las energías renovables a nivel nacional y regional de las ER	

Los * representan las veces que los participantes priorizaron la estrategia.

B. Grupo No Energético

El trabajo para el sector no-energético de uso del suelo, cambio de uso del suelo y silvicultura (USCUSS) se realizó inicialmente en dos sub grupos que trabajaron paralelamente discutiendo los aspectos políticos y técnicos, respectivamente. Para ello, el árbol de problemas fue dividido en dos secciones, como se muestra más adelante (las partes 1 y 2 abajo fueron trabajadas por el grupo político, y la parte 3 por el grupo técnico).

El grupo no energético acordó rápidamente trabajar con el problema central propuesto: "*baja capacidad de implementación de la iniciativa cero emisiones netas por deforestación, en su estado actual*", por considerarlo un problema de alta relevancia para el sector, dada la coyuntura política internacional y nacional, así como la preocupación generalizada en los participantes respecto a las barreras y necesidades inherentes a una iniciativa de este tipo.

Barreras

B.1 Grupo Político

En el grupo político se puede separar las barreras identificadas, en cuatro grandes grupos: (1) los intereses, carencias y necesidades que determinan la existencia de políticas que fomentan la deforestación; (2) la ineficiencia en el uso de recursos financieros escasos; (3) desarticulación generalizada en varios niveles que dificulta el diseño, implementación y monitoreo de la iniciativa; (4) la ausencia de información como un problema transversal y de base, que es parte de las causas de los tres anteriores.

Dentro del primer grupo de barreras se generó una discusión sobre las divergentes visiones del valor y uso del bosque. Se determinó que no sólo existe una “percepción” incorrecta y desinformada sobre el valor del bosque en pie, que hace más alto sus costos de oportunidad y genera políticas que fomentan la deforestación; sino que esas políticas hacen de esta percepción una realidad, pues quienes viven del bosque no cuentan con alternativas económicas e incentivos para mantener el bosque en pie. También se recalcó que gran parte del problema es que existen intereses particulares contrarios a la conservación del bosque.

Sobre la ineficiencia en el uso de recursos financieros, los participantes observaron la relación de este problema con la desarticulación, no sólo de los proyectos que actualmente financian los diferentes componentes de la iniciativa cero emisiones, sino con la desarticulación y ausencia de capacidades en los sectores clave, y en los niveles regionales y locales.

El tercer grupo de barreras es probablemente el más amplio, e incluye tanto las carencias en términos de la institucionalidad necesaria para llevar adelante una iniciativa de este tipo, como en términos de las necesidades asociadas. Se identificó que la indefinición en términos de mecanismos e incentivos internacionales y nacionales para la conservación y el manejo sostenible del bosque contribuye a este problema de falta de coordinación a todo nivel.

Finalmente, al tratar cada uno de los grupos de problemas anteriores, se identificaron ausencias claras de información, como la valorización de los servicios ambientales del bosque en pie, así como el costeo de los reales impactos de la degradación y deforestación; y ,en general, de información científica que permitiera tomar decisiones informadas. Los participantes agregaron que la ausencia de un sistema de monitoreo ambiental con nodos regionales que alimenten al sistema nacional, es una barrera importante.

B.2 Grupo Técnico

En el grupo técnico no energético los temas fueron enfocados hacia REDD+, pues como se mencionó, es el espacio donde más se discute actualmente a nivel nacional sobre un sistema MRV para el sector.

Sobre un sistema de MRV para REDD+, los participantes coincidieron en recalcar la debilidad de capacidades técnicas existentes para implementar un sistema en los sectores y gobiernos regionales y locales. Además, se mencionó la desarticulación y dispersión de los sistemas de información existentes, así como de las iniciativas y metodologías.

Se considera que el Mapa de Capacidad Mayor de Uso de Suelo del MINAG está desactualizado, lo que fue identificada como un vacío puntual de información que representa una gran barrera técnica para la implementación de la iniciativa cero deforestación.

Un hallazgo interesante fue que este grupo, al igual que el político, identificó la necesidad de información sobre la valorización de bienes y servicios ecosistémicos; y la carencia de información científica orientada a políticas. Los participantes agregaron que la ausencia de un sistema de monitoreo ambiental con nodos regionales que alimenten al sistema nacional es una barrera importante.

La versión final del árbol de problemas trabajado se presenta en los Anexos 4 y 5.

Estrategias. Las estrategias propuestas se dividieron en cinco temas: Financiamiento e incentivos, capacidades, institucionalidad, política e información y sistemas. Las primeras cuatro las revisó el grupo político y la última el grupo técnico.

B.1 Grupo Político

El grupo estuvo de acuerdo con que las estrategias y medidas propuestas eran necesarias para abordar el problema central. Entre las propuestas complementarias más discutidas propuestas por los participantes se encuentra por ejemplo, para el tema de financiamiento, generar agendas de valor económico a partir de productos del bosque en pie. También se propuso utilizar herramientas existentes como el ordenamiento territorial, y se hizo una mención especial de las comunidades nativas y la importancia de fomentar su participación. Varias de las medidas propuestas están orientadas a incluir la meta de cero deforestación específicamente, y el tema de cambio climático en general, en la normatividad y planificación nacional y regional.

Como último ejerció del grupo se realizó una priorización preliminar de las medidas. Se solicitó a los participantes que “votaran” por la medida que consideraban más importantes. La medida más votada fue establecer mecanismos de coordinación entre los actores relevantes para llevar adelante el plan. También se identificó la necesidad de llevar adelante un proceso de planificación de la iniciativa de manera consensuada.

A continuación se presenta la versión final de la matriz de medidas del sub grupo no-energético político:

FINANCIAMIENTO E INCENTIVOS	CAPACIDADES	INSTITUCIONALIDAD	POLITICA
Armar matriz de necesidades y potenciales fuentes y esquemas de financiamiento**	Programa de formación de capacidades para organizaciones centrales GOREs para implementación y seguimiento del plan*	Establecer mecanismos de coordinación central MINAM/MINAG/OSINFOR con MEF. Regiones y privadas para llevar adelante el plan*****	Posicionamiento del tema en la agenda pública***
Análisis de complementariedad de programas y proyectos con financiamiento, los “en negociación” y planificados*	Estrategia de sensibilización y comunicación a nivel local.	Organizar proyectos en marcha, identificar complementariedades y orientar estructuras hacia el plan (MINAM y MINAG, GOREs, Sociedad Civil).	Desarrollo del plan Nacional de Cero emisiones netas por deforestación de manera consensuada***
Generar cadenas de valor económico a partir de los productos y servicios del Bosque: Paisaje y Turismo Biodiversidad Agua***	Generar capacidades en fiscales, jueces y procuraduría para hacer efectivas las sanciones por delitos Ambientales.	Estableces roles y funciones claros.	Incorporación de la meta y su “plan” en planes sectoriales regionales y nacionales)
Homologar incentivos tributarios a proyectos ambientales y sostenibles de bosques	Régimen de incentivos para la carrera pública.	Establecer mecanismos participativos de los sectores claves.	Programa de incidencia sobre valor de los bosques y alternativas.
Ampliar la ambientalidad de instituciones financieras locales e internacionales.	Formación de peritos ambientales para una adecuada valorización de daños ambientales		Ordenamiento del territorio con catastro único*
	Promover la participación de biólogos, antropólogos y otros especialistas en proyectos REDD		Insertar a las comunidades nativas en los proyectos forestales, locales y regionales*
	Identificar escenarios receptores con posibilidades de implementación		Incluir el tema del CC Global en la normatividad nacional y sectorial*
	Promover capacitación en el sector empresarial.		

Los * representan las veces que los participantes priorizaron la estrategia.

B.1 Grupo Técnico

Como parte de las discusiones del sub grupo técnico, se determinó la necesidad de agregar una línea de acción o tema adicional, referido al fortalecimiento de capacidades técnicas para la gestión forestal. Esta línea de acción incluye medidas como la implementación del sistema nacional de información forestal, integrado al sistema nacional de Inventarios de GEI.

En base a los problemas, se determinó que una medida prioritaria era la estandarización de metodologías, así como el diseño detallado e implementación del sistema de inventarios para el sector USCUSS.

A continuación se presenta la versión final de la matriz de medidas del sub grupo no-energético técnico:

INFORMACIÓN Y SISTEMAS	FORTALECIMIENTO DE CAPACIDADES DEL ESTUDIO PARA LA ADECUADA GESTIÓN FORESTAL
Estandarizar metodologías REDD de acuerdo a la realidad nacional *	
Programa de investigación sobre valor de los bosques potencial de captura por ecosistema, metodología y proyecciones	
Diseño detallado, apoyo técnico y financiero en implementación de sistema de inventarios *	Sistema nacional de información forestal integrarlo a los inventarios de efecto invernadero * (incluye: Actualizar mapa de usuarios del suelo, y elaborar el inventario de carbono terrestre a nivel nacional)
Diseño detallado, apoyo técnico y financiero en implementación de sistema nacional descentralizado deforestación y degradación.	
Fortalecimiento de capacidades Articulación y coordinación entre los diversos actores del sector forestal	Crear capacidades en la sociedad civil (p.e. pueblos indígenas) para participar en planificación y monitoreo
Lineamientos nacionales Comunicación efectiva Distribución de recursos	Sistema de monitoreo Gestión forestal por la sociedad civil

Los * representan las veces que los participantes priorizaron la estrategia.

CONCLUSIONES Y RECOMENDACIONES

Prioridades Nacionales para el Proyecto

Cada grupo sectorial dio un reporte en plenaria para que los demás participantes del taller conozcan el problema central del sector. En forma de plenaria se priorizó las medidas y estrategias propuestas para abordar los problemas de los sectores. A continuación se presentan las principales conclusiones:

- Las necesidades principales identificadas en los dos sectores giran alrededor de dos ejes principales: la articulación institucional y política para tener planes efectivos (de cero emisiones netas y de eficiencia energética o energías renovables); y el desarrollo de información de base que permita evaluar alternativas y priorizar medidas en la implementación, así como evaluar las reducciones de GEI y monitorear, reportar y verificar las políticas de mitigación.

- Como respuesta a estas necesidades una alternativa prioritaria la constituye el establecimiento de un proceso para generar escenarios y planes de mitigación de largo plazo y opciones de mitigación desde cero usando modelaje avanzado, aportes de los grupos de interés, y un enfoque de escenarios facilitado. El proceso debe tener dos pilares fundamentales:

- un eje de investigación, que asegure el uso de la mejor data y metodologías disponibles, a cargo de un equipo técnico con las mejores capacidades de investigación del país y el apoyo técnico internacional;
- un eje de diálogo y consensos, que asegure la efectiva participación de los actores más relevantes y la toma de decisiones de forma consensuada a cargo de un equipo facilitador con las mejores capacidades y apoyo técnico internacional. Se mencionó específicamente que si "*un plan no es de todos, entonces no es un plan".*

- En el sector bosques la estrategia identificada como prioritaria es establecer mecanismos de coordinación central entre el MINAM, MINAG y OSINFOR, y de éstos con el MEF, Gobiernos Regionales, Sector Privado y Sociedad Civil para llevar a cabo el plan de cero emisiones netas por deforestación. Los participantes consideraron tres medidas complementarias como muy importantes: (1) generar cadenas de valor económico a partir de los productos/servicios del bosque: paisaje, turismo, forestal, agua, biodiversidad, (2) desarrollar el plan nacional de cero emisiones por deforestación de manera concertada y consensuada y con información que permita la toma de decisiones, y (3) lograr el posicionamiento del tema (reducir la deforestación) en la agenda pública.

- En el sector energía se consideró como la acción más importante la implementación de políticas de Estado, mediante la planificación, realizando la prospectiva energética que genere alternativas e información para la toma de decisiones y priorización de acciones, y establecer el monitoreo de las políticas y planes. En segundo lugar se resaltó la necesidad de diversificar la matriz energética y el promover más subastas especiales para energías renovables. Además, fueron priorizadas otras dos medidas: realizar el balance de energía útil; diseñar un sistema de MRV compatible con el sistema de estimación de emisiones del sector descentralizado y actualizar los mapas de potencial energético del país.

3.5 Agenda

Taller sobre el "Proyecto Monitoreo y Reporte de Emisiones de Gases de Efecto Invernadero (GEI), Medidas y Políticas de Mitigación en Países en Desarrollo"
Lima, 23 de junio de 2010

Introducción y Alcance

La Comisión Europea está realizando un estudio de alcance dirigido a comprender y explorar las necesidades de los países en desarrollo, para implementar medidas que permitan la medición, notificación y verificación (MRV) de actividades relacionadas a la mitigación de emisiones de gases de efecto invernadero (GEI) como las comunicaciones nacionales, los inventarios de GEI, y la planificación, diseño, desarrollo, implementación y evaluación de las medidas de mitigación apropiadas para cada país (MMAP) y Estrategias de Desarrollo Bajas en Carbono (LEDS, por sus siglas en inglés). La Comisión Europea, está particularmente interesada en entender las necesidades relacionadas con la creación de capacidades en estas áreas.

El proyecto, ejecutado por Euroconsult Mott MacDonald con Ecoprogresso y el Centro de Investigación de Energía de los Países Bajos (ECN), hará recomendaciones concretas sobre la estructura y los elementos para un programa de capacitación a ser ejecutado entre el 2010 y el 2013-2014, con el fin de ayudar a los países en desarrollo en la implementación de un sistema de MRV para un acuerdo global sobre cambio climático en el futuro. Este programa de capacitación será diseñado sobre la base y con el fin de abordar cuestiones institucionales, de procedimiento y metodológicas, en particular con respecto a la recopilación de datos, barreras, necesidades, limitaciones y oportunidades, identificadas en este estudio de alcance a través de un proceso interactivo de consulta intensivo con los grupos de interés en el país.

Objetivos del Taller

Este taller es una parte fundamental de la metodología del proyecto que, además de este taller, se compone de una audiencia exhaustiva de todos los grupos de interés del sector público, privado y de la sociedad civil.

El objetivo del taller es:
- informar a los participantes sobre los resultados preliminares del estudio y recibir sus comentarios;
- recolectar mayor información para el estudio;
- identificar áreas potenciales de trabajo que se abordarán en un proyecto de construcción de capacidades.

Metodología

El taller se dividirá en dos componentes principales. Durante la mañana, el debate se centrará en las políticas relacionadas a los logros alcanzados y especialmente a las barreras en relación con la planificación, el diseño, la implementación, la evaluación y el MRV de las acciones y estrategias de mitigación. Se tendrá un espacio de preguntas y respuestas. En la sesión de la tarde, los participantes serán invitados a dividirse en grupos dedicados a la discusión de los siguientes temas:
- sector energético (producción energética, eficiencia y transporte);
- sector no energético (forestal –incluyendo REDD-, agrícola y residuos).

Cada uno subdividido en:

- Grupo Técnico (centrándose en las necesidades de datos para supervisar las acciones y las emisiones);
- Grupo Político (centrándose en el diseño y aplicación de políticas).

Funcionamiento de los Grupos de Trabajo

- Cada grupo designará un moderador y un relator.
- Cada grupo se centrará el debate sobre el documento temático que será distribuido con anticipación. Los debates tendrán por objeto responder a las preguntas siguientes:
  - ¿Cuáles son los vacíos, desafíos, limitaciones y obstáculos clave relacionados con las diferentes etapas del ciclo de vida de las acciones y estrategias de mitigación (planificación, diseño, implementación y evaluación)? El debate deberían prestar especial atención a las necesidades de datos.
  - ¿Cuáles son los vacíos, desafíos, limitaciones y obstáculos clave relacionados con la medición, notificación y verificación de las medidas que reduzcan las emisiones de GEI, incluidas las relacionadas con el ejercicio periódico de la elaboración de las comunicaciones nacionales y los inventarios nacionales de GEI?
- La discusión tendrá como resultado la identificación y la propuesta de iniciativas destinadas a superar las brechas, desafíos, limitaciones y obstáculos identificados en el debate. Ello servirá para que la cooperación de la Unión Europea pueda aportar un valor agregado al trabajo nacional.

Los moderadores serán provistos de un conjunto adicional de preguntas orientadoras.
La relatoría presentará las conclusiones generales a la sesión plenaria final.

AGENDA

8:00 – 8:30	**Inscripción de los participantes**	
	SESIÓN DE APERTURA	
8:30 –9:00	**Palabras de bienvenida** *Marianne Van Steen, Delegación de la Unión Europea en el Perú* *Eduardo Durand, Ministerio del Ambiente* *Alberto Hart, Ministerio de Relaciones Exteriores*	
9:05 – 9:15	**Metodología y Objetivos del Taller** *Maria Paz Cigarán, Libélula*	
9:15 – 9:30	**Medidas Nacionales de Mitigación y Sistemas de Monitoreo, Reporte y Verificación: Perspectiva de la Unión Europea** *Erasmia Kitou, Comisión Europea*	
9:30 – 10:05	**Estudio de Alcance para el Proyecto Monitoreo y Reporte de Emisiones de Gases de Efecto Invernadero (GEI), Medidas y Políticas de Mitigación en Países en Desarrollo - Principales Resultados en el Perú** *Gonzalo Cavalheiro, Consultor de la Comisión Europea*	
10:05 – 10:25	**Preguntas**	
	PAUSA DE CAFE (20 min)	
	CIRCUNSTANCIAS NACIONALES	
10:45 – 11:00	**Oportunidades para un Desarrollo Bajo en Carbono** *Javier Roca - MEF*	
11:00 – 11:20	**Actividades de Mitigación en Curso y Sistemas de Información y Monitoreo en el Perú** *Eduardo Durand - MINAM*	
11:20 – 11:40	**Proyecto Readiness para REDD** *Augusto Castro, MINAM*	
11:40 – 12:50	**Panel de discusión** *Elvira Gómez MINAM – Manuel Leiva MINAG – Ernesto Barreda MINEM – Juan Carlos Riveros WWF – Patricia Santamaría SERNANP – Sylvia Reátegui GORESAM*	
12:50 – 14:00	ALMUERZO	
	TRABAJO EN GRUPOS **Políticas de Mitigación y Sistemas de Información: Oportunidades y Barreras**	
	Grupos Técnicos	**Grupos de Política**
14:00 – 16:00	Sector Energético	Sector Energético
14:00 – 16:00	Sector No Energético	Sector No Energético
16:00 – 16:30	Convergencia de Grupos Técnicos y Políticos por Sector	
16:30 – 16:45	PAUSA DE CAFE (15 min)	
	SESIÓN PLENARIA	
16:45 – 17:30	**Retroalimentación a los Grupos Sectoriales**	
17:30 – 18:20	**Prioridades Nacionales para el Proyecto**	
18:20 – 18:30	**Palabras de Clausura**	

Erasmia Kitou, Comisión Europea
Alberto Hart, Ministerio de Relaciones Exteriores

APÉNDICE 2. LISTA DE ASISTENTES

No.	Nombre y Apellido	Institución	Cargo	Correo Electrónico	Teléfono
1	Alberto Hart	RREE	Director MA	ahart@rree.gob.pe	2042599
2	Anne Kathrin Linck	Defensoría	Asesora	alinck@defensoria.gob.pe	
3	Antonio Zevallos Diez	Asesorandes	Asistente	antoniozevallosdiez@gmail.com	422 1400
4	Augusto Carlos Castro	MINAM	Especialista	acastro@minam.gob.pe	
5	Camila Flórez	Libélula	Especialista Política	cflorez@libelula.com.pe	6527320
6	Carlos Cáceres	MEM	Supervisor de Proyectos	ccasaverde@minem.gob.pe	618 8700
7	Claudia Ato	Defensoría	Comisionada	cato@defensoria.gob.pe	998 093 333
8	Daniella Diez Canseco	FONAM	Especialista Forestal	ddiezcanseco@fonamperu.org	449 6200 Ax23
9	Eduardo Durand	MINAM	Director de Cambio Climático, desertificación y RRHH	edurand@minam.gob.pe	6116000
10	Elvira Gómez Rivero	MINAM	Especialista REDD	egomez@minam.gob.pe	611 6000 Ax1353
11	Erasmia Kitou	Comisión Europea		Erasmia.KITOU@ec.europa.eu	
12	Erika Vizcarra	OSINFOR	Especialista	evizcarra@osinfor.gob.pe	
13	Ernesto Barreda	MEM	Director	ebarreda@minem.gob.pe	
14	Freddy Garro Flores	FONAM	Coordinador	fgarro@fonamperu.org	449 6200
15	Gabriel Quijandría	BID	Consultor CC	gabrielq@iadb.gob	215 1842
16	Gonzalo Cavalleiro	Ecoprogresso	Consultor	gcavalheiro@ecoprogresso.pt	
17	Gradys García	RREE	Funcionaria	gmgarcip@rree.gob.pe	204 2400 Ax 4664
18	Guillermo Tardillo	MEM	Supervisor de Proyectos	gtardillo@minem.gob.pe	997 180 220
19	Gustavo Suarez de Freitas	DGFFS	Consultor	gustavo.suarezdefreitas@gmail.com	996 136 927
20	J. Cuéllar Bautista	INIA	Coordinador	jcuellar@inia.gob.pe	998 591 332
21	Javier Roca	MEF	Director	jroca@mef.gob.pe	999 261 578
22	Jessica Gearwood	SERNANP	Consultora	jgearwood@sernanp.gob.pe	997 271 347
23	Jorge Alvarez	PNUD	Consultor	jorge.alvarez@undp.org	625 9023
24	Jorge Suárez	MEM	E. Renovables	jsuarezm@minem.gob.pe	475 0056
25	José Luis Mena	WWF	Especialista	jl.mena@wwfperu.org	440 5550
26	Juan Carlos Estevez	KCP CAPITAL	Director	juancarlos@kcpcapita.com	446 9652

No.	Nombre y Apellido	Institución	Cargo	Correo Electrónico	Teléfono
27	Juan Carlos Riveros	WWF	Coordinador	jcriveros@wwfperu.org	440 5550
28	Juan Peralta Medina	OSINERGMIN	Jefe UMA	jperalta@osinerg.gob.pe	219 3400 Ax 1421
29	Juan Tarazona	CONCYTEC	Asesor	jtarazona@concytec.gob.pe	225 1150
30	Juan Vázquez	Comisión Europea	Asesor	juan.vazquez-zamora@ec.europa.eu	415 0841
31	Julia Justo	FONAM	Directora Ejecutiva	jjusto@fonamperu.org	449 6200
32	Julio César Romani Aguirre	MEM	Asesor	cromani21@yahoo.es	998 513 982
33	Jullissa Morales	MEM	Supervisor	jmorales@minem.gob.pe	991 906 246
34	Karina Ramos Aguilar	RREE	Funcionaria	secigra201032@rree.gob.pe	204 3143
35	Laura Madalengoitia	RREE	Asesora	laura.madalengoitia@gmail.com	204 3146
36	Manuel Leiva	MINAG	Asesor	mleiva@minag.gob.pe	975 149 696
37	María Paz Cigarán	Libélula	Gerente General	mpcigaran@libelula.com.pe	6527320
38	Marianne Van Steen	Comisión Europea	Consej. Pd		415 0818
39	Marilú Bacigalupo	USAID	Administradora	mbacigalupo@usaid.gov	618 1284
40	Miguel Lleellish	DGFFS MINAG	Especialista	mlleellish@minag.gob.pe	225 9809
41	Patricia Iturregui	Embajada Británica	Asesora	patricia.iturregui@fco.gov.uk	617 3013
42	Patricia Santa María	SERNANP	Consultora	psantamaria@sernanp.gob.pe	717 7523
43	Pedro Gamio Aita	GVEP	Gerente	pedrogamioa@gmail.com	266 4667
44	Pía Zevallos	Libélula	Gerente de Proyecto	pzevallos@libelula.com.pe	6527320
45	Rafael Millán García	MINAM	Especialista Mitigación	rmillan@minam.gob.pe	992 138 810
46	Renzo Silva	APCI	Especialista	rsilva@apci.gob.pe	311 3642
47	Roberto Persivale	Asesorandes	Socio	rpersivale@gmail.com	422 1400
48	Rocío Malleux	MINAG	DGFFS	rmalleux@minag.gob.pe	475 2455
49	Rodolfo Castro Valcárcel	RREE	Funcionario Director Medio Ambiente	rcastrov@rree.gob.pe	
50	Rolando Navarro Gómez	OSINFOR	Director	rnavarro@osinfor.gob.pe	989 192 396
51	Roxana Pareja	MEM	Asesora	rpareja@minem.gob.pe	618 8732
52	Sylvia Reátegui García	Gobierno Regional de San Martín	Gerente RN	sylvia_reategui@hotmail.com	661838
53	Tatiana García	Comisión Europea	Sección Cooperación	tatiana.garcia@ec.europa.eu	415 0823

3.6 Forestry Sector Memo for discussion at the workshop

Documento 1: Principales barreras, vacíos y recomendaciones para desarrollo, implementación y monitoreo de Planes de Mitigación en el Sector Forestal

3.6.1 Introducción

El cambio de uso del suelo y la silvicultura, especialmente por la deforestación, representa el 47% de las emisiones de GEI y se espera que la tasa de deforestación actual (estimada en 150.000 hras al año 2000) se incremente en las próximas décadas, dado los planes de inversión e incremento de actividades ilícitas que se tienen en la Amazonía peruana. La deforestación y la degradación de los bosques produce impactos negativos (0.2% del PBI al 2000, sin incluir la pérdida de biodiversidad). La Amazonía representa el 61% del territorio nacional, pero concentra solamente el 10% de la población y el 6% de la producción nacional (2001). El Perú, bajo intereses y miradas diversas, está considerando a la Amazonía como polo para el desarrollo del país.

La institucionalidad del Sector forestal ha sido recientemente reestructurada (2008), habiéndose dividido las competencias en dos: la conservación, competencia del MINAM y la producción forestal, competencia del MINAG. La nueva ley forestal está en proceso de consulta. Existe una imperiosa necesidad de descentralización de capacidades y articulación de esfuerzos.

El Gobierno Peruano ha presentado a la comunidad internacional un proyecto nacional de lograr una meta voluntaria de deforestación neta cero en 10 años, a partir de la conservación de 54 millones de hectáreas de bosques, logrando la meta. Se espera que esta iniciativa se convierta en un Programa Nacional de Mitigación (PRONAMI o NAMA, por sus siglas en inglés). Son varias las iniciativas y programas planificados y en implementación que se orientan o podrían orientarse a cumplir con esta meta, entre ellas, iniciativas REDD+[7] .

Las principales causas de la deforestación y degradación de los bosques están fuera de ellos (son en su mayoría económicas, sociales y políticas). Las alternativas de solución son complejas y requieren de acciones más allá del ámbito de la Autoridad Forestal, y de lo tecnológico.

3.6.2 Sobre la información vertida en este documento

La información sobre los vacíos, barreras y recomendaciones presentados en este documento se enfocan en poder llevar adelante el Plan Nacional de Cero Deforestación propuesto por el MINAM, en representación del Gobierno Peruano, a la CMNUCC en Poznan 2008 y Copenhague 2009. Esta información no pretende ser comprehensiva y proviene de entrevistas realizadas a instituciones gubernamentales, ONGs y sector privado; y de información pública disponible sobre cambio climático y el sector forestal. Se presenta en este documento con fines de ser validada, modificada y/o complementada por los actores nacionales que participarán en el taller a realizarse el 23 de junio de 2010.

7 Mecanismo de mercado que se está negociando en el marco de la convención para incentivar la conservación y el manejo sostenible de los bosques, con el fin de controlar la deforestación y degradación de los bosques.

Los ejes de solución de los problemas identificados se centran en fortalecer acciones en tres ejes cruciales para el sector forestal: a) La Gobernanza Forestal; b) el Financiamiento y los incentivos; c) la ciencia y la tecnología.

Existe un número importante de iniciativas en marcha a nivel nacional (p.e iniciativas legales, formación de capacidades, proyectos tipo, investigación y metodologías) que requieren ser **prioritariamente** articulados para poder definir en detalle las necesidades más específicas de apoyo técnico y presupuestario. **Es importante por tanto mencionar que las barreras y vacíos identificados reportan ya a la fecha iniciativas y programas que se orientan a superarlos y/o cubrirlos**, tanto desde la gestión de cambio climático como forestal, y que pueden servir de base o ejemplo. Su escala de acción e impacto resultan sin embargo, insuficientes para la escala de los problemas y necesidades a cubrir. Procesos como la consulta de **Ley Forestal** (que ha abierto un espacio de búsqueda de consensos. La ley forestal propuesta y en proceso de consulta tiene como objetivo **alcanzar la integración y alineamiento de intereses** de los actores vinculados al sector forestal)) y la Ley de Servicios Ambientales; el proceso de la elaboración de la estrategia REDD+ del país y el Programa Conservando Juntos; y proyectos en marcha en regiones como San Martín, son claros ejemplos de iniciativas que pueden ser articuladas y potenciadas. .

3.6.3 Principales barreras, vacíos y recomendaciones

Principales barreras y vacíos	Posibilidades de acción
Política: Existen intereses en conflicto en relación a las inversiones y uso a darse a los bosques, entre los sectores del Gobierno central, con las regiones, y entre los distintos actores del Estado. Existe un nivel importante de desconfianza entre el sector privado, los pueblos indígenas y el Gobierno. El Plan de Deforestación Cero es todavía una iniciativa principalmente del MINAM.	• Desarrollo de Plan Nacional de Deforestación Cero de manera consensuada y concertada (metas, responsabilidades, planes, presupuesto, fuentes) • Programa de incidencia sobre el valor de los bosques las alternativas, en altos directivos del sector público, la empresa privada y posicionamiento del tema en agenda pública
Información y sistemas: La información sobre las causas actuales y futuras de la deforestación es puntual y desactualizada. No se cuenta además con: un sistema de monitoreo de la deforestación y degradación ni con un sistema de inventario de los gases de efecto invernadero del sector de cambio de uso del suelo y silvicultura.	• Diseño en detalle, apoyo técnico y financiero en la implementación del; – Sistema Nacional descentralizado de la Deforestación y Degradación – Sistema de Inventarios del sector USCUSS • Programa de investigación sobre: valor de los bosques, potencial de captura por ecosistemas, metodologías y proyecciones, etc.
Institucionalidad/Dispersión de esfuerzos: Existe una dispersión de esfuerzos e iniciativas alrededor del tema forestal y de cambio climático, y una inminente necesidad de mayor articulación y coordinación entre las instituciones centrales del Estado (intra e inter), los gobiernos regionales, las ONGs, el sector privado y las comunidades. dentro de en relación a leyes, a nivel legislativo, ejecutivo e inclusive de sistemas de información en marcha y/o planificados	• Organizar todos los proyectos en marcha, identificar sus complementariedades y orientar los esfuerzos hacia el diseño e implementación del Plan Nacional de Deforestación Cero (MINAM y MINAG primero, luego con las regiones, e iniciativas de sociedad civil). • Establecer un mecanismo de coordinación central MINAM /MINAG/OSINFOR, con otros actores relevantes: MEF, Regiones, privados para llevar adelante el Plan de Deforestación Cero.
Capacidades: Las capacidades de monitoreo de la deforestación y degradación de los bosques, así como de fiscalización de las normas y planes en el Estado son insuficientes tanto a nivel de las organizaciones centrales (MINAM; OSINFOR; MINAG) como de los Gobiernos Regionales. Existen nuevos cuadros en la gestión de cambio climático y forestal que requieren ser capacitados para el ejercicio de sus funciones (MINAM y SERNANP, MINAG, OSINFOR; Regiones).	• Programa de formación de capacidades para las organizaciones centrales y gobiernos regionales, especialmente los amazónicos para la implementación y seguimiento a la implementación del Plan de Cero Deforestación.
Financiamiento e incentivos: Las fuentes de	• Análisis de la complementariedad de los distintos

Principales barreras y vacíos	Posibilidades de acción
financiamiento para la conservación y manejo sostenible de los bosques son diversas, no se complementan necesariamente, y aún así, son insuficientes. Es necesario además garantizar seguridad a la inversión privada para incrementar la inversión en este sector.	programas y proyectos que cuentan con financiamiento y los que están en negociación y planificados, y armar una matriz de necesidades y potenciales fuentes y esquemas de financiamiento .

3.7 Agriculture Sector Memo for discussion at the workshop

Documento 2: Principales barreras, vacíos y recomendaciones para desarrollo, implementación y monitoreo de Planes de Mitigación en el Sector agricultura

3.7.1 Introducción

El sector Agricultura (agropecuario) contribuyó con el 19%de las emisiones netas de gases de efecto invernadero del país en el año 2000.

El Inventario de GEI realizado en el marco de la Segunda Comunicación Nacional fue coordinado por el INRENA, institución adscrita al MINAG, cuyas funciones se encuentran hoy repartidas entre el SERNANP, la Dirección Forestal del MINAG y el OSINFOR. Los cuadros profesionales que elaboraron este inventario se encuentran en su mayoría, fuera de Gobierno. El MINAG es el ente rector de la política agraria y forestal (en materia de producción).

El sector agricultura no es solamente importante por su participación en el PBI nacional (4.7%) y en la PEA nacional y rural (23 y 65% respectivamente) sino por ser una de las principales causas de la deforestación. La agricultura migratoria (incluyendo la actividad agropecuaria) ha sido la principal causante de la deforestación en la Amazonía peruana, habiendo las políticas agrarias y crediticias promovido el cambio de uso del suelo de forestal a agrario.

El MINAG ha creado internamente un Grupo Técnico de Seguridad Alimentaria y Cambio Climático que impulsa iniciativas de adaptación, analizando los temas estructurales como la pobreza, el retraso tecnológico, el trabajo de subsistencia y los riesgos a la producción. Se espera que los temas de mitigación sean también tratados en este grupo.

Se cuenta con información del inventario de GEI para el sector agrario del 2000. Asimismo, se ha elaborado un proyecto de inversión pública que consiste en establecer una plataforma de información para evaluar el CC, incluyendo un registro de emisiones de GEI del sector.

3.7.2 Sobre la información vertida en este documento

La información sobre los vacíos, barreras y recomendaciones presentados en este documento está centrada en tres temas: la necesidad de mejorar el inventario de emisiones de GEI del sector y las capacidades del sector para desarrollarlo; mejorar la información base del sector agropecuario para poder caracterizar la actividad en relación a las causas subyacentes de la deforestación y degradación de los bosques; y sentar las bases para poder plantear alternativas del sector que contribuyan a un desarrollo del sector con menor intensidad de las emisiones (tanto directamente, como en su rol de contribuidor a la deforestación).

Esta información no pretende ser comprehensiva y proviene de entrevistas realizadas al Ministerio de Agricultura e información provista en el marco de la SCNCC. Se presenta en este documento con fines de

ser validada, modificada y/o complementada por los actores nacionales que participarán en el taller a realizarse el 23 de junio de 2010.

3.7.3 Principales barreras, vacíos y recomendaciones

a) Planificación y cumplimiento:	
Barreras y Vacíos	• Las actividades del sector agropecuario son los causantes principales de la deforestación en la Amazonía. Las políticas del sector forestal y las agropecuarias entran en conflicto en su aplicación en el territorio, a pesar de estar trabajadas desde la misma institución de Gobierno Central: El MINAG. • No se está considerando en los PRONAMIs el sector agropecuario a pesar de que es responsable del 20% de las emisiones.
Recomendación	El MINAG debería establecer lineamientos de política unificados que contemplen el CC en el sector, con el fin de compatibilizar las políticas del sector agropecuario con las políticas del sector forestal. El Grupo Técnico de Seguridad Alimentaria y Cambio Climático podría ampliar su alcance y composición, con el fin de aportar al diseño y ejecución del Plan Nacional de Mitigación en el subsector agropecuario. Las capacidades de este Grupo deberían ser fortalecidas para llevar adelante las acciones de "mainstreaming" dentro del sector y en sus actividades de transferencias de funciones hacia los Gobiernos Regionales.
b) Sistemas de información:	
Barreras y Vacíos	• La información del sector agropecuario requiere ser actualizada. El último censo agrario se realizó en el año 1994, por lo que la data del sector no revela necesariamente la realidad actual. • Las capacidades para desarrollo de inventarios de emisiones de gases de efecto invernadero no se encuentran en el ministerio. • Los factores de emisión del sector agropecuario utilizados en el inventario de GEI son los internacionales. No se cuentan con datos representativos de la realidad peruana. • A nivel nacional no se tiene un catastro de suelos, la información que se tiene es muy dispersa y está a un nivel muy general, solo sirviendo para la toma de decisiones a nivel nacional pero no brinda la información necesaria para los usuarios.
Recomendación	Es prioritario actualizar el censo agrario. El MINAG ha solicitado al MEF su ejecución en el año 2011. Se necesita un Sistema de Información Agraria, que clasifique los suelos nacionales, así como una plataforma sectorial que articule iniciativas con información especializada, con nodos en los Gobiernos Regionales fortalecidos. Este sistema debe ser compatible con el Sistema de Monitoreo de la Deforestación que se vaya a diseñar. Es necesario fortalecer la relación entre el MINAG y las contrapartes dentro de los gobiernos regionales y locales. Se podría establecer un sistemas información común en donde se articule la utilización de instrumentos de generación de información de base y sepan cómo establecer sistemas de monitoreo.
c) Institucionalidad y capacidades:	
Barreras y vacíos	• El MINAG cuenta capacidades y conocimiento incipientes sobre las oportunidades de un desarrollo bajo en carbono; la mitigación de las emisiones de GEI para el sector agropecuario y el desarrollo de inventario de emisiones. • Existen investigaciones puntuales realizadas por universidades en relación al sector, pero requieren ser sistematizadas y evaluadas de manera holística.
Recomendación	• Desarrollar un Programa de Capacitación en Políticas y Medidas de Mitigación de CC, mecanismos de incorporación en desarrollo, y sistemas MRV para el Ministerio de Agricultura que incluya a profesionales relacionados con el desarrollo de políticas dentro del sector, y la generación y administración de los sistemas de información.

Annex 13 – Energy Sector Memo for discussion at the workshop

Documento 3: Principales barreras, vacíos y recomendaciones para desarrollo, implementación y monitoreo de Planes de Mitigación en el Sector Energía

1. Introducción

El MINEM ha venido promoviendo iniciativas de eficiencia energética y de uso de energías renovable, lo que representa una contribución a los esfuerzos globales de mitigación de las emisiones de GEI a nivel global, aunque a la fecha no esté dimensionada.

El MINEM es el único ministerio que realiza estimaciones y proyecciones de GEI a partir del balance general de energía, con la metodología top-down de OLADE. El sector eléctrico, por ser un sector altamente regulado, es el que mejor información estadística cuenta (en relación al sistema interconectado), seguido del sector hidrocarburos. El Sector de energía y minas, a pesar es el que tiene la legislación ambiental más avanzada del Perú; sin embargo, al no contar con Límites Máximos Permisibles de emisión, las empresas realizan los reportes con referencia a lo establecido en sus EIAs o PAMAs. Ninguno de los reportes exige un monitoreo continuo de las emisiones, y ninguno de ellos contiene al CO_2 como gas a ser reportado.

La fiscalización en el sector energético es la más efectiva del país. OSINERGMIN realiza trimestralmente la supervisión ambiental, para ello se tiene un sistema de monitoreo de lotes y refinerías vía Internet, así como de reporte por parte de las empresas en línea. Asimismo, tienen un proceso de vigilancia, la Supervisión Ambiental de Empresas Eléctricas, que se realiza anualmente.

Las funciones ambientales del OSINERGMIN están siendo transferidas a la OEFA, sin que esto asegure que se cuente por lo menos con las capacidades de infraestructura, técnicas y financieras mínimas para poder llevar adelante las funciones

2. Sobre la información vertida en este documento

La información sobre los vacíos, barreras y recomendaciones presentados en este documento se enfocan en poder aprovechar las capacidades del sector, así como los reglamentos y programa y planes en marcha, para establecer Programas Nacionales de Mitigación de emisiones de GEI. Esta información no pretende ser comprehensiva y proviene de entrevistas realizadas a instituciones gubernamentales y el sector privado; y de información pública disponible sobre cambio climático y el sector energía. Se presenta en este documento con fines de ser validada, modificada y/o complementada por los actores nacionales que participarán en el taller a realizarse el 23 de junio de 2010.

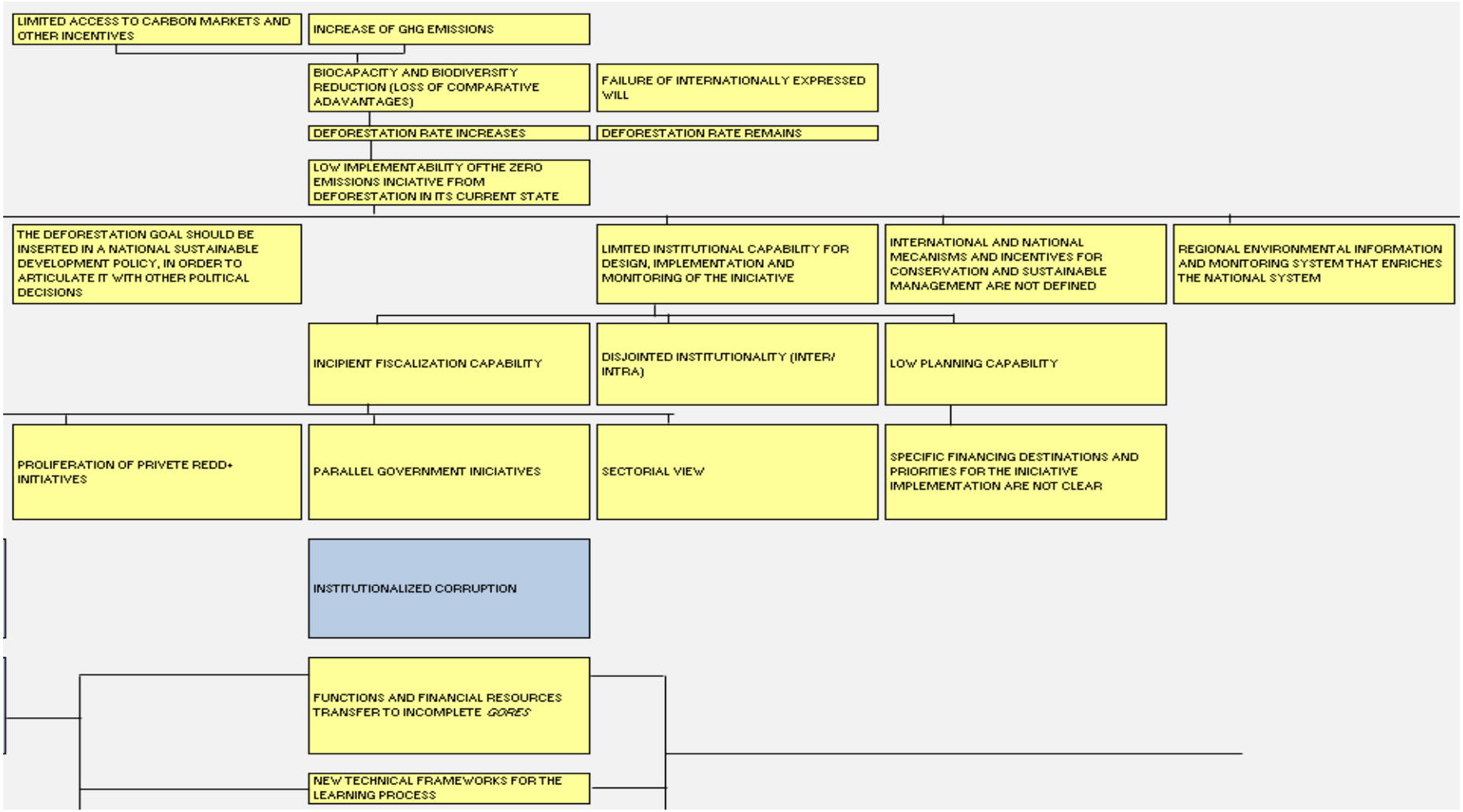
Los ejes de solución de los problemas identificados se centran en fortalecer acciones en dos temas cruciales: a) Cómo aprovechar la experiencia del sector para generar información sobre emisiones de manera continua y a un detalle que permita el seguimiento de las políticas del sector ; b) programas o proyectos que podrían convertirse en PRONAMIs el Financiamiento y los incentivos.

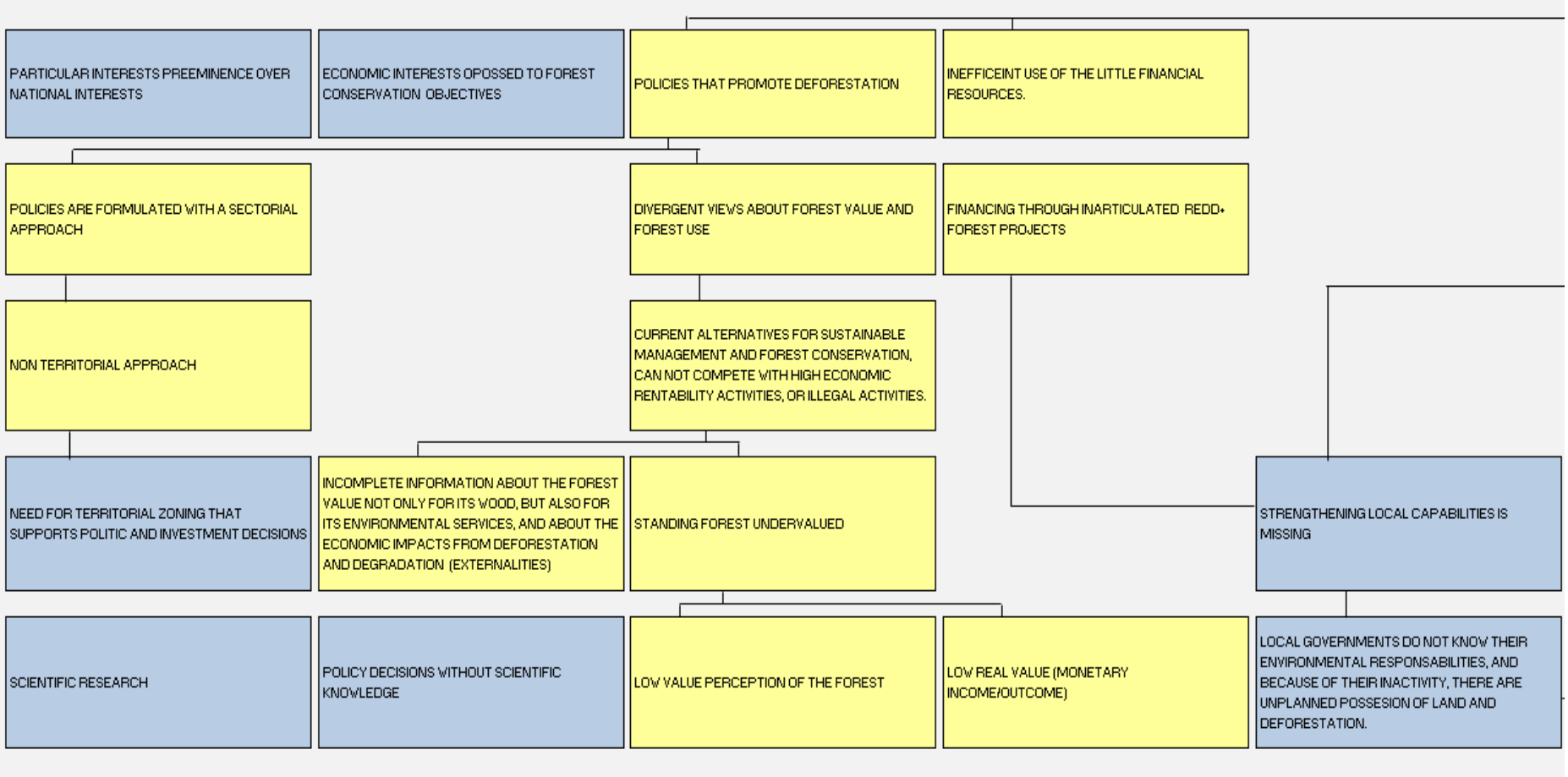
Existe un número importante de iniciativas en marcha a nivel nacional (p.e iniciativas legales, formación de capacidades, proyectos tipo, investigación y metodologías) que requieren la incorporación de la variable del cambio climático, y por tanto, el análisis de las oportunidades de una matriz energética baja en carbono, tanto en suministro como en uso (eficiencia)

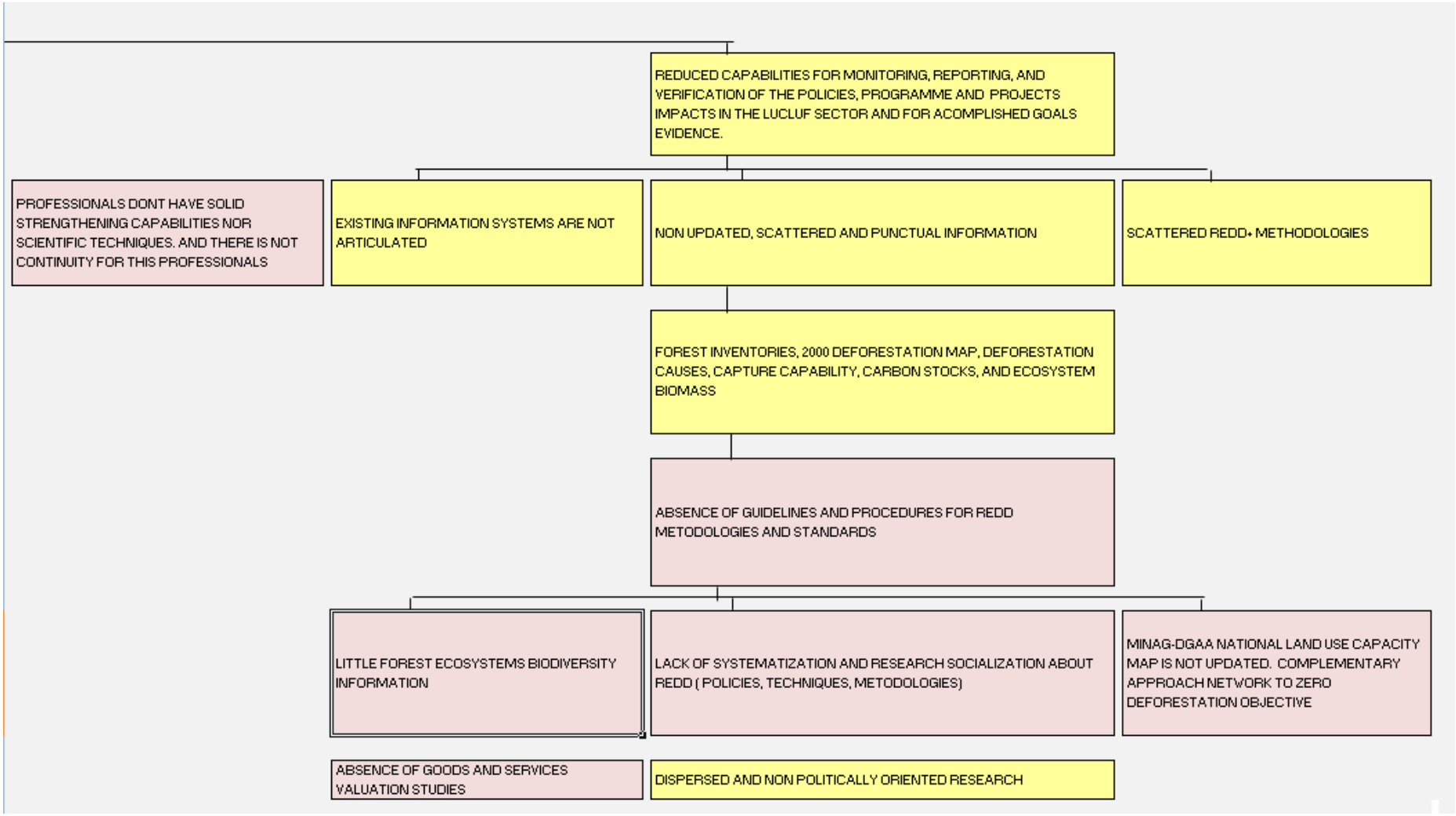
3. Principales barreras, vacíos y recomendaciones

Vacíos y barreras	Recomendaciones
Política: Las iniciativas del sector energía son llevadas adelante sin tomar en cuenta el impacto en el incremento y reducción de emisiones, y las oportunidades que el evitar emisiones podría traer. Los esfuerzos de mitigación de GEI no son contabilizados. Las inversiones del sector energía tienen la potencialidad de producir emisiones en otros sectores (p.e contribuir a la deforestación). La falta de continuidad en las políticas, no permite aprovechar el potencial de las energías renovables. La Ley General de Electrificación Rural no prioriza el desarrollo de energías renovables en el ámbito rural. La electrificación rural no cuenta con regulaciones que obliguen su reporte.	Desarrollar un proceso de generación de escenarios de manera participativa para poder llegar a un consenso sobre la planificación a mediano y largo plazo de la matriz energética, que contemple las emisiones de gases de efecto invernadero que se generan y/o evitan generar, así como los co beneficios que cada alternativa trae
Iniciativas: Existen cuatro iniciativas en marcha que tienen potencial de mitigación, pero que no lo están midiendo: • Electricidad para Todos (con el uso de RER) • Ecoeficiencia en el sector público • Implementación del Reglamento del Uso Eficiente de la energía • Indice de nocividad	• Desarrollar NAMAs o PRONAMIs de estos proyectos y/o programas y establecer un sistema de monitoreo a su implementación y resultados en relación a las emisiones evitadas. • Contabilizar en términos de reducciones de emisiones de GEI del pasado. • Desarrollar alternativas integrales para la provisión de electricidad más allá de la demanda de unas sola casa (demandas por servicios de salud, educación, energía 24/7, etc.)
Información y sistemas: No se cuenta con un sistema de monitoreo y reporte de la legislación y/o programas, más allá de proyectos específicos que reportan según lo estipulado en sus EIAs o PAMAs. Existe un nivel de implementación bajo de los programas e iniciativas de EE y ER identificados. Los mapas de energías renovables son deficientes (p.e no se cuenta con un mapa pluviométrico que complemente la información de los mapas eólicos).	• Diseñar un sistema de MRV compatible con el sistema de estimación de emisiones del sector y planificar la implementación de los programas y • Actualizar los mapas de energías renovables a nivel nacional y de las regiones.presupuestos.
Institucionalidad: Las funciones de fiscalización están siendo transferidas a la OEFA, y existe el riesgo que dicha transferencia no se tan efectiva. El subsector de eficiencia energética, en el MINEM está dentro de un área normativa (Dirección de Políticas) lo cual limita su expansión. Con respecto a la eficiencia energética dentro del Estado, el MINEM no cuenta con un responsable que coordine dichos proyectos. Asimismo, el reglamento de equipos eficientes que se elaboró para todos los sectores no ha sido exitoso porque el presupuesto asignado fue muy pequeño	• Asegurar que la OEFA cuenta con todas las capacidades técnicas, infraestructura y financiera para llevar adelante sus funciones. • Establecer como benchmark y punto de partida para mejoras el sistema de reporte y estadísticas del sector eléctrico (permite llegar a información de usuario) para utilizarlo en otros sectores • El Gobierno debe comenzar a desarrollar incentivos e información sobre las oportunidades de la eficiencia energética, y promover la creación de ESCOS. El financiamiento y la aversión al cambio son las principales barreras para implementar medidas de eficiencia energética.

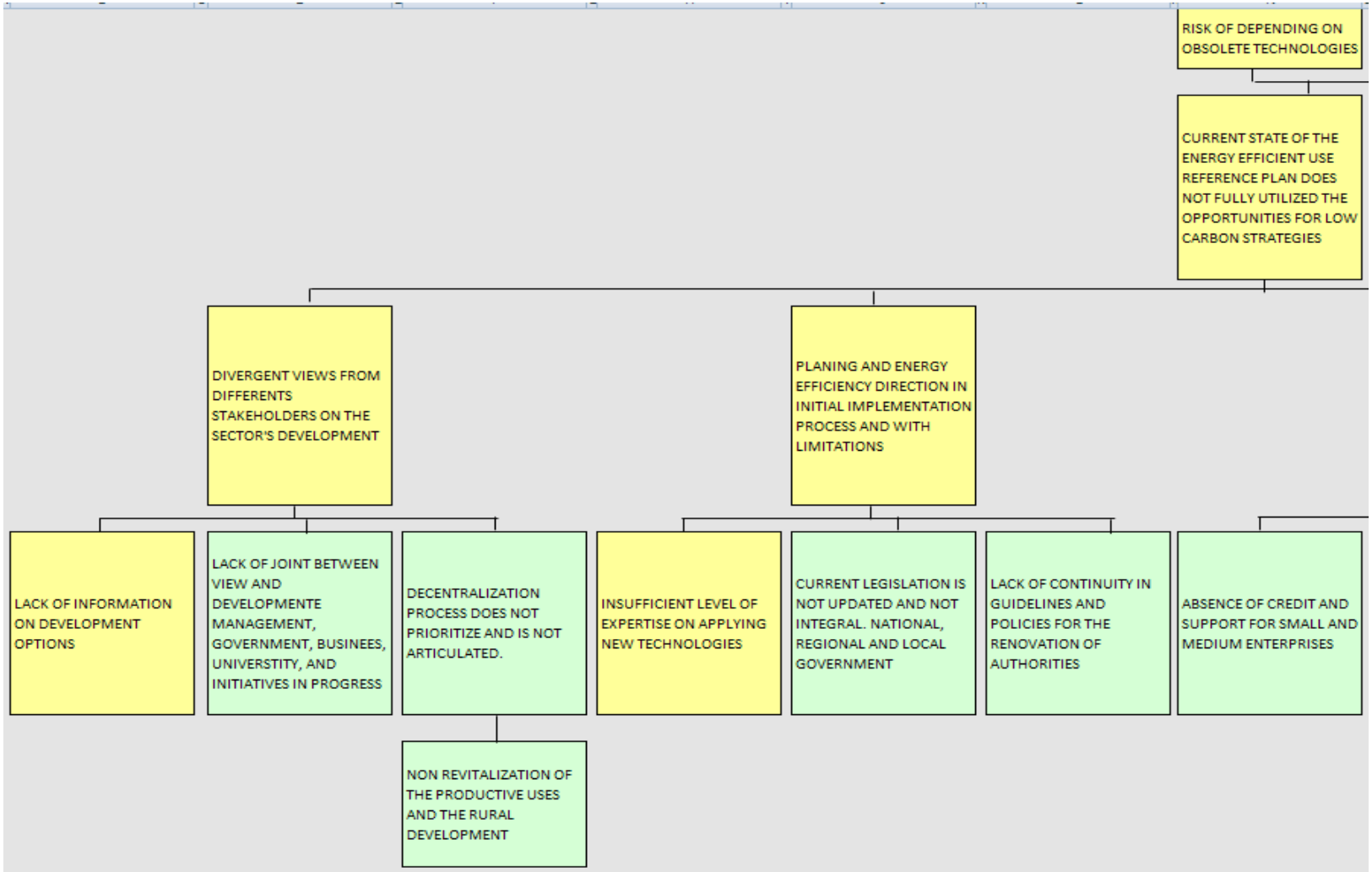
3.8 Forest problem tree developed as a result of the stakeholder analysis

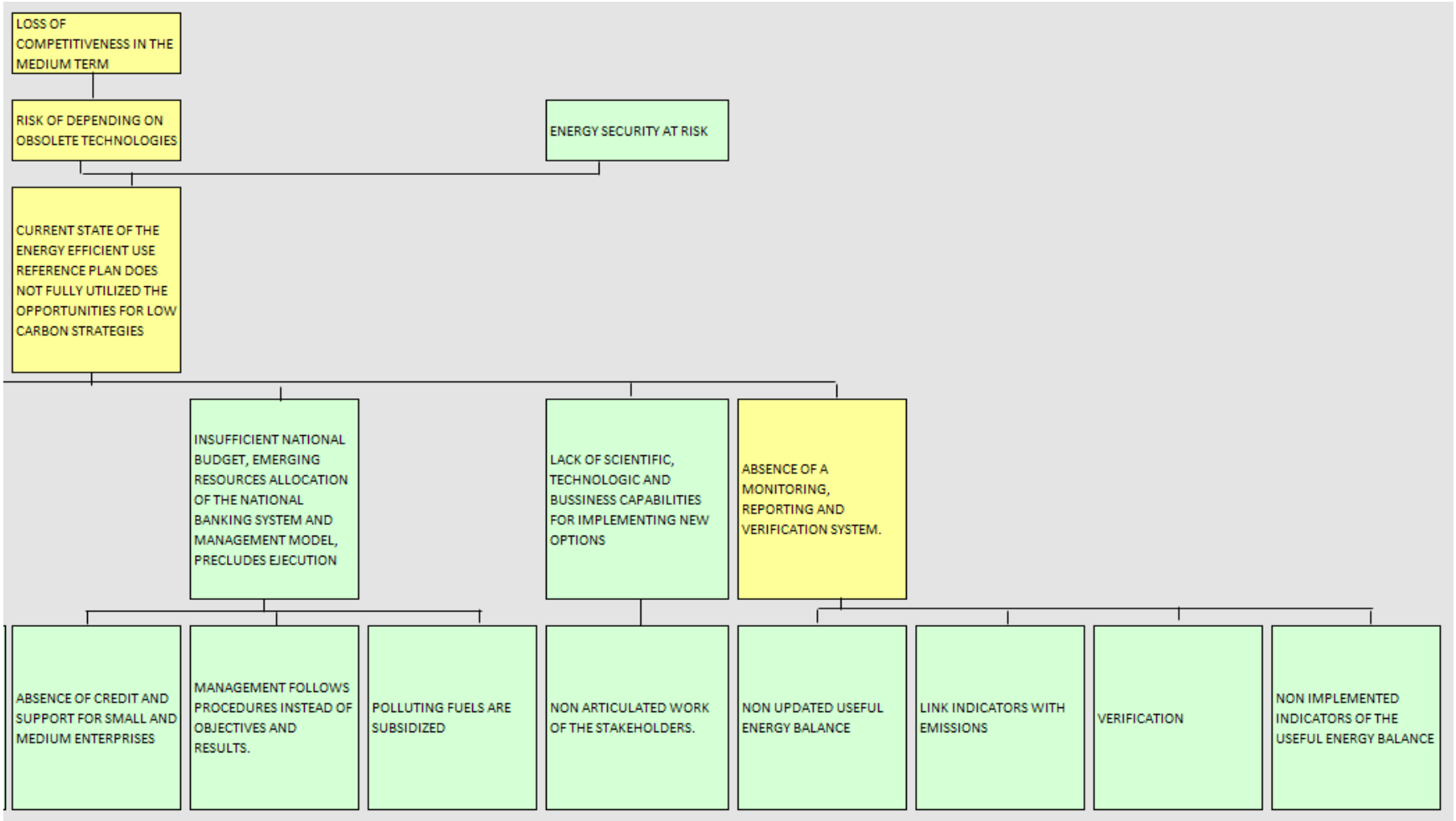



PARTICULAR INTERESTS PREEMINENCE OVER NATIONAL INTERESTS
ECONOMIC INTERESTS OPOSSED TO FOREST CONSERVATION OBJECTIVES
POLICIES THAT PROMOTE DEFORESTATION
INEFFICEINT USE OF THE LITTLE FINANCIAL RESOURCES.
POLICIES ARE FORMULATED WITH A SECTORIAL APPROACH
DIVERGENT VIEWS ABOUT FOREST VALUE AND FOREST USE
FINANCING THROUGH INARTICULATED REDD+ FOREST PROJECTS
NON TERRITORIAL APPROACH
CURRENT ALTERNATIVES FOR SUSTAINABLE MANAGEMENT AND FOREST CONSERVATION, CAN NOT COMPETE WITH HIGH ECONOMIC RENTABILITY ACTIVITIES, OR ILLEGAL ACTIVITIES.
NEED FOR TERRITORIAL ZONING THAT SUPPORTS POLITIC AND INVESTMENT DECISIONS
INCOMPLETE INFORMATION ABOUT THE FOREST VALUE NOT ONLY FOR ITS WOOD, BUT ALSO FOR ITS ENVIRONMENTAL SERVICES, AND ABOUT THE ECONOMIC IMPACTS FROM DEFORESTATION AND DEGRADATION (EXTERNALITIES)
STANDING FOREST UNDERVALUED
STRENGTHENING LOCAL CAPABILITIES IS MISSING
SCIENTIFIC RESEARCH
POLICY DECISIONS WITHOUT SCIENTIFIC KNOWLEDGE
LOW VALUE PERCEPTION OF THE FOREST
LOW REAL VALUE (MONETARY INCOME/OUTCOME)
LOCAL GOVERNMENTS DO NOT KNOW THEIR ENVIRONMENTAL RESPONSABILITIES, AND BECAUSE OF THEIR INACTIVITY, THERE ARE UNPLANNED POSSESION OF LAND AND DEFORESTATION.


REDUCED CAPABILITIES FOR MONITORING, REPORTING, AND VERIFICATION OF THE POLICIES, PROGRAMME AND PROJECTS IMPACTS IN THE LUCLUF SECTOR AND FOR ACOMPLISHED GOALS EVIDENCE.
PROFESSIONALS DONT HAVE SOLID STRENGTHENING CAPABILITIES NOR SCIENTIFIC TECHNIQUES. AND THERE IS NOT CONTINUITY FOR THIS PROFESSIONALS
EXISTING INFORMATION SYSTEMS ARE NOT ARTICULATED
NON UPDATED, SCATTERED AND PUNCTUAL INFORMATION
SCATTERED REDD+ METHODOLOGIES
FOREST INVENTORIES, 2000 DEFORESTATION MAP, DEFORESTATION CAUSES, CAPTURE CAPABILITY, CARBON STOCKS, AND ECOSYSTEM BIOMASS
ABSENCE OF GUIDELINES AND PROCEDURES FOR REDD METODOLOGIES AND STANDARDS
LITTLE FOREST ECOSYSTEMS BIODIVERSITY INFORMATION
LACK OF SYSTEMATIZATION AND RESEARCH SOCIALIZATION ABOUT REDD (POLICIES, TECHNIQUES, METODOLOGIES)
MINAG-DGAA NATIONAL LAND USE CAPACITY MAP IS NOT UPDATED. COMPLEMENTARY APPROACH NETWORK TO ZERO DEFORESTATION OBJECTIVE
ABSENCE OF GOODS AND SERVICES VALUATION STUDIES
DISPERSED AND NON POLITICALLY ORIENTED RESEARCH

3.9 Energy problem tree developed as a result of the stakeholder analysis




LOSS OF COMPETITIVENESS IN THE MEDIUM TERM
RISK OF DEPENDING ON OBSOLETE TECHNOLOGIES
ENERGY SECURITY AT RISK
CURRENT STATE OF THE ENERGY EFFICIENT USE REFERENCE PLAN DOES NOT FULLY UTILIZED THE OPPORTUNITIES FOR LOW CARBON STRATEGIES
INSUFFICIENT NATIONAL BUDGET, EMERGING RESOURCES ALLOCATION OF THE NATIONAL BANKING SYSTEM AND MANAGEMENT MODEL, PRECLUDES EJECUTION
LACK OF SCIENTIFIC, TECHNOLOGIC AND BUSSINESS CAPABILITIES FOR IMPLEMENTING NEW OPTIONS
ABSENCE OF A MONITORING, REPORTING AND VERIFICATION SYSTEM.
ABSENCE OF CREDIT AND SUPPORT FOR SMALL AND MEDIUM ENTERPRISES
MANAGEMENT FOLLOWS PROCEDURES INSTEAD OF OBJECTIVES AND RESULTS.
POLLUTING FUELS ARE SUBSIDIZED
NON ARTICULATED WORK OF THE STAKEHOLDERS.
NON UPDATED USEFUL ENERGY BALANCE
LINK INDICATORS WITH EMISSIONS
VERIFICATION
NON IMPLEMENTED INDICATORS OF THE USEFUL ENERGY BALANCE

Glossary

AGRORURAL	Rural Agricultural Production Development Programme
APCI	International Cooperation Agency of Peru
BID	Inter-American Development Bank
BSD	Forest, Society and Development
CEPLAN	National Center of Strategic Planning
CNCC	National Climate Change Committee
CNI	National Engineering College
COES	Economic Operation System Committee
CONAM	National Environmental Council
CONCYTEC	National Council for Science, Technology and Technological Innovation
DEVIDA	National Program for Prevention and Treatment of Drug Abuse
EIA	Environmental Impact Assessment
ENCC	National Climate Change Strategy
ESCO	Energy Services Company
FONDOBOSQUE	Forestry Development Promotion Fund
FONAM	National Environment Fund
FONAFE	National Fund for Financing State Business
GHG	Greenhouse Gases
ICRAF	World Agroforestry Centre
IGN	National Geographic Institute
IIAP	Research Institute of the Peruvian Amazon
INDECI	National Civil Defense Institute
INEI	National Institute of Statistics and Informatics
INIA	National Institute for Agricultural Innovation
MRV	Monitoring, Reporting and Verification
CDM	Clean Development Mechanism
MEF	Ministry of Economy and Finance
MINAG	Ministry of Agriculture
MINAM	Ministry of Environment
MINEM	Ministry of Energy and Mines
MTC	Ministry of Transport and Communications
OEA	Organization of American States
OEFA	Environmental Assessment and Control Agency
NGO	Nongovernmental organization
OSINERGMIN	Supervisory Agency for Investment in Energy and Mining
OSINFOR	Forest Resources and Wildlife Oversight Agency
PRODUCE	Ministry of Production
PROFONANPE	National Fund for Natural Areas Protected by the State
PRONAMI	National Mitigation Program
PUCP	Pontific Catholic University of Peru
PYME	Small and Medium Business

REDD	Reducing emissions from deforestation and degradation in developing countries
REDD+	Reducing emissions from deforestation and forest degradation in developing countries and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.
R-PIN	Readiness Plan Idea Note
RPP	Readiness Preparation Proposal
SINIA	National Environmental Information System
SENAMHI	National Service of Meteorology and Hydrology
SENASA	National Service of Agrarian Health
SERNANP	National Service of Protected Areas by the State
SNINGEI	National Inventory System of Greenhouse Gases
SPDA	Peruvian Environmental Law Society
UNALM	National Agrarian University La Molina
UNFCC	United Nations Framework Convention on Climate Change
UNI	National Engineering University
LULUCF	Land use, land use change and forestry
WWF	World Wildlife Fund