The UNEP project CD4CDM

Institutional Strategy to Promote the Clean Development Mechanism in Peru

UNEP

Institutional Strategy to Promote the Clean Development Mechanism in Peru

developed for the UNEP project 'CD4CDM'

The project is funded by the Netherlands Ministry of Foreign Affairs.

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Contents

Abbreviations

ANCOM	Andean Community
CCU	Climate Change Unit
CDM	Clean Development Mechanism
CER	certified emissions reduction
CERT	carbon emission reduction trade
CET	Centre for Technological Efficiency
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CONAM	National Environmental Council
DNA	designated national authority
DOE	designated operational entity
EIA	environmental impact assessment
ERU	emission reduction unit
EU	European Union
FONAM	National Fund for the Environment
GHG	greenhouse gas
ISO	International Standards Organisation
JI	joint implementation
LULUCF	land-use, land-use change and forestry
NCCC	National Climate Change Commission
NGO	non-governmental organisation
NSS	National Strategy Study
PCF	Prototype Carbon Fund
PDD	project design document
PIN	project idea note
Proclim	Climate Change Cooperation Programme
Proinversion	Private Investment Promotion Agency of Peru
Prompex	Peruvian Agency for Promotion of Exports
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

Preface

The smooth and successful completion of a Clean Development Mechanism (CDM) project cycle, which typically spans from project conceptualization to the issuing of Certified Emission Reductions (CERs), partly depends on the institutional arrangement established by the host country. Today, many developing countries are grappling with the issue of identifying and laying down the foundations for an operational and efficient institutional setup through which the national CDM process can function properly. Experiences from several countries show that a clear, simple, and transparent national CDM project approval process will contribute to the minimization of transaction costs associated with project preparation. Various institutional approaches or models for the national CDM processes have been suggested and some recently established in selected developing countries.

The purpose of this study on Peru's Institutional Strategy to Promote the CDM, is to disseminate among developing countries the experience of one host country in installing a national operational procedure for the approval of CDM projects. Of course, local political, social and institutional circumstances will vary from one developing country to the other. However, several lessons can be learned from the Peruvian CDM experience, which are relevant for other developing countries.

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John Christensen
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1 Introduction

The Kyoto Protocol marks a significant first step in the reduction of greenhouse gas (GHG) emissions, although the level of reductions is far from the 60% recommended to ensure a safe pathway for the world economy. The operation of the Clean Development Mechanism (CDM) is also the first stage in a new form of environmental cooperation between North and South, but only practice will show how equitable and efficient the CDM will be for developing countries – as well as for improving the world's atmosphere.

In the Marrakech Accord the international community established a complex set of rules for the CDM, including a project cycle, indicating some important responsibilities for the host developing countries with regard to national approval of projects. This paper discusses Peru's institutional strategy to deal with projects that could be eligible for the CDM, under a 'national project cycle' inspired by and complying with the international rules. The Peruvian process might be relevant to other countries seeking to achieve the difficult task of establishing their own institutional arrangements. In this paper, the CDM is first put in the context of the Kyoto Protocol negotiations and Peru's contributions to the international process. A description is given of the way in which Peru initiated activities at the national level for climate change concerns and how the CDM was incorporated. Readers more interested in the CDM at the national level should find most relevant the sections dealing with the way in which the designated national authority (DNA) in Peru has been established and how it operates.

2 The CDM and the Kyoto Protocol

2.1 The negotiating process and the Kyoto mechanisms

The Group of 77 and China, during the negotiations for the Kyoto Protocol, called upon developed countries to first take domestic action in their efforts to reduce GHG emissions and rejected the inclusion of joint implementation (JI) or any other mechanism premised on extraterritorial implementation. The first reason for this position was simply the fact that industrialised countries were the main emitters; the second was the continuing concern of developing countries at the lack of technologies available to enable them to grow and develop without increasing their GHG emissions. Behind this second concern was the assumption that delays in emissions mitigation from developed countries would also delay the introduction of new technologies; technology transfer was therefore expected to be more difficult and expensive, and there would be fewer possibilities for leapfrogging (see Articles 4.2. a and b of the United Nations Framework Convention on Climate Change (UNFCCC)). The industrialised countries, however, supported the strategy of cost-efficient abatement, and encouraged the regulation of JI (based on Article 4.2.d. of the Convention), which was proposed as a project-based emissions reductions mechanism. The initial proposal, coming from an important group of OECD countries, not including the European Union (EU), was that JI could be permitted between Annex I and non-Annex I Parties. This was systematically opposed by G77 and China on the grounds that it would leading to future commitments being placed on developing countries – considered an inequitable way to share the burden of global climate change impacts.

In May 1997, Brazil submitted a comprehensive proposal (see FCCC/AGBM/1997/MISC.1/Add.3), based on the principles of common but differentiated responsibilities and of 'polluter pays', assigning responsibilities for all countries according to their respective contributions to climate change, as measured by the induced change in climate. Under this methodology, annual emissions of non-Annex I countries, according to the IPCC IS92a scenario, were estimated to grow to be equal to those of Annex I countries by 2037, with the 'resulting induced change in temperature from non-Annex I countries ... estimated to equal that of Annex I countries only in 2147'.

A 'clean development fund' was proposed, to be furnished with fines resulting from non-compliance by specific Annex I Parties with the targets to be established with this methodology within the Kyoto Protocol. The financial resources of the fund were to be directed preferentially to assist big emitters in developing countries. A portion of the fund's resources would also be allocated to climate change adaptation programmes in developing countries. This proposal was part of the origin of the idea of the CDM, and the informal group which negotiated the CDM in Kyoto included Peru. There were no explicit discussions of including sinks in the CDM, under the assumption that a different negotiating group on land-use,

land-use change and forestry (LULUCF) was dealing with any LULUCF categories that might be included for the first commitment period.

There have been many suggestions that the CDM was the 'Kyoto surprise', and it must be said that the emissions trading mechanism was the subject of very little discussion between countries – especially between developing countries – and its inclusion provoked major opposition from G77 on the final day of the Protocol negotiations, threatening them with collapse. In understanding the details of the negotiations, it should also be realised that there was insufficient time to discuss terms and conditions on which the three mechanisms were going to operate within the future carbon market.

The Kyoto Protocol, then, established three mechanisms for extraterritorial emissions reductions (besides the bubble agreement, as contained in Article 4 of the Protocol): emissions trading, JI, and the CDM. While the first two could be implemented among Annex I countries, the third involves collaboration between Annex I countries and developing countries[1]. As defined in Article 12 of the Protocol, the CDM requires:

- voluntary participation, approved by each Party involved, as an extraterritorial way to reduce emissions;
- real, measurable and long-term benefits related to the mitigation of climate change; and
- reductions in emissions being additional to any that would otherwise have occurred.

Further, a share of the proceeds from certified project activities must be used to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation.

The potential benefits of the CDM were widely welcomed. If appropriately designed, besides reducing GHGs, it could be an instrument for poverty alleviation, technology transfer and for achieving other environmental benefits. Moreover, a percentage of transactions were allocated for adaptation activities in developing countries. The idea behind this percentage (at least for the negotiators at Kyoto) is recognition that mitigation is an indirect way of preventing damage and it would be more equitable for some funds to be available for adaptation projects in developing countries, given that industrialised countries could find emissions reductions cheaper outside their own borders.

1 Joint implementation among Annex I Parties, is defined in article 6 of the Protocol and allows an Annex I party to transfer to or acquire from other Annex I parties emission reduction units resulting from GHG emission reduction projects. Unlike the CDM it makes explicit the inclusion of carbon sink projects. International emissions trading is defined in Article 17 of the Protocol.

Most developing countries were enthusiastic, as well as concerned about modalities and procedures to be determined for the CDM, and tried to avoid falling into the 'bureaucratic trap' of endless discussions regarding issues such as baselines and additionality. Although JI projects also require the construction of a baseline, Annex I countries have an assigned amount of units to emit, so that emission reduction units granted by JI projects will be deducted from these amounts – in this regard they are a 'zero-sum' exercise (Ellis 1999). The baseline issue is therefore not as problematic for JI projects, especially in those countries whose forecast level of emissions is below their actual assigned amount of units (what has been called 'hot air'). On the contrary, if proper auditing and verification mechanisms are put in place for JI projects, more GHG emission reductions will be achieved by JI projects than by emissions trading in countries that have hot air.

In order to forecast the carbon price, many experts and policymakers involved in climate change policy would like to know how the extraterritorial emissions reductions will be allocated between the CDM, JI, and emissions trading. It is difficult to envisage what will happen at the end of 2012. One hypothesis is that JI will have the larger part, considering that the two biggest current buyers are the EU and Japan. Europe is increasing in size, with more countries set to join the Union, so that rules for supplementarity will not be applied. Even with the international provision within the UNFCCC that JI projects cannot operate until 2008, transfers of emission reductions will operate through assigned amount units. An example that reveals the plausibility of this hypothesis is given by Sweden's launch of a programme to buy only JI projects.

Another element of the carbon market is the EU's emissions trading directive, with its detailed regulations on how to trade between EU countries, establishing fines of 30 euros per ton of CO_2 not reduced until 2008 (although fine payment does not imply avoidance to comply with emission reductions of CO_2). Japan will probably buy emission reductions from Asia, as this is the zone of its economic influence.

On the side of emissions trading, it is difficult to foresee what will happen, but the acceptability of hot air is the most controversial issue, despite the Marrakech Accords fully recognising its validity. In order to avoid complications with trading hot air, it is possible that most of the transactions will be allocated to JI, which will lead the emissions reductions investment. CDM will need to compete with all these mechanisms. One example of transaction costs is given in Table 1.

<Table 1> Impact of transaction cost on the price of GHG emissions reductions
(US$ per tonne of CO_2 equivalent)

Transaction costs	CDM (US$0)	CDM (US$0.5)	JI (US$0)	JI (US$0.25)
Minimum	1	1	1	1
Average	3	3	3	3
Maximum	6	6	6	6

Source: CONAM (2003; Table 2.6)

2.2 The CDM market and the US failure to ratify the Kyoto Protocol

The main components that influence the size of the CDM market are:

- the demand, calculated from business-as-usual projections of Annex B countries' emissions of GHGs;
- the supply, estimated from marginal abatement costs of GHG emission reductions of all countries and regions;
- international rules within the UNFCCC that influence the market, such as LULUCF rules or transaction costs;
- buyer and seller behaviour.

Once the US proposal for voluntary commitments from developing countries was rejected at Kyoto, the likelihood of US ratification diminished, and in March 2002 President Bush announced that the USA would not be part of the Kyoto Protocol. The consequences of this withdrawal for the CDM market are clear, but CDM specialists believe that there is currently a partial US participation, based on the environmental regulations of a few American states, including California, New Jersey, Massachusetts, New Hampshire and Oregon, which are looking for CO_2 reductions and making transactions in the carbon market. Demand from such states could make up 30% of the potential demand of the whole USA. This partial participation would not be enough to neutralise the major impact of US withdrawal on the world market for emissions reductions, however, according to projections from the CERT model (Grutter et al 2002). Without the participation of the USA, however, hot air from the Russian Federation could be enough to cover the KP target. Moreover, the modalities for carbon accounting through sinks in the LULUCF agreement in Marrakech reduced the demand of extraterritorial emissions reduction.

The National Strategy Study for CDM in Peru (CONAM 2003) suggests that it is not likely that suppliers from hot air countries (Russia, Ukraine) and all Annex B countries can fix monopoly prices. There are so many countries involved, with such diverse interests, that it would be impossible to establish and maintain strict cartel discipline. It is more possible, however, that hot air suppliers will act as price leaders through restricting supply.

<Table 2> Impact on market structure level on prices of GHG (US$ / TM of CO_2)

Market structure	Competition /free market	Oligopoly[a]	Monopoly[b]
Minimum	0	1	NA
Average	1	3	12
Maximum	3	6	58

Notes a. With Russia as the leading prices price-setter.
b. Excludes hot air.

2.3 Institutional requirements to participate in the CDM

As established in Decision 17/CP7 (2001) adopted at Marrakech, countries are allowed to participate in a CDM project if the following requirements have been fulfilled:

- participation in the CDM is voluntary;
- the Party has ratified the Kyoto Protocol; and
- the Party has designated a national authority for the CDM.

Additionally, Annex I countries are eligible to use certified emission reductions (CERs) if they comply with the requirements of paragraphs 31 and 32 of the abovementioned decision, which essentially require having in place a national system for the estimation of anthropogenic emissions of GHG and for having submitted the most recent required inventory.

As CDM allows for projects to reduce emissions in developing countries, it is important that both Parties elaborate written proofs that participation is voluntary. The way in which a country must fulfil these institutional requirements are, from a legal perspective:

- to ratify the Kyoto Protocol;
- to designate a national authority responsible for CDM activities within the government structure; and
- to install a procedure to approve CDM projects at the national level according to the law and procedures binding at the domestic level.

National approval has a twofold purpose: to formally indicate that the developing country Party wishes to participate in that specific project activity, and that it is consistent with the national legal system, including environmental regulations, to assist the national sustainable development goal. For these reasons, paragraphs 37 b and c of Decision 17/CP7 require the operational entity to check whether comments by local stakeholders have been received and considered, and whether an environmental impact assessment has been undertaken according to national procedures.

It is important to mention paragraph 39 which states that:

2 The CERT (carbon emission reduction trade) model is a computational framework to present and analyse the GHG offset trading market. CERT uses inputs from computable general equilibrium models, such as GHG emission projections and marginal abatement cost functions, and allows for a variety of parameter modifications and specifications of mechanisms stipulated in the Kyoto Protocol.

> A Party that authorises private and/or public entities to participate in Article 12 project activities shall remain responsible for the fulfilment of its obligations under the Kyoto Protocol and shall ensure that such participation is consistent with the present annex. Private and/or public entities may only transfer and acquire CERs if the authorising Party is eligible to do so at that time.

This must be interpreted as applying to Annex I Parties, given that developing countries do not have specific commitments to reduce emissions.

However, on a completely voluntary basis, a developing country could offer CDM investors some kind of risk reduction incentives with its own financial resources. For example, a local private fund can be made available in case of failure to generate CERs from a specific project.

2.4 Making the country attractive to the CDM market

In Peru it was considered necessary to establish simulations to estimate how the market could behave, and to identify the most probable scenario, and within this context identify the opportunities and barriers that Peru should address in order to participate in the CDM market. The statements and figures described in the following section are based on the application of the CERT model, as part of the Peruvian National Strategy Study for the CDM (CONAM 2003).

The Kyoto carbon market is a potential worldwide market. It must be analysed taking into account the international, the regional and the national contexts, and in doing so identify the different factors that need to be addressed at different levels to develop an effective national CDM strategy. In the international context, a number of issues must be taken into account (some of which have been already mentioned here):

- Factors that can affect the market size and the prices:
  - participation of the USA;
  - level of supplementarity from Annex B countries;
  - level of implementation of CDM projects;
  - the market regime (monopoly, hot air, free market).
- Disadvantages of the CDM in comparison with the other mechanisms: It is important to notice that there are more requirements for CDM projects than for JI projects, and this implies higher transaction costs. In the case of emission trading (including hot air), there is a clear disadvantage: hot air transaction costs may be estimated as 0 (there is no need to develop a project and expensive legal contracts).

- Other issues that could affect the price and market size:
  - In COP 7 (the Seventh Conference of the Parties), Kazakhstan expressed its will to join Annex B of the Kyoto Protocol. In this scenario and assuming a reduction commitment of stabilising emissions at 1990 levels, Kazakhstan could offer hot air estimated at 180 Mt of CO_2 per year.
  - Non-participation by Australia would reduce the prices, because of less demand for CERs.
  - The restriction in purchasing RMUs[3] from LUCF projects to be used by Annex B Parties (1%), reduces their value and creates new competition between those that will invest in sink projects (a forestation and reforestation). This can cause a reduction of market prices and of the total GHG market.

Having a clearer picture of the global market, it is then important to analyse the region in which the country is located. For Latin America, the following particularly relevant issues were identified:

- Latin American countries have relatively high marginal abatement costs[4] and low supply/demand potential, compared to India, China and the former Soviet Union. Marginal abatement costs between Latin American countries are very similar.
- The energy sector makes substantial use of hydropower and, in certain countries, of gas; it is generally much less dependent on carbon than Asian countries.
- Most Latin American countries have experience in the GHG market. More than 75% of the carbon financial flows for CDM in 2001 and 2002 were allocated to Latin America.
- Key variables that affect the potential market for Latin American countries and have a positive influence in market size are:
  - the high growth of Annex B countries' emissions;
  - the low supplementarity of Annex B countries;
  - USA participation;
  - low CDM project implementation rate in other countries (essentially China and India);
  - ex-Soviet Union price leadership (hot air);
  - Kyoto Protocol ratification;
  - clear and amplified commitments for the second commitment period;
  - a clear legal framework and low transaction costs;

3 Removal units, emission credits from aforestation and reforestation activities.

4 Marginal abatement cost curves are based only on emission reduction. Carbon sequestration is not included, nor is hot air from Russia and Ukraine.

- short time for project preparation;
- providing good risk management and an attractive environment for direct foreign investment.

Within the potential global market, Peru has a limited participation in the world offer of GHG reductions. Based on calculations made by consultants for the Peruvian National Strategy Study (NSS), Peru contributes less than 1% of world CER exports. In this sense, it is a price taker rather than a price fixer, with no possibility of influencing worldwide prices. Nevertheless, the CDM market continues to represent an interesting opportunity for promoting foreign and national investment and technology transfer.

With the current[5] range of prices, Peru could export CERs for approximately US$5-10 million per year (considering methane and LUCF projects). This would imply exporting 1-2.5 million tons of CO_2 emission reduction, and generating two to five projects per year, depending on their size; taking into account that CERs sold after the crediting period only finance 10% of the total investment, this would imply annual investments of US$50-100 million in emission reduction projects.

After evaluating the circumstances and conditions for implementing the CDM in Peru, it has been found (CONAM 2003) that the main barriers that the country has to overcome are not only related to the CDM itself, but also to the development and implementation of productive projects that also reduce GHG emissions. The main barriers are encountered in structuring, developing and implementing the projects:

- Complicated access to financing pre-investment studies and investment: The Peruvian financial system finances less than 20% of the gross domestic product, while in industrialised countries the proportion is higher. The financial system has cash available (high liquidity), due to a lack of eligible candidates for crediting (bad or no credit/financial history) and feasible projects. The carbon component represents between 1% and 10% of the total project investment. To finance a productive project becomes a critical factor.
- Lack or deficiencies in the regulatory framework for specific activities, i.e. the lack of a law for waste disposal implementation or for promoting renewable energies.
- Non-compliance with regulations: some laws are established but not enforced, causing some disturbances in the case of project development and implementation. A clear example of this is the Solid Waste Law that should have been regulated since 2001 and still has not been. Wastes have to be

5 An average of US$4 per ton in February 2004

delivered to landfills, but are usually illegally dumped. The landfill business has no real incentive, since relevant authorities are not obliged to comply with the law.

With regard to the CDM, the main barriers identified have been the following:

- A low awareness of CDM opportunities, risks and scope in all the sectors (public, private, academic, civil society) at technical and policymaker levels.
- A low capacity to develop CDM projects; only a limited number of professionals and institutions have a good knowledge of the CDM cycle, CER negotiations and CDM project development.
- High transaction costs, taking into account that many of the projects are small- and medium-scale ones.
- The lack of a legal instrument that recognises the CER as a tradable instrument in the local financial market.
- The lack of financial offers for pre-investment studies of the CDM component: baseline and PDD[6] elaboration, monitoring programme development, etc.

Regarding the different potential sectors for GHG reduction, the barriers identified have been as follows

- Industrial: For small-scale projects, transaction costs can equal or exceed the income from CERs.
- Energy: Lack of regulation for electricity generation from renewable sources.
- Waste: Lack of a regulatory framework that regulates institutions/activities that add value to wastes.
- Transport: Property rights definition for a multiple-owner situation. In the urban transport business in Peru, there are many owners with only one or two transport units. This makes it very difficult to get to an agreement on who would be the owner of the CERs and how they would be distributed. Does it mean that the owner of one or two transport units would be able to develop a CDM project?

On the other hand, it is important to identify the risks for the project owner and developer. These are:

6 Project design document: document that contains the CDM project design document (CDM-PDD). It outlines the information that a CDM project must contain (decision 17/CP.7, document FCCC/CP/2001/13/Add.2).

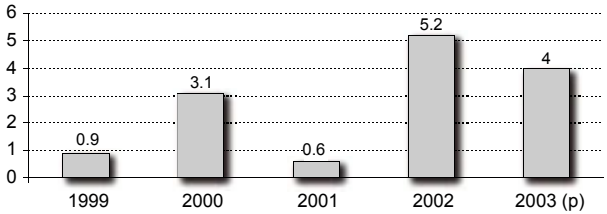
- The Kyoto Protocol not entering into force.
- DNA project disapproval.
- Optimistic calculation of baseline.
- Transaction costs that equal or exceed CER income.
- Reduction of CER prices from emission reduction projects.
- Non-compliance of emission reduction due to internal or external factors.
- Non-compliance of payment by the buyer.
- Penalties for not delivering the agreed CERs on the established dates.

3 Peru: the context for the implementation of the CDM

3.1 Macroeconomic indicators

Peruvian economic activity registers indices above the Latin American average, an upward trend notwithstanding the unfavourable international environment. By the end of 2002, the Peruvian GDP grew 5.2% (see Figure 1), inflation was 1.5% (see Figure 2), and investment improved 4.5%. GDP growth is mainly sustained by increased production in mining, agriculture and fishing. By generating foreign currencies, these lead to an economic situation suitable for general reactivation. Activities such as construction and manufacturing – sectors favouring growth of domestic demand – have also start registering significant rates of growth.

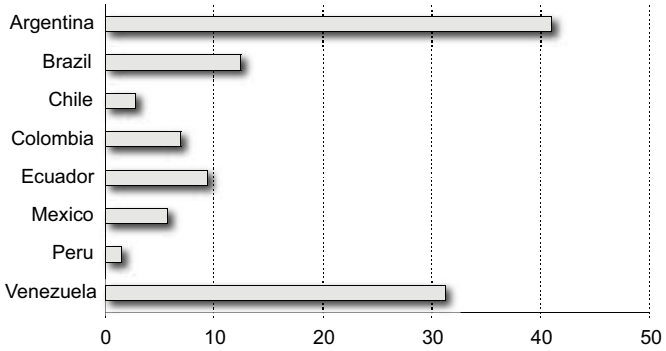
<Figure 1> Peru's gross domestic product, 1999-2003 (annual percentage variation)



Source: INEI (2003)

Inflation levels are (in 2002) below those of the USA, and the lowest in Latin America (see Figure 2). The floating exchange rate is particularly stable, due to high international reserves at the Central Bank, which account for more than one year of Peruvian imports.

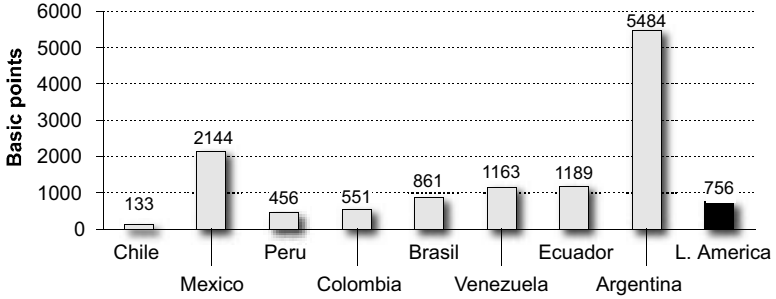
<Figure 2> Latin American inflation rates, 2002 (percentage variation)



Source: INEI (2003); BCRP (2003)

Peru offers investors a stable macroeconomic situation, less risk than other countries in the region (see Figure 3), investment opportunities, the Andean Trade Promotion and Drug Eradication Act and political decisions which help to attract investment. Peruvian commercial links with important international markets have been recently favoured by the inclusion of new items, such as apparel, agribusiness and aquaculture, in the USA's Andean Trade Promotion and Drug Eradication Act. Mining is an important source of foreign currency (over 40%) and largely explains investments made in the last years. Table 3 shows Peru's ranking in terms of production of a number of metals.

<Figure 3> Country risk in Latin America (21 May 2003)



Source: Reuters (2003)

<Table 3> Peruvian mining: international rankings

Mineral	**Ranking**
Latin America	
Gold, zinc, tin, lead	1
Silver and copper	2
Iron	5
Worldwide	
Silver and copper	2
Tin	3
Zinc and lead	4
Copper	5

Source: Proinversion (2003)

Since 1992, Peru has opened its economy, offering important projects to national and international companies through concession and privatisation processes. An important example of these is Camisea gas (energy and hydrocarbon sector). The

development of the Camisea gas field will enable the growth of a national petrochemical industry and provide Peru with an inexpensive source of energy and the possibility of exporting gas within the region.

3.2 Levels of foreign investments

As of December 2002, foreign direct investment stock registered with Proinversion stood at US$11 536 million.[7] Tables 4 and 5 show the country origin and destination sector of foreign investment. The United Kingdom remains the leading source of investment in Peru, accounting for 22.23% of the accrued stock; ten countries generate 90.4% of this stock.[8] Of the investments, 26.08% went to the communications sector; 15.92% to industry; 15.64% to finance; and 14.71% to mining.

<Table 4> Foreign direct investment stock by major countries (year 2002)

Country	Stock (US$ million)
United Kingdom	2, 564.3
Spain	2, 401.6
USA	1, 982.2
Netherlands	1, 254.8
Panama	645.1
Chile	597.5
France	412.5
Switzerland	213.9
Colombia	194.0
Canada	160.4
Uruguay	160.4
China	122.2
Japan	101.1
Germany	100.0
Argentina	65.7
Sweden	55.8
Italy	50.3

Source: Proinversion (2003)

7 Contributions made to enterprises or contractual joint ventures within the country, as well as the amounts paid for the transfer of stocks owned by nationals to foreign persons.

8 The figures reflect investor statements. In many cases, due to corporate strategy, international investments are not directly managed by the headquarters but fully or partially controlled through subsidiaries.

<Table 5> Foreign direct investment stock by sector, 2002

Sector	Stock (US$ million)
Agriculture	44.4
Commerce	845.3
Communications	3,008.0
Construction	70.6
Energy	1,580.0
Finance	1,804.1
Industry	1,836.3
Mining	1,696.4
Fishery	0.6
Oil	97.9
Services	359.3
Silviculture	1.2
Transport	118.6
Tourism	58.4
Housing	14.3

Source: Proinversion (2003)

Of the main investor countries in Peru, only the Netherlands has launched programmes for purchasing CERs, with Japan, Germany and Spain having also shown interest. Peru has participated in various initiatives, including the following:

- At the beginning of 2003, CERUPT (Certified Emission Reduction Unit Procurement Tender) from the Netherlands agreed to purchase certificates for an average price of US$5/tCO$_2$ to selected projects. Nineteen projects from nine different countries were approved.
- In January 2003, the Dutch Government closed a deal with the International Finance Corporation of the World Bank to purchase 10 million tons for US$40 million (an average of US$4/ton). A similar agreement was reached with CAF for Andean countries and the World Bank.
- The Prototype Carbon Fund purchased certificates for US$3.5/ tCO$_2$ in 2003. The World Bank launched another two funds: the Community Development Carbon Fund and the Bio Carbon Fund.

3.3 Governance [9]

Despite the good macro-economic indicators, unemployment, corruption and inequities persisted during the authoritarian Fujimori regime. According to the

9 Taken from Iturregui (2003).

United Nations Development Programme (UNDP) Report on Human Development 2002, one in two Peruvians is poor. Modernisation has brought benefit to only a minority of the population, with unemployment and underemployment affecting more than 50%. Other important problems include a credit crunch, stagnating foreign investment, a slow-moving privatisation programme, and high levels of private and public sector debt.

As reported by Prompex (the Peruvian Agency for Promotion of Exports), export levels are low; the most important destinations for 2002-2003 being the USA ($490 million), UK ($254 million), Switzerland ($156 million), China ($131 million) and the Andean Community (ANCOM) (125.1 million).

Peru, together with Bolivia, Colombia, Ecuador and Venezuela, is a member of ANCOM which aims to achieve a single market along the lines of the European Union, although significant policy differences need to be worked out. In November 1997 Peru joined the Asia Pacific Economic Cooperation (APEC) forum. Peru also receives trade preferences from the United States under the 1991 Andean Trade Preferences Act, which the US House of Representatives voted in 2001 to extend through 2006.

According to the UNDP Report on Human Development 2003, the development perspective in Peru has the following features:

- centralised development and unequal impact of policies that avoid cultural differences recognition and geographical productivity distinctions in Peru, although a process of decentralisation has begun recently;
- inadequate combination of resources in regions of lower levels of development;
- inability of modern areas to extend development to its regional surroundings.

The National Agreement after exposure of pervasive corruption

There is a growing consensus that Latin American democracies will collapse again unless corruption is eradicated and a state of peace is maintained. The following is a brief summary of the Peruvian process during the last few years, providing the context within which the adaptive capacity of Peru to climate risk management must be implemented in the future.

Peru experienced a radical move towards a free market economy during the 1990s, coupled with the routing of terrorism; this resulted, as already mentioned, in stellar growth performance for much of the last decade. However, the corruption and authoritarianism of ex-President Alberto Fujimori led to a significant political crisis in 2000. Fujimori fled the country for exile in Japan and Congress appointed a transitional government, to prepare for a return to democracy in 2001. A new era of stability was expected for Peru with the election of Alejandro Toledo, who

inherited a debilitated financial system and a private sector burdened with high levels of debt and undercapitalisation, as declared by some business leaders.

Peru has undergone a complex cleansing process with the aim of achieving good governance. The three parts of this process are:

- a thorough investigation of corruption and abuse of power at the top during the presidency of Fujimori (1990-2000);
- a thorough investigation of the extreme violence throughout the country during the period 1980-2000;
- the National Agreement to be implemented in full by 2021 (see Table 6 for an unofficial translation of objectives and state policies).

<Table 6> Objectives and state policies for 2021

Objective 1: Democracy and the rule of law	**Objective 2: Equity and social justice**	**Objective 3: Country competitiveness**	**Objective 4: State efficiency and transparency**
Strengthening of democracy and rule of law	Poverty alleviation	Affirmation of social economy market	Affirmation of an efficient and transparent State
Democratisation of political life and strengthening political parties	Egalitarian promotion of opportunities without discrimination	Promotion of competitiveness, productivity and formalisation of economic activities	Promotion of institutionalised military towards democracy
National identity institutionalisation	Universal access to free quality education, promotion of culture and sports	Sustainable development and environmental management	Promotion of ethics and transparency; Eradication of corruption, money-laundry, tax avoidance and smuggling
Governance through strategic planning	Universal access to health and social security	Development of infrastructure and housing	Eradication of production, traffic and consumption of drugs

Objective 1: Democracy and the rule of law	Objective 2: Equity and social justice	Objective 3: Country competitiveness	Objective 4: State efficiency and transparency
Foreign policy for peace, democracy, development and integration	Full productive employment		
with dignity	Foreign trade policy to enhance markets with reciprocity	Full compliance with constitution, human rights, justice access and impartial justice	
Eradication of violence and citizenship safety	Food security promotion and nutrition		Information access, free expression and free press
Decentralisation	Family strengthening		
National safety policy			

3.4 Legal framework for investment

Peru has established a stable legal framework for private national and foreign investment with the purpose of attracting the financial and technological resources required to develop the country's vast natural resources and diverse potentialities.[10]

10 The Constitution of 1993 includes provisions on essential principles to guarantee a favourable juridical framework for the development of private investment in general, and foreign investment in particular. Some of them are: (i) free private initiative exercised in a social market economy and economic pluralism; (ii) freedom of work and to engage in business, trade and industry; (iii) definition of the subsidiary role of the state in economic activity; (iv) free competition and prohibition of all restrictive practices and the abuse of dominant or monopolistic positions; (v) freedom to engage workers; (vi) powers of the state to establish guarantees and grant securities by means of contract law; (vii) national treatment (which means that foreign investors will have the same rights as nationals); (viii) possibility to submit controversies arising from the contractual relationship with the state to national or international arbitration; (ix) freedom to hold and dispose of foreign currency; (x) inviolability of property and establishment of exceptional causes that empower the state to expropriate previous cash payment of a fair-value indemnity; application of equal treatment on taxation matters; and the express acknowledge that no tax may have confiscating effects.

The Foreign Investment Promotion Law was approved in August 1991, by Legislative Decree N° 662. It is the cornerstone of a sound legal framework that establishes clear rules and the necessary security for the development of foreign investment. It is complemented by the Framework Law for Private Investment Growth, approved by Legislative Decree N° 757, and the Regulations of the Private Investment Guarantee Systems, approved by Supreme Decree N° 162-92-EF.

World Trade Organisation commitments are fully abided by. In that sense, no selection mechanism or performance requirement is applied to foreign investment. In cases where investments enjoy benefits coming from the subscription of legal stability agreements with the state, requirements are the same as those established for national investors.

Foreign investment may exist in any income-generating activities, established by law, under any of the following modalities:

- foreign direct investment, as contribution to the stock equity;
- contributions to the development of contractual joint ventures;
- investment in goods and properties located within the national land;
- portfolio investments; and
- contributions in intangible technological contributions.

Law grants the following basic rights to foreign investors:

- the right to receive non-discriminatory treatment compared with national investors;
- freedom to conduct commercial and industrial activities and to perform any import and export operations;
- the right to remit abroad profits or dividends, previous payment of the corresponding taxes;
- the right to use the most favourable exchange rate existing in the market for any exchange operation;
- the right to free re-exportation of invested capital, in case of sale of shares, reduction of capital or total or partial liquidation of investments;
- non-restricted access to domestic loans, under the same conditions as a national investor;
- free acquisition of technology and free remittance of royalties;
- freedom to acquire shares of national investors;
- the possibility of acquiring insurance for investments;
- the possibility of subscribing with the State Legal Stability Agreements for their investment in the country, which means that any future regulation must not change agreed rules for specific investments.

Every enterprise has the right to organise and develop its activities under the form it deems convenient. All legal provisions establishing production modalities or production indexes have been repealed. No prohibition or compulsion regarding the use of certain inputs or technological processes, and, in general, no intervention in production processes of companies as to the type of its economic activity, installed capacity, or any other similar economic factor, are allowed. Exceptions are made for legal provisions related to hygiene, industrial security, preservation of the environment, and health.

The legal framework governing foreign investments in Peru is based on national treatment. Foreign investments are allowed, without restrictions, in most economic activities. No prior authorisation is required for foreign investments; acquisition of a national investor's shares is fully allowed, through the stock exchange or other mechanism. As to ownership, foreign individuals or corporate bodies operate under the same conditions as Peruvians. Nevertheless, foreigners may not acquire mines, lands, woods, water, fuels, energy sources, within fifty kilometres of the borders, except in case of public necessity, expressly declared by Supreme Decree approved by the Cabinet.

Proinversion, the Private Investment Promotion Agency of Peru, was created in 2002 in order to attract private national and foreign investment, deemed necessary to improve Peru's development. It is in charge of strategic promotion, guidance services and promotion of private investment in projects and public assets. As part of its duties, Proinversion produces national policy for the treatment of private investment, according to economic plans and integration policy. It also registers foreign investment, handles and subscribes legal stability agreements, and coordinates and negotiates international investment treaties.

Any differences between investors and the state on investment matters may be referred to the Arbitration Tribunal of the Convention on the Settlement of Investment Disputes, or to the United Nations Commission on International Trade Law.

Peru has also ratified the United Nations Convention on the Recognition and Enforcement of Foreign Arbitrage Award and the InterAmerican Convention on International Commercial Arbitration.

3.5 Environmental management

Four indications to measure a successful national environmental policy are:

1. The political will of the state to implement an environmental policy expressed in five elements: a national environmental plan, an environmental legal framework, enforcement mechanisms, environmental institutions and financial resources.

2. Public awareness and voluntary commitments.
3. Integrated environmental accountancy and economic indicators.
4. A well-defined decentralisation policy and territorial management.

Only in 1996 did Peru join the group of countries with a national environmental authority. The first agenda for the environment was adopted in that year; the third one ends in 2004. The Code for the Environment and Natural Resources came into force in 1990, although it has not yet been regulated, and is currently under review for a new piece of legislation that will be passed by the Congress in the first part of 2004.

Concerning environmental standards and specific enforcement mechanisms, Peru is in the process of approving some key quality standards, such as on noise and amendments to water regulations. The first national ambient air quality standards were passed only in 2001 (Supreme Decree 074-2001-PCM and alert thresholds by Supreme Decree 009-2003-SA) and the first emission limits were those related to mining activities. The most recent are emission limits for vehicles. The Environmental Impact Assessment Act (Act 27446) was also passed in 2001, and its regulations are awaiting the Prime Minister's signature.

The National Environmental Council (CONAM), as Peru's environmental authority, has 45 officers, while each ministry linked to production has its own environmental unit. The Ministry of Health has more than 100 officers working for environmental health, and the National Institute for Natural Resources, the forest authority, has a few hundred officers responsible for the protected natural areas (which comprise more than 15% of the national territory). The coordination needed for the environmental management in Peru under this organisation is chaired and led by CONAM, which falls below the Presidency of the Ministerial Cabinet. CONAM is the last administrative instance in case of dispute on environmental affairs. The National Fund for the Environment (FONAM), created by law in 1997, has no government funding, as it is regarded as a private institution under the Ministry of Economy.

Public awareness is regarded as the outcome of an educational process. Environmental issues are gradually being integrated into the curricula at all levels in both universities and schools. However, waste management practices by the majority of the population are still far from being environmentally friendly.

With regard to voluntary commitments agreed upon by companies in connection with environmental protection, CONAM has promoted the establishment of the ISO 14000 Club, and 14 local companies have been certified. CONAM is the first public institution in Peru showing certification on ISO 9001 and 14001.

An integrated account of environmental and economic indicators is not in place. No systematic assessments related to the cost of environmental degradation of natural resources or pollution have been undertaken, although some specific studies have been done for part of the rainforest.[11]

The key issue of a well-defined decentralisation policy and territorial management is under way. In 2002, the constitution was amended to decentralise the state and through the installation of regional governments on application of the Decentralisation Act (L.27783-2002) a new quality of governance has begun.

This new level of government has been well accepted given the size of the country and its cultural diversity and introduces a significant change in the institutional structure, functions and planning of Peru. The process allows for no reversal. A new Local Government Act (L.27972-2003) has been passed to harmonise functions with regional governments. Traditionally, expenditure of local governments has been small, representing a meagre 3% compared with central government investments. Currently, social participation and private sector are mandated to collaborate with the planning and budgeting of government expenditure at the regional and local levels.

There is no land use act or territorial planning act in force.

3.6 Environmental law

Article 2.22 of the 1993 Constitution establishes the right of every person to enjoy a healthy environment, and within this general statement prioritises three aspects:

- Natural resources are the nation's property and national heritage and the state is sovereign when ruling about its use.
- The state is obliged to promote the conservation of biological diversity and natural protected areas.
- The state must promote sustainable development of the Amazon region through adequate legislation.

In the latter connection, Law 27037-98 introduced a number of tax-breaks for agriculture and forestry activities, aiming to promote private investment in this region of the country.

The Code for the Environment and Natural Resources (1990) introduced new elements into the Peruvian legal system. The Code changed the decision-making process, bringing in preventive environmental policies – though several provisions were amended under pressure from business associations, the mining industry in particular, as mentioned below. In spite of this, the following four features are still in force:

1. ***Citizens' participation in environmental management (Article VI).***[12] Citizens'

11 Raúl Tolmos, 1999, Zona forestal permanente Biabo Cordillera Azul: bases para la medición y captura del valor económico pleno de sus recursos forestales. A consultant report

participation at local, regional and national levels, aimed at the definition of environmental policy and management, is the logical consequence of Article I, which rules environmental protection as a right. This is reflected in all the environmental management processes: private sector and NGO representatives sit on the board of CONAM, have been integrated in the decision-making process, and participate in the process leading to the preparation of environmental quality standards and emission standards.

2. *Obligation to submit a report on the state of the environment (Article 20).* This is an annual report presenting the technical environmental assessment of the state of the environment in the country, including measures adopted in order to put into practice the principles stated in the Code.
3. *Environmental impact assessments (Article 11).* For each new project or activity an environmental impact assessment is to submitted for due approval, with the information in it made widely available. Due to the public hearings system, this requirement has been fully implemented in mining and hydrocarbon activities.
4. *Right to take legal action without having a direct moral or economic interest but in defence of the environment (Article III).* This right is restricted by Article 82 of the Civil Proceedings Code (1993) which rules that only the Ombudsman and non-profit associations or institutions may intervene or participate in cases where no direct interest can be ascertained, provided it is lawful or a judge considers they are rightly entitled to do so. This has been perceived by civil society as a limit on the legitimate right to submit lawsuits in accordance with the Environmental Code.
5. The 'polluter pays' principle is enshrined in the Code in two ways: (a) polluters have to pay prevention, surveillance and control costs; and (b) they have to pay restoration costs and compensation for environmental degradation. Nevertheless, further analyses show there are some difficulties in practicing this principle.

The fact that prevention, surveillance and control costs are covered by polluters is rejected by Article 24, which states that 'surveillance and control of activities entailing risk to the environment will be financed with the resources the state shall provide for it and those it may collect via fines charged by competent authorities'. In the light of this, only enforcement measures would provide the financing required, thus contradicting the OECD principle according to which costs incurred in the prevention and fight against pollution should be financed by offenders. Since the Peruvian Code is a 'pre-Rio' legal instrument, it did not incorporate the precautionary principle, which states that lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

12 Note that the Code has a double numbering system: Roman for principles, and Arabic for the rest of the articles.

Concerning environmental liability, legislation in almost all countries incorporates provisions for criminal, civil and administrative responsibilities stemming from environmental damage. For civil liability the Civil Code provisions do not explicitly refer to environmental damage. However, non-contractual civil liabilities, as defined in Articles 1969 and ff, are considered applicable. Civil liability is based on two main pillars: fault-based liability,[13] and responsibility for strict liability. The civil liability system for induced risk is incorporated in Article 1970 of the Civil Code, which states: 'He who through a risky or dangerous good, or the practice of dangerous activities, causes a damage to someone must mend it.' The main feature of the system is the obligation to mend the damage done, regardless of the reasons that may have caused it, or how anyone benefited from it.

At present, there is no court precedent on the interpretation of the 'polluter pays' principle enshrined in the Code for the Environment and Natural Resources, and clarification in this matter is much needed. However, the Peruvian legal system is not based on judiciary precedents. The main problem is that the Civil Code has an individual focus, while environmental damages normally have no identifiable affected individuals who could receive an indemnity. The burden of the proof is the responsibility of the offender in the fault-based liability. Here the Civil Code does not refer to the damage things may cause intrinsically, thus leaving out of the regime damages caused by hazardous wastes after its final disposal, as well as those caused by tailing dams after mine closure.

As regards criminal liability, the 1991 Criminal Code incorporates environmental provisions (Articles 304 to 314)[14]. The prerequisite for the public prosecutor and the judge to initiate the case is to have a technical report issued by the environmental protection authorities.

Article 307-A of the current Criminal Code punishes illegal entry of wastes classed as hazardous or toxic by the pertinent legislation, regardless of whether it is permanent or in transit. The plaintiff could become the civil party in a lawsuit and claim an indemnity for damages. It is also possible for the civil action to become a separate but concurrent action, but in a case like this the party should refrain from being the civil party in the criminal action.

13 Civil Code Article 1969 states: 'He who due to fraud or negligence has caused a damage is obliged to pay an indemnity. It is up to the defendant to file a plea for absence of fraud or non negligence.'

14 Article 304 of the Criminal Code reads as follows: He who would violate environmental protection regulations, discharging solid, liquid or gas wastes, or any other above the limits set, causing harm or disturbing flora, fauna or fishing resources, shall be imprisoned for no less than one and no more than three years, or receive a 180 to 365 days fine. If the agent acted under instructions, then the punishment will be not exceed one year of imprisonment or 10 to 30 days of community service.

In the case of administrative liability, evidence of environmental offences is the responsibility of the specialised offices of each ministry. Demonstration of the offence and accusing someone of it is the duty of those who oversee enforcement of environmental legislation. Presumption of innocence is enshrined in Article 2.24. e of the Constitution.

Environmental damages could be punished twice, by the administrative authority and by the judge (either civil or criminal). Article 117 of the Code for the Environment and Natural Resources states: 'Administrative responsibility found in the due proceedings is independent of civil or criminal responsibility arising from the same events.'

CONAM, acting in its capacity as highest national environmental authority, is the final administrative instance in two cases: when it sanctions directly, and when jurisdiction disputes among sectors arise for the application of administrative sanctions.

3.7 Institutional framework for the environment

Instead of a Ministry for the Environment, the government created CONAM as Peru's highest environmental authority; its work started in November 1995. CONAM's main function is to steer the following processes: setting environmental standards, environmental impact studies, territorial planning, as well as the national environmental information system and the national environmental management system. CONAM reports directly to the Presidency of the Ministerial Cabinet. Each ministry has an environmental affairs office or unit which co-ordinates with CONAM, its functions being to submit proposals for emission standards, approve environmental impact studies, and resolve administrative procedures.

The key problem to be taken into account in the long term is the strengthening of these environmental units, many of which are not well placed in the organisational structure of the ministries, except for the Ministry of Health, which has a General Directorate for Environmental Health. Another problem is environmental jurisdiction overlapping on occasion – water is the most obvious example, with many units claiming jurisdiction.

The designers of CONAM explicitly rejected the idea of a Ministry for the Environment in order to promote the institutional strengthening of the environmental agencies within each Ministry, with CONAM acting as the main interministerial co-ordinator and facilitator. The aim is a common policy vision for sustainable development and the quest for a consensus in the establishment of environmental controls such as the environmental quality standards and the emission standards.

3.8 The environmental impact assessment and its relevance to the CDM

The National System for Environmental Impact Assessment Act (27446/2001) creates the public national system of identification, prevention, supervision, control and mitigation of the negative impacts caused by human actions in the context of specific investment projects. The Act states that any investment project (public or private) that involves activities, buildings or facilities that could cause negative environmental impacts must have an environmental certification previous to its operation. The environmental certification is contained in an administrative resolution issued by the competent authority approving the environmental impact assessment (EIA). The Act has three categories of such projects:

- Category I implies an environmental impact declaration. It includes those projects that will not entail significant environmental impact.
- Category II, demanding a half-detailed EIA, includes projects that could generate moderate effects and whose negative impacts could be avoided or minimised through measures easily taken.
- Category III includes those projects which could lead to significant negative impacts, requiring a deep analysis to review its impacts and propose a management strategy.

This Act will enter into force once the regulation is passed. Currently, only the different Ministry provisions for EIA will apply, namely mining, energy, industrial processes and transport infrastructure.

Mining sector provisions

EIAs must be undertaken for mining activities related to exploitation of mines and for expansion of activities or facilities by more than 50%. The contents shall include the following aspects: natural, biological, physical, socio-economic and cultural in the area of influence of the project, in order to determine the existing conditions and capacity of the environment, analysing the nature and magnitude of impacts, and indicating measures to control or prevent them. The precise content of the EIA is given in Annex 2 of the regulation for the protection of the environment for mining activities. Official guidelines are available.

The Ministry of Energy and Mines has 120 calendar days to approve the EIA; once this deadline is passed without any notification of comments or enquiries, the EIA shall be regarded as denied. According to the regulations of public consultation and citizen participation, public hearings are held as part of the evaluation procedure to approve an EIA. The Ministry of Energy and Mines must assure that the project owner makes available two electronic copies and a printed version of the EIA or the declaration of environmental impact, providing also a summary, to the Environmental Unit of the Ministry of Energy and Mines, the Regional Directorate

of Energy and Mines, and the municipality of the place where the public hearing will take place. The public hearing is announced in the official legal journal and in a local journal with substantial distribution.

When a natural protected area is involved, the Ministry of Agriculture must issue a positive opinion.

Even when the Environmental Code provides that ongoing activities can be required to achieve an EIA, a special regime has been created for these cases, called PAMAs (programmeas de adecuación y manejo ambiental, or environmental management programmes).

Costs of the EIA

The costs of developing an EIA are difficult to estimate, depending as they do on the project characteristics. They vary greatly, and are estimated to be in the range of 0.01% to 1% of the total cost of the project. The costs include hours of labour, other expenses (travel, logistics, materials), and administrative load and utilities (accounting for some 40% of the total costs).

Public hearings must be organised for some EIA studies by the project developer. The costs vary with the number of people involved, as well as the number and location of venues. The include hours of labour, travel and daily allowance, logistics, and materials (copies for every participant). As an illustration, hearings for the Camisea project cost an average of US$1200-1800 each.

Government's costs for analysing an EIA depend on the size and type of project to assess, and on how many times a project has been observed by the responsible authority. Normally, the average time estimated for an approval of an EIA is between three and six months (after various communications with the company that presents the EIA). Costs include person hours of governmental officials and of specialised consultants, materials (photocopies, mailing, etc), administrative costs, and logistics (tickets, daily allowance) if a field trip is considered necessary.

4 The climate change process in Peru

For the first negotiations on climate change with the International Negotiating Committee before Rio, the Peruvian delegation was under responsibility of the Ministry of Foreign Affairs. There was no environmental authority in Peru until the end of 1994, when CONAM was created. In November 1995 CONAM began operations with a specific public budget, and in March 1996 the Ministry of Foreign Affairs delegated CONAM responsibility for the UNFCCC, Convention on Biological Diversity (CBD), desertification and drought, and for being the national focal point of the Global Environmental Facility (GEF). Peru for first time participated with environmental public officers in COP2.

In this context CONAM, as the national environmental authority, has being promoting a set of activities oriented to recognition of climate change as a process that affects the global environment and has potential local effects, and to its inclusion within the national environmental agenda. Since 1998 it has implemented a Climate Change Unit (CCU) that is in charge of generating knowledge and awareness on the different levels of CONAM's intervention.

CONAM has also being chairing the National Climate Change Commission, a technical consultative group that is in charge of coordinating the implementation of the Climate Change Convention. This Commission has 11 members from the public and private sectors, as follows:

- National Environmental Council (presiding);
- Peruvian Industrial and Entrepreneur Confederation;
- National Council of Science and Technology;
- National Institute of Natural Resources;
- Ministry of Economics and Finance;
- Ministry of Energy and Mines;
- Ministry of Production;
- Ministry of Foreign Affairs;
- Ministry of Transport and Communications;
- representative of universities;
- representative of NGOs.

The National Commission has been involved in many multisectoral efforts, including support to the development of the First National Communication and the elaboration of the National Climate Change Strategy.

In June 2001 Peru submitted to the UNFCCC Secretariat its First National Communication approved by a special session of the deputy ministers, which included the first GHG emission inventory (base year: 1994), the first approximations to

vulnerability studies regarding high mountain water resources and the impact of El Niño, and policies and measures that reduce GHG emissions.

On October 2003 through Supreme Decree, the Ministerial Cabinet passed the National Strategy for Climate Change. Every institution participating in the National Climate Change Commission (NCCC) has assumed a commitment to implement it. Its vision is as follows: Peru knows its vulnerability to climate change and has incorporated in its development policies and plans and adaptation measures responding to its adverse effects. Peru is a country whose population is aware of the risks inherent in this change and its global causes. It has also improved its competitiveness with a responsible use of its resources and its GHG emissions, without compromising its sustainable development. The general objective of the strategy is focused on two main issues:

- to reduce the adverse effects of climate change, through integrated vulnerability assessment and adaptation studies, that will identify vulnerable areas or sectors in the country, where adaptation measures and options will be implemented; and
- to control local pollutant and GHG emissions, through renewable energy and energy efficiency programmes in various productive sectors.

It is also important to mention that the Decentralisation Law has established a requirement for regional governments to formulate and approve regional climate change strategies.

CONAM is the first public institution to report publicly on its goals: presenting the results of environmental management against the agreed plans, and presenting future goals and results. The National Environmental Agenda for 2004 includes a number of goals related to climate change, as a priority within the national environmental policy. As part of the initial implementation of the National Climate Change Strategy, a project to strengthen national capacity to manage the impacts of climate change and air pollution is being developed and is in the phase of implementation. The first phase of this project, named Proclim, will last two years. Through Supreme Decree N° 095-PCM-2002, CONAM has been appointed as the designated national authority for the Clean Development Mechanism

5 The CDM process in Peru

5.1 Actions taken before the Marrakech Accords

5.1.1 Contribution to the negotiating process for the CDM

Peru contributed to the negotiations for the CDM, trying to make simple and equitable the complex issue of baselines. The Peruvian proposal was first submitted to the joint session of Subsidiary Bodies 1999, and in early 2000 it became part of the negotiation text on mechanisms. The proposal intended to help in setting a simple benchmark, based on the Annex I level of technological progress, aiming to simplify CDM baselines without harming environmental integrity and preventing the concentration of CDM projects in big developing countries. Other important objectives of the proposal were to design appropriate incentives for Annex I and non-Annex I Parties and place them on the desirable route to stimulate technology transfer. The application of the baseline was proposed to be for both JI and CDM, thereby assuring more equitable competition between these mechanisms. Another objective was to prize countries which could reduce their mitigation costs by a larger amount than less efficient countries.

The actual proposal consisted in the following: The amount of certified emission reductions (CERS) must be calculated using the average emission rate of Annex I parties for a family or type of project, compared to the rate of CDM project emissions. This baseline will give CERs or emission reduction units (ERUs) to all the projects that emit at a level below it. The baseline was dynamic and subject to review every five years. Take as an example a CDM project in Peru for electric generation with natural gas. The carbon intensity of this project is 160 tC/GWh. In 1997, the Annex I average for electric generation including natural gas, oil and coal was 310 tC/GWh (Enerdata 2000). According to the Peruvian proposal, the CERs emitted would thus be 150 tC/GWh.

<Table 7> CERs calculation using the Peruvian proposal. CDM project: Electricity generation using natural gas. Carbon intensity (tC/GWh). 1997

Annex I average (tC/GWh)1/		CDM project (tC/GWh)2/	CERs (tC/GWh)	
BL1: Natural gas, oil and coal	BL2: Natural gas		BL1	BL2
310	194	160	150	34

Sources: NRD-Link Software (2000); CONAM (1998)[15]

Once the proposal was submitted, in order to help in compiling the actual data, UNEP's Collaborating Centre on Energy and Environment supported research for two weeks in its facilities in June 2000. All the team working on climate change in the Centre helped the Peruvian delegation with the data search and made comments on the Peruvian baseline proposal. This work was very useful in order to clarify the advantages and disadvantages of the proposal. The proposal was taken into account during the negotiations in The Hague and included by Minister Jan Pronk in his last negotiating text as criteria for standardised baselines for small-scale projects.

5.1.2 Towards an expedited national project cycle

International negotiations for the CDM project cycle took time in order to ensure the environmental integrity of the Protocol while trying to make procedures as simple as possible. Only practice will prove the success of both aims. At the national level, a similar process must take place in each country to insert the decision process of a CDM project within existing investing authorisations at the sector and territorial level.

Peru has come through a process of privatisation of almost all public services, and one important lesson learned has been the need to provide investors with quick procedures for investment decisions. Relevant here is the idea of a 'unique window', meaning that all government issues can be covered through only one state authority – not an easy task, but useful for promoting investment.

CONAM is the first public office in Peru to have an ISO certificate. The special feature is that it has an integrated system including both ISO 9001 and 14001. A public institution achieving certification was intended as a concrete example to the private sector of working for the protection of the environment – on the understanding that businessmen are more willing to absorb practical facts rather than abstract ideas. After six years CONAM is still the only public institution that has the ISO certificate, but around 14 national companies have ISO 14000 certification.

In the negotiations to adopt the CDM modalities and procedures, before the Marrakech Accord, there were endless discussions on the transaction costs and the delays for project approval in developing countries, the need to have CERs which were as 'good as gold', etc. Recognising this, a decision was taken in Peru to develop a special procedure to assure potential investors of the following:

- national approval within 45 days;
- a transparent process with full private and public participation;
- efficient assessment of the project in terms of sustainable development;
- 'one window' submission and arrangements for the investor through CONAM;
- promotion of local stakeholder awareness of the project.

The most difficult challenges in meeting the above were the following:

- How to involve in a short-term approval process public institutions with their own pace and their own administrative procedures? Of main relevance were the typical sectors involved in CDM, such as the Ministries of Energy and Mines, Transport, and Agriculture. Moreover, these institutions were not fully aware of the complexities of CDM and the climate change process.
- How to establish the payment of fees without generating more transaction costs?
- How to elaborate the sustainable development criteria?

The commitment of third institutions was achieved through letters and meetings at the highest level, notably communications from the President of CONAM to each minister potentially involved in CDM projects, explaining the challenges and opportunities of climate change as well as the short-term benefits of potential CDM projects within particular sectors. Special efforts and support for a quick response to project requests within the CDM framework were asked for, the draft procedure was indicated, and comments sought. After two weeks, there were no comments or formal response to the draft procedure, and it was assumed that the ministries did not reject involvement in the procedure. As ISO procedures are voluntary, there was no legal risk of invading or violating administrative rules in the case of breaking the 45-day deadline, but this would endanger ISO certification, so CONAM had to make all efforts to comply with it.

It is important to note that at this stage there are no measures guaranteeing that project approval does not take a long time; however, the projects that have been so far approved were within the limit. CONAM might lose its ISO certification if does not comply with the deadline procedure, and ministries reporting to CONAM are therefore under pressure to comply.

CONAM must approve a project, but it needs formal opinion from the ministries involved and expert views. For this reason, the formal letter of approval from CONAM is backed up in the procedure by an ad-hoc committee of the project, comprising the competent ministry, an expert on the type of project, an expert on the specific EIA, representatives of NGOs and the private sector, the Foreign Affairs Ministry, FONAM, and others.

The fee structure was established on the basis of avoiding up-front costs in the first stage, delaying payment until the project is validated by the operational entity. The amount was established as 2% of the commercial value of the CERs at the time of validation. The assumption was that a quick procedure would have a small extra cost that could be recovered, with the advantages of avoiding administrative corruption or a long wait. Currently this no longer applies and there is no payment of fees; efforts are being made, however, to promote a small voluntary social investment in the influence area of the project.

The sustainable development criteria were included under a case-by-case analysis, which converges with the criteria approved later in Marrakech for the baselines, based also on a case-by-case assessment. However, some general criteria were established, including consistency with the national plans for environment, area planning (if available), and relevant ministerial policies and technology. This means that the project has to: (1) comply with EIA regulation; (2) be consistent with sectoral and national development plans (mines, energy, agriculture, etc); (3) be consistent with the national environmental agenda; (4) apply a proven technology; (5) take into account the needs of stakeholders and the local community.

The procedure establishes a 'national project cycle', with the following steps:

1. Submission of the request for CDM national approval.
2. A copy of the project and request for a formal report sent to the relevant authority.
3. Simultaneous notification for the Ad Hoc Committee meeting.
4. A visit to the project zone to get informed about the awareness of the local community.
5. An opinion from the Ad Hoc Committee stating whether the project contributes to sustainable development.
6. A letter of approval based on the committee's opinion.
7. Communication of national approval to the project participant and Executive Board.
8. Communication to CONAM concerning the validation of the project.
9. National project monitoring after registration by the Executive Board

The report asked for in step 2 is relevant, as it requires the information as to whether the type of project is legally obliged to have an EIA, and, if it is approved, an opinion that project activities are consistent with national and ministerial policy and applying a proven technology.

The visit to the project is made by CONAM to get evidence on the local stakeholders' opinions of the project. A report is prepared, checking that the project has a baseline, monitoring protocol and other details, without passing an opinion as to its contents. The procedure makes it clear that the procedure only concerns the element of contribution to sustainable development and the baseline; other important details are a matter of validation from the operational entity. The report must contain an opinion on whether the project contributes or not to sustainable development, based on the national agenda for environment and the domestic legal system.

All these reports serve the Ad-Hoc Committee debate for the session that passes opinion on the project. As the competent authority report is a key one, the only way to incorporate a committed attitude from third institutions was to include on

the committee representatives of the institutions on the National Climate Change Commission.

After applying the procedure for the first time (to a hydropower project) it became clear that a visit to the zone was important, as well as the chance for the Ad-Hoc Committee to meet with the investor in order to ask questions. The amount of work for the Committee was so substantial that the ISO procedure had to be changed and a formal requirement was included: the presentation of a project in the project design document (PDD) format, which assured that proper information was presented in an standardised way. Another lesson was that it was important to include in the Committee a representative of Proinversion.

A very important provision included since the first version of the procedure is the legal nature of the letter of approval. National approval has its full legal effect only when the operational entity validates the project, as it would not be desirable for national approval to be disregarded due to project inconsistencies concerning baselines or other issues. A format for the letter of approval is therefore part of the procedure.

5.1.3 Participation in the Prototype Carbon Fund

In 1999 the Executive Directors of the World Bank approved the establishment of the Prototype Carbon Fund (PCF), with the mission of pioneering the market for project-based GHG emission reductions within the framework of the Kyoto Protocol and to contribute to sustainable development. The PCF, with the operational objective of combating climate change, focuses on demonstrating the possibilities of public/private partnerships, and offers a 'learning-by-doing' opportunity to its stakeholders. The PCF pilots production of emission reductions within the framework of JI and the CDM. It invests contributions made by companies and governments in projects designed to produce emission reductions fully consistent with the Kyoto Protocol and the emerging framework for JI and the CDM.

Peru has participated in the PCF, with CONAM nominating FONAM as the focal point for the PCF in the country, after the signing of a memorandum of understanding between the World Bank and CONAM. FONAM has participated as a receiver of capacity building activities and organising, in coordination with CONAM, training activities in Peru. FONAM has attended PCF meetings and one of its staff has also taken part of the PCF internship programme. FONAM has gained important experience in promoting the opportunities of the CDM, as a financial mechanism that can help to secure investments in environmental projects. It has also gained experience in identifying potential projects, giving assistance to project developers and developing a project portfolio.

In July 2002 an international workshop, financed by the PCF, was held on 'Opportunities in the carbon market: CDM project formulation'. It was oriented to project developers, NGOs, and public and private organisations with the aim of

providing the theoretical and methodological instruments to take advantage of the CDM opportunities.

As a result of participating in the PCF programme, Peru has achieved and learnt the following:

Achievements

- Training 55 people in developing project idea notes (PINs).[16]
- Collecting different PINs from different sectors throughout the country.
- Experience in developing a training course, identifying speakers and potential teachers for CDM in Peru.
- Forming a closer relationship with the PCF.
- Learning of perspectives and achievements made by other countries that participate in the PCF.
- Two projects of seven projects presented to the PCF have been preliminarily selected: a hydro-electric project (49 MW), with an investment of US$50 million and an annual reduction of approximately 220 000 tons of CO_2e (CO_2 equivalent); and an umbrella project (six hydro-electric projects) of 64MW, with an investment of US$20.5 million, with a potential reduction of more than two million tons of CO_2e. The first one is at present rejected, because it has no water use permit.
- One hydro project (15.4 MW) has been approved by the PCF, with an approximate annual reduction of 46 500 tCO_2e. This project has been also approved by the DNA, and was part of the NSS Portfolio.
- A baseline study developed by the World Bank for the national electricity system (in preparation).
- Deeper knowledge of complementary funds: Community Development Carbon Fund, Bio Carbon Fund and Carbon Fund Assist
- A deep knowledge of the CDM cycle.
- Getting to know consultants in developing CDM projects and certain brokers.

15 See the annex of the Peruvian proposal for further information.

16 A PIN consists of approximately five pages providing indicative information on: the type and size of the project, its location, the anticipated total amount of GHG reduction compared to the business-as-usual scenario, the suggested crediting life time, the suggested CER price in US$/ton CO2eq reduced, the financial structuring (indicating which parties are expected to provide the project's financing), socio-economic or environmental effects/benefits of the project. It is an optional previous step before developing a PDD.

Lessons learnt:

- It is important to check national permits before developing a CDM project.
- It is necessary to identify buyers other than the PCF.
- A project that is approved by the PCF will not be necessarily approved by the Executive Board.
- A buyer looks for projects which has its financing ensured and its feasibility study ready.
- More capacity building is required to develop good projects.

5.2 The process after the Marrakech Accord

5.2.1 Protocol ratification and designating the national authority

The process of ratification of the Kyoto Protocol was initiated in March 2001 with a communication and legal report from CONAM and the Ministry of Foreign Affairs. Formal letters were sent to all relevant ministries, including all the institutions represented at the National Climate Change Commission.

The formal process to ratify an international treaty is as follows:

- A formal request comes from the competent authority, explaining briefly the objective of the treaty, the problem and the advantages for Peru; a bigger legal report is attached with the original copy of the treaty. It is useful to indicate how many countries have ratified so far.
- Foreign Affairs asks associated institutions to offer an opinion.
- Foreign Affairs asks for internal reports within Foreign Affairs, and finally issues a Ministerial Resolution which sends to the Congress the text of the treaty and all the opinions that have been offered.
- Congress will normally send the report to the Congress Commission on Environment and the Congress Commission on Foreign Affairs.
- Having both Commission reports, the Congress at the plenary decides whether to ratify or not.
- In case of ratification, the official legal journal publishes the Legislative Resolution from the Congress; thereafter the text of the treaty is published in the journal.

For the Kyoto Protocol ratification, the time-consuming part of it was the process before the issuance of the Ministerial Resolution sending the Protocol to the Congress. By that time the US rejection of the Protocol had already been announced and the Congress acted quickly. CONAM made special presentations to the Congress Commissions within the context of the Johannesburg Summit.

A national authority for CDM is designated after ratification of the Protocol, as participation requires this step. After the ratification of the Protocol in Peru, CONAM prepared a Supreme Decree draft to be appointed as the national authority for CDM. SD N° 095-2001-PCM was passed, appointing it as the national environmental authority because it was the focal point of the UNFCCC; the experience gained in the national communication process and in the negotiation process for CDM; its authority chairing the NCCC; and its responsibility for the ISO procedure on CDM projects.

5.2.2 The National Strategy Study contribution to the national strategy for CDM

The process that has been developed around the CDM in Peru has provided many inputs for what is now called the National CDM Strategy. During the last few years, institutions like CONAM, FONAM, CONCYTEC (Science and Technology Council) and CET (Centre for Technological Efficiency) have been directly involved in a 'learning-by-doing process', and in the activities described in previous sections. Based on this learning experience, it was necessary to establish a national strategy for CDM and identify the potential projects that the country could supply to the carbon market. The NSS (National Strategy Study), financed with Swiss cooperation through the World Bank, has enormously contributed to this process.

One of the main tasks of the NSS has been to propose a 'sustainable' institutional arrangement for implementing CDM in Peru. The issues identified as crucial for the strategy were to identify potential actors to participate in the strategy, and to clearly define the role of the DNA in strengthening its role. The new institutional framework is based on the following:

- The DNA will focus on the process of approval and registration of CDM projects.
- A specialised office in promoting private investment should be in charge of CDM promotion: Proinversion.[17]

The rationale for this framework includes the following points:

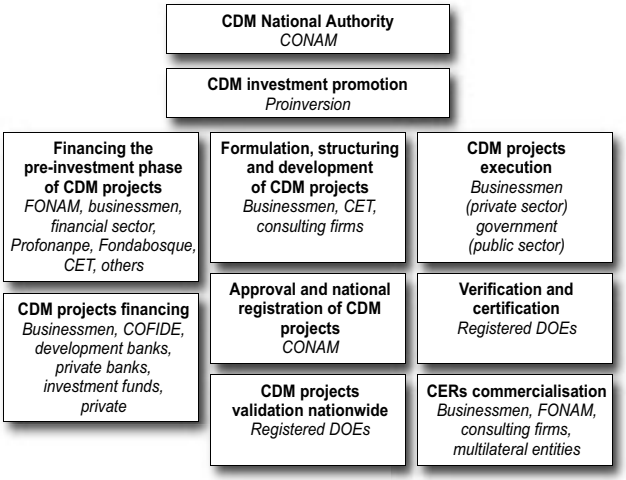
- Private investors are used to dealing with private companies or investment-promoting agencies.
- There must be independence and specialisation with regard to project approval and registration.

17 Proinversion, as an institution that depends on Ministry of Economy and Finance was created by Supreme Decree N° 027-2002-PCM (25 April 2002), with the aim of promoting private investment to improve Peru competitiveness and its sustainable development. Its Steering Council comprises the Minister of Economy and Finance, the Minister of Transport and Communications, and the President of the Ministers Cabinet.

- There is a need to take advantage of the specialisation in promotion and coordination with local and international market agents.
- Political support is important in making the CDM more effective.

Figure 4 shows the proposed institutional framework. The functions of its components are discussed below.

<Figure 4> The Peruvian CDM institutional framework



5.2.3 CONAM

General roles

- Designated national authority.
- Leads and coordinates CDM project evaluation and approval.
- Presides over the NCCC.

Specific roles related to CDM

- To follow up on CDM national strategy implementation.
- To promote and regulate national and international regulation in relation to the CDM.
- To implement CDM Project approval procedure (ISO P-34) and its continuous improvement.
- To register CDM activities in the country (CER transference and property of every project).

- To support the spreading of CDM information to create local capacity for the development of the national designated operational entity (DOE) and to improve the project portfolio.
- To participate in international negotiations and to comply with CDM-related international procedures.
- To coordinate the necessary actions to overcome barriers for the implementation of CDM.

5.2.4 Proinversion – the investment promotion agency

General role

- Coordination of CDM project investment promotion.

Specific roles related to CDM

- To include CDM opportunities in the 'National Investment Plan' and in its national promotion strategy design.
- To promote the CDM project portfolio nationally and internationally.
- To facilitate communication between the different actors in CER production.
- To administer a database with relevant information about investors, CER buyers, project developers, DOE, capacity building institutions, status of international negotiations, etc.
- To lead information dissemination to investors, entrepreneurs, professionals, and the general public.
- To strengthen national capacity building through the coordination of programmes to build capacity to formulate CDM projects, create DOEs, and to promote investor participation in the carbon market.
- To coordinate with other institutions (FONAM, PROFONAMPE (National Fund for Natural Protected Areas), FONDEBOSQUE (Forestry Development Promotion Fund), CET, etc) to get funds for capacity building and awareness activities.
- To implement different activities to overcome barriers.
- To represent the private sector position in international negotiations as part of the Peruvian delegation.

5.2.5 Barriers

The main barriers identified for implementing the CDM in Peru have been a lack of CDM awareness and capabilities, limited financing for the pre-investment and investment phase, and high transaction costs. The strategy has been oriented to these barriers; solutions are indicated in Table 8.

<Table 8> Overcoming barriers to implement the CDM in Peru

Strategy to overcome barrier	Action/goal
To spread information on the CDM and its opportunities	To inform Peruvian businesspeople about the CDM. (At least one in three of those able to perform GHG emissions reduction is familiar with the CDM concepts six months after the CDM Promotion Office started operations).
	To inform local financial firms on the investment opportunities associated with the CDM. (Two of every five investment officers is familiar with the financing of CDM projects and CER commercialisation).
Local capacity building to bring down transaction costs and improve access to pre-investment resources for CDM projects.	To build and strengthen local capabilities to formulate, structure and finance CDM projects a year after the CDM Promotion Office started operations. (At the beginning composed of at least 20 local professionals: five from industry, three from energy, two from waste management, six from agroforestry, and four from transport.)
	To build and strengthen institutional capabilities to profit from the CDM a year after the CDM Promotion Office started operations. (At least three private institutions with local presence accredited as DOEs are able to verify and/or certify CDM Projects.)
	To promote the financing of the pre-investment phase of CDM projects. (At least two projects of every ten secure funds to finance their pre-investment phase during the first year of operation of the CDM promotion office).
To ease the transfer of capital and technologies .	To complete the legal framework to regulate CDM operations
	To offer an enabling environment for CDM projects, easing their development, financing and execution. (Two of every ten CDM projects, presented before the CDM National Authority, accessed domestic and international resources within the first year of the CDM Promotion Office operations)
	To promote the closing of CERs purchase deals.

As part of the main tasks of the NSS, a preliminary project portfolio[18] was developed by national consultants, with the support of international experts. Twenty five projects have been identified, with a potential of 36 millions of CO_2e emission reduction in ten years, from all sectors: energy, industry, transport, solid waste, and sinks (LUCF). Three of the projects have a feasibility study, nine a pre-feasibility study, seven a project profile[19] and six a project idea[20](The preliminary project portfolio is given in Annex 1).

18 This preliminary project portfolio is at the present under review, and should be used only as a reference of a first approximation of GHG reduction projects supply in Peru.
19 Project profile: Information on a project that needs further development to assess whether it is feasible and additional.
20 Project idea: An idea for a project that could be implemented, but has no specific project owner.
21 This letter of approval is given to the project owner (or whoever presents the project to CONAM for national approval) and also to the CDM Executive Board.

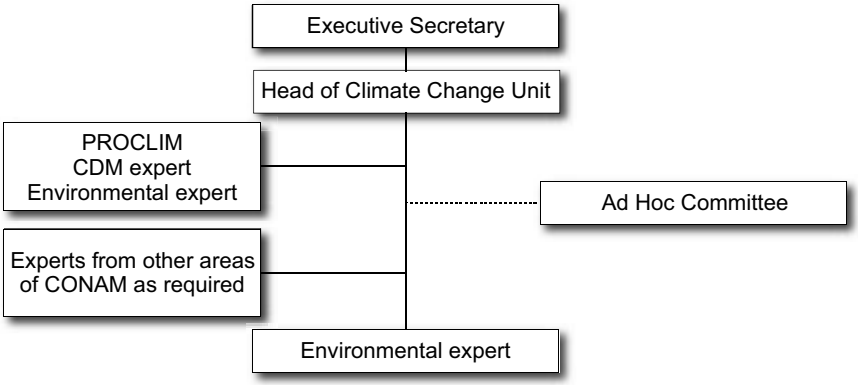
6 Operationalisation of the designated national authority in Peru

6.1 Composition and structure of the DNA

As stated before, CONAM has been appointed as the DNA for the CDM, to establish the regulations needed for the application of the CDM in Peru and to sign agreements for its promotion. Its main role is the evaluation and approval of CDM projects and the production of an annual report. As the national environmental authority, it monitors national environmental policies, programmes and plans. An important role, therefore, is to follow up the implementation of the CDM National Strategy. The promotion of the CDM and the role of the DNA may imply some conflict of interest, so CONAM delegated this task to Proinversion.

The composition of the DNA is simple and flat (see Figure 5), and takes advantage of the national environmental management system, which is based on the performance of multisectoral and multidisciplinary teams conformed by CONAM and other institutions. The DNA is structured and functions as follows. CONAM's Executive Secretary has delegated the operation of the DNA to the Head of the Climate Change Unit. The Unit comprises a Head, and an environmental expert. It also gets the support from the Climate Change Cooperation Programme, Proclim, which has assigned two experts to help implement the National CDM Strategy. If necessary, expert from other areas of CONAM can be called to support the evaluation.

Figure 5: The present structure and functional mechanism of the DNA



Ensuring that the project that is being evaluated and approved contributes to sustainable development is done through an interministerial and multisectoral Ad

Hoc Committee, composed of:

- a representative from the governmental sector to which the project belongs;
- a representative from FONAM;
- a representative from the private sector – a member of the NCCC;
- a representative from the NGOs – a member of the NCCC;
- a representative from the Peruvian International Cooperation Agency;
- a representative from the Ministry of Foreign Affairs;
- a representative from Proinversion;
- head of the CCU;
- a maximum of two EIA sectoral experts;
- a maximum of two other experts.

The structure of the DNA suffices for now, since the volume of projects being delivered for approval is not high, and they have not been unusual in nature. It is important, however, to consider that if the number of projects grows the present structure might prove inadequate. In that case, a possible solution would be to, first, contract some ad hoc experts for the evaluation of the projects; second, to charge a fee for evaluating the project, depending on its size and complexity (taking into account the goal of lowering transaction costs), so the experts' fee can be paid without affecting the institution's own budget.

6.2 Financing the DNA

The table in Annex 2 gives an approximation of the cost for approval of a CDM project, based on an exercise of assigning value to the times and services provided for this task. This calculation is based basically on the time used to approve a project, taking into account every step of the Peruvian process. It has been also estimated not only for the DNA, but also for the other institutions involved in the process; these costs are assumed by them. The cost of approving a CDM project is approximately US$4 800, 67% of which is assumed by the DNA, and the remainder by the Ad Hoc Committee institutions (person hours spent in evaluating the projects). Figures are based on the following:

- Unit: the value of a working day of eight hours, the value of a service per day of eight hours.
- US$/unit: the value per day for a working day or a service per day. These amounts are rough estimates, and should be taken only as a reference.
- It is important to clarify that the estimated costs of the working days are part of the regular payment of experts or officers of each institution – they do not represent a cost extra to normal institutional activities.

At present, DNA is financed by the budget allocated to the CCU and the institutions that form the Ad Hoc Committee. The Proclim programme also helps the CCU in the evaluation of projects, if requested, as other experts from CONAM would do. No extra budget has been allocated to CONAM to approve CDM projects at a national level, since the volume of projects can be combined with their normal activities. In brief, the DNA is financed by governmental resources.

Initially it was expected that a percentage of the CERs would be allocated to financing the DNA operation, but various factors prompted reconsideration. Firstly, CDM transaction costs are already very high, making it more difficult for them to compete with other mechanisms. Secondly, the estimated number of projects to be approved in a year is not excessive. Thirdly, since many institutions were handling different parts of the strategy, it was necessary for the DNA to focus mainly on legislation and approving projects, and on coordinating the CDM strategy – rather than executing it. In that sense, a CCU financed by government and with sufficient technical expertise and experience to push this forward has been selected to coordinate the implementation of CDM in Peru. Since more resources are normally needed at the initial steps of implementation of the CDM strategy, project personnel help the CCU to perform its tasks.

6.3 Problems encountered and solved

The implementation of the CDM and operation of the DNA in is still proceeding in Peru. Many problems have been encountered in implementing and improving procedures for approving the CDM, operating the DNA and creating awareness among different actors to take advantage of the new opportunity. Some solutions have been already implemented, some only identified, as indicated in Table 9.

<Table 9> Problems and solutions relation to the CDM and DNA

Problems encountered/ Potential problems	**Solution found or in progress of implementation**
Lack of awareness of the CDM	Workshops with banks, public and private sector organised. The CDM strategy has been revised by several sectors and presented to Vice-Ministers' Cabinet. The CDM has been presented to public and private decision- makers, including members of Congress.

Problems encountered/ Potential problems	Solution found or in progress of implementation
Lack of institutional resources for developing, Promoting and approving CDM projects	CONAM has been promoting and structuring CDM projects, to learn from experience and ensure that CDM is incorporated as an opportunity for investors in Peru. A CDM strategy has been developed, receiving support by the World Bank, through the NSS programme, where responsibilities among a wider variety of actors (on the basis of its capabilities and potentialities) has been assigned, so CONAM can concentrate on its role as the DNA. Initial steps have been identified in the strategy and, since national funds are not enough, the support of international cooperation projects has been incorporated. Proinversion is being incorporated into the project approval cycle and given the responsibility of promoting the CDM, as part of the benefits project developers can have (CDM can add value to projects). The agreement is in the process of approval.
Projects were presented in different formats and too much effort was put in evaluating them	The PDD format developed by the Executive Board was incorporated as part of the procedure. A list of national documents will be added to the procedure too (environmental impact assessment approval).
Government of Peru should not be liable for a non compliance on the amount of CERs to be agreed	A text is being added to the standardised national letter of approval to clearly indicate that the Government of Peru is not liable for the compliance of the amount of CERs to be agreed.
Project developers not taking into account local stakeholders needs	As part of the procedure, an expert from CONAM visits the project site and interviews local stakeholders to assess its involvement in the project. The report of this visit is part of the documents analyzed by the Ad Hoc Committee. In the cases evaluated so far, the project owner has presented plans to contribute to the quality of lives of local stakeholders.
To ensure an integrated evaluation and how to finance it	The establishment of an ad hoc committee. The evaluation is a thorough and integrated one, and is covered by the current budget of national institutions. When the number of projects presented increases, a fee for the evaluation will have to be charged, without increasing transaction costs.

7 Conclusions and lessons learned

Peru's experience in preparing to take advantage of the opportunities that the CDM market will present could be of relevance to other countries interested in making use of the mechanism. A selection of conclusions and recommendations, coming out of the Peruvian experience, is given below.

1. It is important to be clear that CDM market is under 'construction' and that some rules are still to be established. An efficient institutional framework to promote CDM is a key issue, and even small countries can attract CDM investment if the institutional arrangements are adequate and well known. There are no certain figures about demand and supply, nor enough knowledge on who will be the actual participants, how sensitive prices will be, etc. As an emerging market, there are many uncertainties for the project developer and the investors, but those who take the risk are in the position to take advantage of the opportunities of this mechanism.
2. As the CDM is mainly a private sector decision for investment, the private sector must be involved from the outset. As each country has sustainable development criteria, it is important also to involve universities and other research institutions, NGOs and relevant national public institutions involved in technology transfer, poverty alleviation, national planning, risk management and private investment promotion. Nevertheless, it is desirable to keep compliance with national environmental regulations and sectoral planning as simple as possible, or the process of approval could be very complicated.
3. The financial sector is a key actor to promote CDM at the local level. Given the uncertainties, it is strategic to link CDM projects with private investment portfolios, as well as international cooperation portfolios.
4. The CDM is the most complicated and expensive of the Kyoto mechanisms. Levels of transaction costs have a slight influence on prices and thus a large influence on benefits. Hot air to be sold through emissions trading does not have to pay any transaction costs, because no project has to be formulated and no expensive legal contracts have to be drafted. It is clear that the process of approval at the international level is complicated.
5. The appointment of the DNA must be a reflective process that depends on the character of national institutions. It is important to have political support at high level, as the real situation of CDM must be explained in the national and international contexts. The private sector, financial sector, academia and NGOs must be involved in the process. The DNA must have some policy-making ability as well as technical support in it – at least the disciplines of economy, science and law. Due to the complexity of climate change issues and the CDM particularly, it must be considered that possibly the Foreign Affairs department is not ideal as the DNA – but the situation will vary from country to country.

6. If developing countries want to take advantage of the CDM and give incentives to the private investors to consider this mechanism as a useful option, the DNA should establish a simple and clear procedure to give national approval (as making a contribution to sustainable development) to projects in the fastest way possible. In doing so, the DNA should try take into account the following points:

   • An efficient, fast, high quality and low-cost administration that manages GHG projects with sustainable development components is a good formula to follow.

   • Short approval times are desirable, and there should be simple steps to handle projects.

   • Identify all the risks for local investors and implement an action plan to overcome them.

   • The clearer the criteria, the less risk encountered by the project promoter, so it is important to design a 'national project cycle'.

   • The more requirements made of project developers, the higher the transaction costs and the less the incentive to participate in the CDM.

   • Follow the evolution of parallel markets (complementary options to the Kyoto Protocol). Even though these markets are small on a global scale, for Peru, for example, they represent an important demand.

   • How much is offered is less important than its quality. It is important to position the country as a good project developer with effective institutional arrangements for approval.

7. When formulating the national institutional arrangements for the CDM, it is important for effectiveness to keep the roles of the DNA focused. The core tasks could be to promote and regulate national and international regulations related to CDM, and to implement CDM project approval procedure and its continuous improvement.

8. CDM promotion is a core activity, but this demands time and expertise. It is important to identify actors who can develop these tasks efficiently, and are familiar with private investment in the country. The CDM is a mechanism that, adding value to investments, contributes to sustainable development; a CDM project is an investment project that also reduces GHGs. The carbon component is another step in the project development that should be taken, to get extra revenues. In Peru, Proinversion will assume this important responsibility, using the experience gained by CONAM and the National Environmental Fund.

9. The DNA has a twofold purpose: to establish the institutional setting and arrangements for the national project cycle, and to approve CDM projects. It is important that, in the first phase of implementing CDM in a country, the DNA be the 'seed' institution to promote a fast implementation of CDM and incorporation of different actors. But this should be delegated once the path has been marked.

10. Formulas for financing the DNA should be analysed. Some of the costs should be borne by the government, to assure sustainability of the process. The option remains whether to finance it with a percentage of the CER revenues (in which case transaction costs will be higher), or develop an institutional arrangement within the governmental institution, with technical and multi/intersectoral support groups. In finding formulas to finance the DNA, it is important to take into account the actual demand for project approval, and design a strategy to expand the DNA structure as CDM implementation grows.
11. There might be a conflict of interest between the DNA both approving and promoting projects. To avoid this, a different institution should promote specific projects at the national level. Nevertheless, at a first stage of implementation, the DNA should intervene in or control promotion activities, to ensure that the CDM is being understood by the greatest possible number of potential project developers and investors and that the message sent to them is the right one.
12. There is some information that project developers should be particularly aware of:

    • It is a market. The buyer will invest in a small-risk, well developed project. The buyer needs to have the CER for which the project was sold. In this regard, it is recommendable that a level of uncertainty is introduced in the number of CERs, or that 70-80% of the expected CERs are offered – if 100% is achieved, those CERs can be afterwards negotiated.

    • Additionality is evaluated in a case-by-case study. In this sense, the baseline scenario has to have good references and be creative to explain additionality. When developing and implementing the project, the owner should keep all registers of compliance.

    • It is important to follow closely the outputs from the Executive Board methodology evaluation. In doing so, the project developer can avoid repeating the same mistakes others have.
13. Some other issues that are being evaluated by the Peruvian DNA as possible potential parts of the national project cycle are the following:

    • The usefulness of including a PIN within the national approval procedure: on this basis the DNA could pre-evaluate projects, so the project developers do not waste time and money developing an idea that would not be accepted. This step would be optional for project developers. It has to be taken into account that this creates an additional burden to the DNA.

    • The usefulness of establishing an additional format to the project design document established by the CDM Executive Board in order to standardise and simplify the evaluation and approval national process. This format could include national requirements, such as EIA approval through a public hearing, and a local stakeholder consultation.

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Appendix 1: Project portfolio of Peru

	Project name	GHG emission reduction (TM CO_2e,10 years)	CO_2e revenues (US$)	Investment (US$)
Energy sector				
01[a]	Electric Plant Bagasse (Paramonga)	770 000	3 080 000	10 600 000
02 [a]	Hydroelectric Plant (Minera Norte)	500 000	2 000 000	8 900 000
03 [c]	Rural electrification (Tocache – Bella Vista)	840,000	3,360,000	15,100,000
04 [c]	Hydro electric plant (Tarucani)	2,228,000	8,912,000	42,000,000
05 [c]	Hydro electric plant (Poechos)	453,470	1 813 880	16 500 000
06 [c]	Hydro electric plant (Huanza)	2 200 000	8 800 000	98 900 000
07 [b]	Gas-electric plant (Ilo)	2 000 000	8 000 000	100 000 000
08 [b]	Additional demand for gas (North branch)	1 900 000	7 600 000	115 000 000
09 [a]	Hydro electric plant (Quitaracsa)	500,000	2,000,000	75,856,000
10 [d]	Closing of 9th pump station – Nor Peruvian oil pipeline – Olmos	256,770	1,027,080	44,200,000
11 [d]	Eolic Park (Malabrigo)	40,000	160,000	10,000,000
Sub total: energy sector		**11,688,240**	**46,752,960**	**537,056,000**
Industrial sector				
12 [a]	Increase of 1% puzzolane in cement	1 070 000	4 280 000	320 000
13 [c]	Energy efficiency in boilers	170 000	680 000	5 000 000
14 [a]	Methane re- injection (Talara)	146 000	584 000	726 000
Sub total: industrial sector		**1 386 000**	**5 544 000**	**6 046 000**
LUCF sector				
15 [a]	Forestation for wood products (Selva Central)	487 292	1 949 168	13 861 500
16 [a]	Reforestation with native species for industrial processes (Selva Baja)	364 000	1 456 000	1 351 000

	Project name	GHG emission reduction (TM CO_2e,10 years)	CO_2e revenues (US$)	Investment (US$)
17 [b]	Reforestation with native species (San Martín)	671 913	2 687 652	14 810 700
18 [b]	Forestation in arid zones (Costa Norte)	547 038	2 188 152	15 360 700
Sub total: LUCF sector		**2 070 243**	**8 280 972**	**45 383 900**
Solid waste management projects				
19 [a]	Wastes Lima City	10 160 000	40 640 000	2 000 000
20 [d]	Wastes Huancayo	702 560	2 810 240	1 540 000
21 [d]	Wastes Chiclayo	975 000	3 900 000	2 140 000
22 [d]	Wastes Arequipa	1 550 000	6 200 000	3 420 000
23 [d]	Wastes Huaraz	136 250	545 000	320 000
Sub total: waste sector		**13 523 810**	**54 095 240**	**9 420 000**
Transport projects				
24 [b]	Ethanol in gasoline	2 827 653	11 310 612	30,000,000
25 [a]	High capacity exclusive way for Lima Public Transportation	4 077 969	16 311 876	126,000,000
Sub total: transport sector		6 905 622	27 622 488	156 000 000
Total (25 projects)		35 573 915	142 295 660	753 905 900

Notes: a) Pre-feasibility study.
b) Project profile.
c) Feasibility study.
d) Project idea.

Institutional Strategy to Promote the CDM in Peru aims to show how Peru has designed an institutional strategy to promote the CDM under a "national project cycle" inspired by and complying with the international rules for the CDM. The description of this process might be useful to those interested in the experiences of other countries in order to find its own way of institutional arrangements.

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