

1. CDM investment climate index: regional comparison

CDM investment climate index (CDM ICI) - Latin America January 2007 (excerpt)

Rank	Country	CDM ICI (max. 100 pts)	Regional classification
1	Chile	93.6	Very good climate
2	Mexico	87.6	Good climate
3	Brazil	83.3	Good climate
4	Colombia	78.5	Good climate
...
7	Peru	72.7	Satisfactory climate
...
28	Haiti	22	Unsatisfactory climate

Source: DEG - Deutsche Investitions - und Entwicklungsgesellschaft mbH
(For calculation method see www.kyoto-coaching-cologne.net)

The CDM ICI measures the investment climate for CDM projects. It can range between 100 points (highest) and 0 points (lowest). Altogether, the climate is rated as 'satisfactory' in Peru, placing it at Rank 7 in Latin America as before. The CDM index rating for Peru has not changed substantially since spring 2006.

2. General climate for foreign investments

General economic data 2005	
Population:	approx. 27.9 million
Nominal GDP:	US\$ 79.4 billion
Per capita GDP:	US\$ 2,841
GDP growth (real):	+6.4% (2004: +5.2 %)
Consumer prices:	+1.6% (2004: +3.4%)
Goods exports (fob):	US\$ 17.1 billion
Goods imports (cif):	US\$ 12.5 billion
Foreign direct investments:	US\$ 2,519 billion
Foreign debts (end of 2005):	US\$ 28.7 billion (gross)
Foreign exchange reserves held by the Central Reserve Bank (30 July 2006):	US\$ 15.2 billion
Exchange rates (31 December 2006):	US\$ 1 = S/. 3.197; EUR 1 = S/. 4.211
Country credit rating by Institutional Investor (September 2006):	49.4 out of 100 points (Rank 68, -3.9 points on previous year)
Corruption Perceptions Index 2006 (Transparency International):	3.3 out of 10 points (10 = free of perceived corruption)

Locational advantages:

Good macroeconomic record (real GDP growth at more than 5%, keen investment activity, high (raw-material) exports, increasing domestic demand at moderate inflation, etc.), resource and raw materials wealth, open market with favourable conditions for foreign investors

Locational disadvantages:

Very susceptible to disruptions from outside (copper, gold and zinc prices as well as weather conditions), heavily dependent on the US economy (trade relations and US\$ rate), high unemployment and widespread poverty (particularly amongst the rural population beyond the coasts)

3. Specific climate for CDM projects

3.1 Ongoing and planned CDM projects in the country

Up to mid-December 2006, three projects from Peru had been registered with the CDM Executive Board (EB), the UN body for the international approval of CDM projects. These all involved run-of-water power stations. World Bank carbon funds had agreed with the owners to purchase emissions reductions worth a total of US\$ 1.8 million. According to World Bank information, the EB is also set to register the Huaycoloro landfill gas project by February 2007. The Bank has already signed a contract on this to buy the equivalent of 0.5 million tonnes of CO₂ for the Netherlands CDM Facility (NCDMF). The KfW Carbon Fund is also interested in the Peruvian CDM market and provides adaptable pricing models to purchase certified emissions reductions (CERs).

Projects registered or requested for registration at the CDM Executive Board as at 17 January 2007 1)

Project	Annual CO ₂ e reduction (1,000 t)	Methodology	DOE	Other participants
Tarucani I: 49 MW hydropower station 2)	154	ACM 2 ver. 4	TÜV Süd	n.a.
Poechos I: 15 MW hydropower station 2)	31	ACM 2 ver. 2	TÜV Süd	Netherlands (NCDMF)
Santa Rosa: 3 hydropower stations with a total of 4.1 MW 2)	14	AMS-I.D. ver. 5	SGS	Italy (CDCF)
Huaycoloro: extraction and combustion of landfill gas 3)	299	ACM1 ver. 4, AMS-I.D. ver. 9	SGS	Netherlands (NCDMF)

1) CO₂e = carbon dioxide equivalent; DOE = Designated Operational Entity (function here: author of validation report); 2) Registered; 3) Request for registration

Source: UNFCCC website

The Designated National Authority (DNA) in Peru, the Consejo Nacional del Ambiente (CONAM), had approved another eight CDM projects by mid-December 2006. These comprised six hydropower stations, a project to switch energy supply for a cement factory to natural gas and one for the energy-efficient use of sugarcane residue. The annual emissions savings from these measures are estimated at about 1.86 million tonnes of CO₂e and the requisite investments at some US\$ 465 million in all. Three other additional projects, including a windpower project, were appraised by the DNA at the same time.

CDM project portfolio in Peru (as at: mid-December 2006) 1)

Project type	Number	Investment (US\$ mill.)	Annual CO ₂ e reduction (1,000 t)
Hydropower	23	877	2,984
Biomass	8	90	873
Windpower	2	39	40
Urban waste	4	46	794
Transport	2	333	400
Afforestation	11	52	325 2)
Total	50	1,438	5,092 3)

1) With the three projects already registered at the EB; 2) CO₂ absorption; 3) Excluding forestry projects

Source: FONAM (detailed project information available at the website: www.fonamperu.org)

As reported by the Fondo Nacional del Ambiente (FONAM), which is in charge of soliciting CDM investors, the national CDM portfolio comprised 50 projects in December 2006. The requisite investments were put at more than US\$ 1.4 million and the anticipated emissions reductions at over 5 million tonnes of CO₂e. So although some might not come to be implemented, the number and the investment volume of Peruvian CDM proposals have more or less doubled in two years.

The largest scope for CO₂ savings is seen to be in renewable energies (primarily hydropower and biomass) and landfill gas. Investors are also being sought for projects in the forestry sector. Of the eleven CDM project proposals for afforestation and reforestation, four are at an economically viable scale, in the estimation of TÜV Süd. The project design documents (PDDs) are under preparation in seven cases. The EB has only registered one forestry project worldwide so far, however.

3.2 Mode of operation of the Designated National Authority (DNA)

Founded in 1994, the environmental authority, CONAM, was appointed Peru's DNA for CDM by decree (D.S. 095-PCM-2002) in 2002. It is directly answerable to the cabinet, without itself being a ministry. For the national approval of CDM projects, it assigns a committee with representatives from companies, authorities and non-governmental organizations. Information on the approval channels for CDM projects can be found at the website at 'www.fonamperu.org/general/mdl/documentos/fp34.doc' and on the general procedure at 'www.fonamperu.org/general/mdl/procedimientos.php'. CONAM is supported by GTZ on behalf of the German Federal Government as part of the programme 'Sustainable Rural Development'.

The environment fund FONAM is also involved in the appraisal process. Established in 1997, this institution, which receives private financing only, advises project owners on preparing project documents and cooperating with the authorities. External participants attest FONAM a high degree of professionalism, also because the organisation is relatively independent of the state apparatus.

In the assessment of outsiders, CONAM has so far managed as an authority and in its capacity as DNA to fend off political influence in CDM. With the change of president in mid-2006, a staff reshuffle is underway as in other authorities but this is expected to be complete by mid-2007. Public officials in CONAM are due for replacement down to the third level. This also directly affects CDM project work.

The authority approves CDM projects provided they serve the purpose of sustainable development in Peru, are supported by the population concerned and have undergone an environmental impact assessment. It only vets CDM projects with complete PDDs, which do not have to be validated on appraisal, however. No fee has been charged for approval till now. The authority says it has approved all the projects submitted to date. The 45-day deadline for deciding on a CDM project application is reportedly kept to as a rule.

In the Santa Rosa hydropower project, it took eight months from the beginning of PDD preparation to registration, according to the investor GCZ. The PDD, validation and EB registration cost altogether US\$ 50,000 and an additional US\$ 2,500 was paid for consultancy services from FONAM. Proceeds from the sale of certificates for the first six years meanwhile amount to US\$ 440,000 (88,000 tonnes of CO₂ for US\$ 5/t).

External participants confirm that CONAM handles projects in a straightforward way. One reason for this, though, is that the authority only requires the complete PDDs for approval, which does not clear the way of all obstacles. Mining and energy projects that had been approved long ago in Peru, for example, have been repeatedly delayed or completely stopped as a result of protests by the affected population. These are often caused by environmental or social problems that the government agencies in charge are incapable of solving. Relations amongst the operator firms, government agencies and the local population often reach deadlock. According to market sources, the Tarucani Generating Co. had to go to court to uphold water rights already granted. Legal proceedings can last up to ten years in Peru and the outcome is by no means certain. Crucial here is the ability of investors and project developers to avoid these kinds of problem by getting all stakeholders involved early on.

3.3 Local consultants, validators and verifiers

Peru's CDM market is dominated by foreign service providers. Amongst others, TÜV Süd has validated two of the three Peruvian CDM projects registered at the EB. The company, which does not maintain an

office of its own in Peru, assigned its Chilean partner CCA Qualitas as auditor. Other validations have been carried out in the country by SGS (including the third project registered at the EB) and DNV. No other DOEs are known to be engaged in these activities in the country.

A list of CDM consultants on the Peruvian market is available at the website, www.fonamperu.org/general/mdl/actores2.php. Companies providing consultancy services here include: Finanzas Ambientales (www.finanzasambientales.com; Peruvian), Deuman (www.deuman.com; Chilean), AHL Carbono (www.ahlcarbono.com; headquarters in the USA), Fonam, Centro de Eficiencia Tecnológica (www.cet.org.pe; Peruvian with Swiss interests), MGM-International (www.mgminter.com; no office in Peru), Golder Associates (www.golder.com), Caema (www.andeancenter.com; Colombian), Servicios Energéticos (www.sensac.com.pe; Peruvian, cooperating with Caema; specialized in fuel switching), EcoSecurities (www.ecosecurities.com; no office in Peru). CONAM also designates the World Bank and the regional development bank, Corporación Andiana de Fomento (www.caf.com) as CDM service providers.

3.4 Local legal requirements for CDM projects and taxation aspects

There is no special legislation for CDM in Peru. It is regulated by the Estrategia Nacional de Cambio Climático of 2003 (ENCC, Decree D.S. No. 086-2003-PCM), and the Estrategia Nacional MDL (EN-MDL), which was drafted in 2003 with support from the World Bank.

There is no tax relief or a special tax regime for CDM projects. Income from the sale of certificates is subject to income tax (impuesto a la renta). In negotiations with the competent authorities, CONAM is pressing for its reduction or abolition. Value added tax (impuesto general a las ventas) is not payable as certificates trading counts as a service export or takes place abroad - as has been the case so far.

3.5 CDM partnership agreements

CDM memoranda of understanding have so far been concluded with Canada, Austria, Japan and Spain. A cooperation agreement was signed with Germany in November 2006. According to information from CONAM, negotiations are currently underway with France, Italy and the Netherlands. Representatives of the authority were not, however, fully informed on current progress.

3.6 Opportunities for CDM projects in the energy sector

Energy and environmental data

	Peru	Latin America	OECD
Primary energy consumption (Mtoe, 2005)	12.8 1)		
of which from renewable energy sources	approx. 34%		
Electricity generation (TWh, 2005)	24.26		
of which from renewable energy sources	approx. 73% 2)		
CO ₂ emissions from fuel combustion (Mt, 2004)	28.88		
Electricity consumption/capita (kWh/capita, 2004)	794	1,645	8,204
CO ₂ /primary energy supply (t of CO ₂ /toe, 2004)	2.19	1.87	2.34
CO ₂ per capita (t of CO ₂ per capita 2004)	1.05	2.05	11.09
CO ₂ /GDP (kg of CO ₂ /US\$, purchasing power parity 2000; 2004)	0.20	0.29	0.44

1) Commercially traded energy only; 2) Share of hydropower: 72.3%

Sources: BP Statistical Review of World Energy 2006, IEA

Official estimates see the main prospects for CDM projects in the energy sector, especially in hydropower. Many projects are awaiting implementation: There is ample hydropower available due to the heavy rainfall

in some regions and large altitude differentials in the Andean nation. Most projects have not made any progress due to financing difficulties, however. The government hardly promotes renewable energies at all, apart from a programme for rural electrification.

Divided almost equally between hydropower and conventional thermal power stations, the power generating capacity in Peru of over 6,000 MW is still almost twice as much as required. Demand is rising fast, however, and most thermal power stations are old and run on costly diesel. To date, Peru's CDM portfolio includes no project for reducing emissions from an existing thermal power station.

In second place, experts see CDM scope in fuel switching from oil and coal to natural gas in industrial plants in Lima. Gas from the Camisea field in Peru has been supplied to the capital since August 2004. Up to August 2006, 130 industrial plants had switched and many others are interested. Several gas power stations are under construction or in planning.

There is little awareness of the need for energy efficiency in Peru so far although an organisation has been lobbying on the issue since its foundation in 1985 (www.cenergia.org.pe). Industry and mining are the most likely sectors to introduce energy-efficient processes.

In the biomass sector, companies from the USA, Brazil and Spain have recently announced plans to invest sums going into the three-digit million range in the production of ethanol from sugarcane. The target market for the fuel would be the USA, with which Peru has signed a free trade accord. It has not been ratified by Washington yet, but the USA grants preferential treatment to imports from Peru. Under a law last amended in 2005, the authorities in Peru only promote the production of biofuels, not their domestic use.

Consultants such as the firm Finanzas Ambientales think that prospective revenue from emissions trading will raise quite a number of hydropower projects in particular above breakeven. GCZ in contrast, the seller of certificates from the Santa Rosa project, attributes only minor importance to the contribution margins from CDM trading. Moreover, other experts point out that CDM is beset with many uncertainties and is still not run professionally in Peru.

3.7 Finance facilities for CDM projects

The Deutsche Investitions- und Entwicklungsgesellschaft mbH (DEG) has been engaged in Peru since 1984 and has provided about EUR 100 million for investment projects by private enterprises till now. DEG offers long-term project finance on commercial terms (incl. long-term loans, mezzanine finance, equity contributions and guarantees). Promoting renewable energies plays an important role here. The Poechos I hydropower station listed above was co-financed by DEG, for example. Drawing on the CDM know-how available in the Kyoto Coaching Cologne network, DEG appraises how far revenue from CER proceeds can be accounted for when assessing project costs.

Moreover, DEG can cofinance pre-investment or support measures with special developmental effects under the Public-Private Partnership (PPP) Programme of the Federal Ministry for Economic Cooperation and Development (BMZ) with up to EUR 200,000.

Together with other donors, the World Bank has established a fund to finance projects for improving power supply in rural areas. Some of it (approx. US\$ 10 million) is earmarked as bridging finance for smaller renewables projects that have no access to bank finance for the pre-operative phase.

4. Recap

Although Peru has effective institutional arrangements for CDM and there are many different openings for relevant activities, only three Peruvian projects have managed to obtain international registration at the

CDM EB till now. Finance problems and local opposition later on have already thwarted many projects in Peru.

Lucrative project opportunities are seen in fuel switching for industrial plants to natural gas and in the landfill gas sector. Opinions differ on the hydropower projects that dominate Peru's official CDM portfolio. Transport projects, the majority of the ethanol projects and the various afforestation plans have made little progress towards CDM eligibility.

The DNA facilitates CDM through prompt, unbureaucratic appraisal. Moreover, the government assists in identifying and marketing suitable projects. FONAM, which shares responsibility here, is rated as efficient and is interested in getting viable projects going. Quite a number of hurdles generally need to be taken between DNA approval and project implementation, however. Low staffing at the DNA and alterations in personnel after changes in government can hamper CDM operations.

5. Advice/Service

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