Project Proposal

"Substitution of anaerobic ponds of industrial effluent treatment, for intensive anaerobic processes"

Climate Change Unit - Uruguay

General approach of the proposal

The project aims at the implementation of a measure which has been identified as fundamental in the reduction of greenhouse gas (GHG) emissions of the Waste Sector (Industrial Wastewater sub sector) of Uruguay, by the elimination of wastewater treatment systems based on anaerobic stabilization ponds in those industries that are identified as the larger methane emitters of this Sub-sector.

As from a quantitative analysis regarding industrial effluents, supplied by the National Environment Directorate (DINAMA), actions are foreseen to be taken in order to achieve the abatement of the GHG emissions associated with wastewater treatment systems based on anaerobic stabilization ponds, to 67% of their theoretical value.

Consequently, the Project proposes to substitute nine industrial wastewater treatment plants, currently being operated by anaerobic stabilization ponds, for intensive treatments plants that use anaerobic digesters for the capture and controlled burning of the methane gas generated.

Since this involves nine different companies, the DINAMA's Climate Change Unit will act as facilitator for the creation among them, of a Temporary Association (TA) to carry out the project.

Owner and financier of the project

The TA integrated by the nine industries selected will be the project accomplisher, which implies the planning, coordination and elaboration of the nine individual engineering projects for the nine industries integrating the mentioned association, its construction and implementation (building, operation and maintenance of plants). In this respect, the TA will be the project's beneficiary and executing entity. Will receive and administer the necessary funds for the execution of the project, excepting those funds which shall be directly provided by the industries under the form of payment of salaries for its personnel and technical advisors. At the same time, the TA will own the certified emissions reduction, which will be used to reintegrate the funds to the financing agency.

The treatment plants will continue to be, as are at present, property of the industrial firms in which they will be installed.

For the implementation of the Project the following financing sources are proposed:

- Each one of the companies in which treatment plants are to be substituted will provide the area at which the new plant will be installed and the totality of the remunerations to the personnel involved in its operation. Additionally, each company will commit itself to contract –such as is established by the regulations in force- one technician who should be: a Chemical Engineer, a Civil Hydraulic and Sanitary Engineer, or a Civil Hydraulic and Environmental Engineer, who will represent the company during the whole development of the project and who will participate in the definition of the particular aspects concerning the design, building and operation of each one of the new treatment plants. To comply with this, each one of the industries will subscribe a letter of agreement accepting these conditions and committing itself to accomplish the totality of the Project's obligations.

- The financing agency will provide the part of the total cost necessary to make the execution of the project possible.

From the financial point of view, in a theoretical maximum cost scenario, the initial investment for the implementation of the measure goes up to U$S 1.015.233, and an additional annual support of U$S 1.570.173 is required (up-dated on the basis of the year 2002 dollar). On the other hand, the project allows to prevent the emission of 3.691.876 Tons of CO_2 equivalent at a cost of 4,87 U$S/Ton. The term "theoretical maximum cost" is related to the estimation of the generation of a significant amount of new job posts to be created. If, instead, the companies implied in the process opt for the training of their staff, both the cost of the measure as well as the cost per ton of equivalent abated CO_2 can be reduced significantly.

It is of interest to point out that the execution of the project only modifies, from the point of view of the costs to be covered by the companies involved, the operation and maintenance costs of their effluent treatment systems, which through the regulations in force, they are anyway committed to maintain in operation and under permanent supervision by a responsible professional.

Background data

The socioeconomic scenarios are of vital importance for the Waste Sector, on account that the emission sources are directly linked with the generation of solid and liquid wastes from the productive activities of Man, both industrial and agro-industrial.

Among the variables to consider, the population projection and its distribution in urban areas was taken from the estimates made in the framework of the preparation of the Second National Communication to the UNFCCC Conference of the Parties, according to which "by *the year 2050, the population is estimated in 4.262 thousand people, with an annual increase of 0,49%, which shows a deceleration as time goes by, since that*

from an annual rate of 0,6% during the first five-year period decreases to an annual rate of 0,3% at the end of the projected period. This accounts to a decreasing rate of births and an ageing of the population, as it is considered that the net migration is null, after the year 2015."

The soil use analysis showed that a relevant modification is not expected in the agro industrial sector (the growth of the dairy industry is estimated to be moderate and not explosive). The Gross National Product (GNP) evolution foreseen was taken as growth standard for the industrial sector. Only the optimist scenario was considered, as it was the most unfavorable one as regards to the GHG emission in the non-project hypothesis (reference scenario or "alternative zero"). The GNP growth rate expected in this scenario is of 4%. The dairy and beer demand will experience a much larger dynamism than that of the other food products.

A summary of the expected growth in the optimist scenario is shown in the following table:

Variables	***Measurement unit***	***2.000***	***2.050***	***% Variation***	
				Total	***Annual***
Population	Number of People	3.337	4.262	27,72%	0,49%
GNP	US$ year 2000	20.042	142.432	610,67%	4,00%
GNP per capita	US$ year 2000	6.006	33.419	456,43%	3,49%

Source: Calculations based on Central Bank of Uruguay, World Bank and SRES.

The emissions quantitative analysis was prepared from the industrial effluent data supplied by the DINAMA. The information available enumerates the industries according to their sector, providing volume, type of treatment plant, and the department at which the establishment is located. To the effect of this work only those industries that have anaerobic stabilization ponds are of interest, which as from now will be the only ones to be taken into consideration. For each industrial branch, a BOD value coherent with the specialized bibliography data is assumed, and in this way the BOD_5/day load which corresponds to each one of the establishments of interest is calculated in Kg. According to the load, and applying again calculation methods analogous to the ones that are applied in the preparation of GHG Emission Inventories for the Waste Sector, the expected methane emissions can be quantified in Gg/year.

It was possible to deduce in this way the total of methane emissions of the Industrial Wastewater sub sector for treatment plants consisting of anaerobic stabilization ponds expressed as methane Gg/year, and afterwards consider different intervention scenarios. The scenario finally adopted aims at achieving the GHG emission abatement associated

with anaerobic stabilization ponds treatment systems to 67% of its theoretical value. This implies to modify the treatment process of nine industrial plants.

Costs calculation

The project costs have been estimated within the framework of the preparation of the Second National Communication to the UNFCCC COP, by a team integrated by Climate Change Unit (CCU) technicians and external consultants.

The costs have been elaborated depending on the market prices of the goods and services of national origin and on the prices of reference of the imported equipment required. The amounts corresponding to the tax provisions in force as regards to VAT, social laws and taxes on imports have been included. There is no price quotations available to-date to verify the values assumed.

The interventions considered –of which the investment, operation and maintenance costs are estimated in the attached calculation sheets – and the calculation methods applied are described below.

According to the industrial branch and taking into account the actual volumes informed in the DINAMA database, a load of BOD_5/day was estimated for each one of the nine larger methane emitters –the whole of which amounts to 67% of the emissions that are planned to be abated by this intervention-. The same calculation was made for the year 2020 - time horizon assumed to determine emission mitigation measures for the Waste Sector at this stage of the work- taking into account, for the industrial growth, the estimates concerning the GNP increase mentioned before.

It is worth mentioning that in all cases only one stage of anaerobic ponds was considered; no other further type of treatment was taken into account, since, if existing, it should still be a part of the treatment system adopted without implying cost modifications. In summary: only the investment, operation and maintenance costs associated to the substitution of the biological treatment system by stabilization ponds of anaerobic type by anaerobic reactors of ascendant flow are considered, with provisions within the horizon selected (year 2020) and the growth alternatives of the treatment plants being considered to satisfy the demands of the year 2020 constructing new anaerobic ponds.

In both cases (scenario with project and without project) the necessary area for treatment of waste liquids with anaerobic stabilization ponds was calculated using for it a volumetric load of 0,1 kg BOD_5/m^3 and assuming square plant ponds with an average depth of 3 m. The resulting difference between both areas corresponds to the treatment plants expansion needs in the scenario without project. The cost of this expansion needs

is calculated to determine afterwards the incremental costs derived from the intervention planned.

A pre-dimensioning of the necessary useful volume to treat the effluents in question in systems of intensive anaerobic treatment was made, to enable the capture of the methane generated. Among other possible options, it was adopted, in order to make the calculations, a design of ascendant flow type UASB reactors (is the type of design which corresponds to reactors for treatment of domestic effluents in Pando city and also in the treatment plants of several industrial establishments in our country). For the useful volume calculated, the necessary area for the reactors was estimated, considering square plant, useful height of around 8 m, and even number of reactors (more details can be found in the calculation sheets). In this way, an approximation of the necessary volume of reinforced concrete for the construction of the reactors was obtained. To this cost –which as unit cost is in all cases the most relevant- it was added in all cases –since it was not possible to break down plant by plant the needs in each case – the cost of a pumping well, a band filter, a burner, and complementary equipment to make possible the complexive operation of the whole system and its control. At the same time, a recuperation cost of the area actually in use by the anaerobic stabilization ponds was considered, with a slight provision for drainage, application of lime and closure –leveling filled with soil, demolition remains or other non biodegradable materials-. Included in the operation and maintenance costs, in addition to the personnel assigned to the treatment plant, the consumption of chemical products for the effective dehydration of the resulting mud was also considered.

In the calculation of benefits, measured as CO_2 equivalent abated tons, the CO_2 produced by the controlled combustion of the methane generated in the treatment process was discounted, since this emission is avoided.

In the scenario without project, to satisfy the effluent treatment needs of the industries under consideration, the area necessary for the construction of new anaerobic stabilization ponds was taken into account and an approximate of the necessary soil excavations for its construction. The operation and maintenance costs are significantly lower, as corresponds to this type of extensive treatments.

In the case of the personnel used, it was generally clasified as skilled labour, semi-skilled and non-skilled, according to the type of personnel considered in each measure.

Annual investment, cost, benefit and mitigated emission flows in each measure were drawn up, along a period of 18 years, with a final horizon in the year 2020.
These flows were constructed for both the situations with and without project, in order to evaluate the results over the differencials of these two situations, which allows to measure the outcome of the project within this frame.

The incremental costs were then determined as the difference in costs and benefits at scenarios with and without project (in this case, the negative incremental costs imply benefits).

Then the incremental costs calculated year to year were converted to costs of the year 2002 through the Present Net Value (PNV), which produces the value that the totality of the costs incurred year to year would have if they were to be totally faced at year 2002.

This calculation must necessarily be made, since the information available assigns the same numerical value to costs pertaining to the same goods or services to be faced at different years, and in fact such numerical values are not equal from an economical point of view, which puts them into perspective in relation to the time period that is halfway through between the present moment and that in which the cost in question will have to be effectively faced. In this case a rate or opportunity cost of an annual 5% has been considered, which indicates that an erogation of 100 units in the next year, today would represent an erogation of only 95.

An analogous calculation is used for the up-dating of the emissions abated, in the understanding that it has a greater value to mitigate one unit of GHG emission today than to do it at any of the subsequent years. In this case a rate of 5% annual discount is also applied to up-date the emissions.

Finally, the financial cost per ton of abated emissions is calculated as the quotient between the incremental costs' PNV and the abated emissions' PNV.

It was assumed that the initial investments would be made in the year 2002, together with the corresponding ones at each lifetime end of the goods included in them, at the same time that the implementation costs and the benefits were considered annually, from the year 2003 to the end of the period in the year 2020.

Cost-effectiveness analysis

The cost-effectiveness analysis demands to determine the incremental costs (benefits deducted), that should be faced with the quantification of the mitigated emissions up to the year 2020.

The economical cost-effectiveness analysis, applied to the cases of environmental phenomena carries on to a delicate analysis on account of the difficulties of measuring all the costs and benefits, since in many of the events they can not be valued in a monetary way, for which reason diverse methods should be used to find values applicable to this type of benefits. In the case of the mitigation measures evaluated, this

situation is quite easy, since the effectiveness or efficiency thereof is measured in terms of mitigated carbon tons, which is the main benefit expected from the selected measures.

Nevertheless, it should be borne in mind that these measures also generate cobenefits, for example in terms of human health. These impacts have not been taken into consideration, due to the fact that the evaluation of the project is being made from a private point of view, that is to say, eminently financial. In the cases to which it concerns, to take into consideration these additional benefits could lead to better results than the ones exposed here.

On the other hand, it should be borne in mind that in the selected measures an incremental analysis will be carried out, that is to say that the cost-effectiveness analysis is applied to the difference between the "with project" and "without project" situations.

The monetary unit used in the present calculations is the United States Dollar applied to prices of the year 2002, which operationally would not differ from using the corresponding national currency, and multipling the amounts by the average dollar exchange rate corresponding to mentioned year.

In the case of the benefits, they are evaluated as sale of biogas (substitute of natural gas) to the internal market, without any great demand inconveniences foreseen. Therefore, in the margin, that is, the last amount to be added to the sale, can substitute the natural gas importation, which can be considered from an economical point of view in the same way as if it were an exportation (importation saving). Consequently, the natural gas importation price is applied to the biogas sale benefits.

Finally, an important definition for this analysis is the discount rate or opportunity cost that must be applied to up-date costs, benefits and emissions, and in this way be able to determine the net cost per abated emission of the measure.

The election of a high opportunity cost priorizes the actual flows, to the detriment of the ones more distant in time, while if a low opportunity cost is used, the opposite result is obtained. In the present case, a rather low rate was preferably used, since the terms for this type of cases are extense and there are no reasons to priorize the more actual flows. A discount rate (opportunity cost) has been defined here of an annual 5%, which seems adequate to this objective and adjusts to the actual long term low international interest rates and the current dollar inflation of today's date.

Source and application of the funds

The Project costs can be broken down as follows:

Investment: U$S 1.015.233

Operation and Maintenance: U$S 1.570.173 annually

The investment costs are mainly composed of the reactors construction costs (U$S 887.177); the new plants equipping cost estimated in U$S 100.800; minor terrain restoration costs now occupied by anaerobic ponds (U$S 25.763) and new terrains for the compact treatment plants (total U$S 1493, to be afforded by the industries participating in the project).

The operation and maintenance costs include the plant's personnel salaries (U$S 1.450.148 annually, in charge of each one of the companies participating in the project) plus expenses concerning supplies, general plant maintenance and preventive equipment maintenance.

The project participants' contributions are estimated as follows:

	Investment	**%**	**Operation and Maintenance (annually)**	**%**
Participants (industries)	U$S 1.493	**0,1**	U$S 1.450.148 annually	**92,4**
Financier	U$S 1.013.740	**99,9**	U$S 120.025 annually	**7,6**
TOTAL	U$S 1.015.233	**100**	U$S 1.570.173 annually	**100**

The following tables show the detailed calculation of the investment, operation and maintenance costs:

INVESTMENT COSTS TO ABATE GHG EMISSIONS TO A 67%

Branch/Sector	Departament	UASB No. of Reactors	H (m)	Side (m)	Concrete U$S 400/m3	Equip-ment	Pumping well	Burner	Ponds recovery 0,1 U$S/m2	Terrain	Band filter
Tannery (leather)	Paysandú	6	10	9,40	185324	1200	5000	2000	5450	301	3000
Wool washing	Flores	4	8	9,80	120818	1200	5000	2000	4167	218	3000
Wool washing	San José	4	8	8,50	97889	1200	5000	2000	3167	165	3000
Slaugther-house	Tacuarembó	4	8	9,45	114477	1200	5000	2000	2936	203	3000
Slaugther-house	Canelones	4	8	8,90	104615	1200	5000	2000	2600	180	3000
Wool washing	Flores	4	8	7,48	81326	1200	5000	2000	2450	128	3000
Wool washing	Montevideo	2	8	9,75	64652	1200	5000	2000	2083	108	3000
Dairy plant	Florida	2	8	9,56	62754	1200	5000	2000	1650	104	3000
Slaugther-house	Cerro Largo	2	8	8,76	55322	1200	5000	2000	1260	87	3000
			Sub totals		**887177**	**10800**	**45000**	**18000**	**25763**	**1493**	**27000**
			TOTAL		**1015233**						

OPERATION AND MAINTENANCE COSTS

Typical Staff		Salary	Annually
Operators (two per shift)	6	739	61225
Foremen	3	1168	48340
Plant Chief	2	1868	51562
Plant staff annual cost			**161128**

Poly-electrolyte consumption: 5 g/kg mud = 5g/10 kg BOD treated
Cost U$S 5/kg

% Emission Reduction	**67**	
Number of companies	**9**	
O and M annual cost		**1570173**
Personnel		1450148
Supplies		70525
Maintenance		49500

The following table shows the financial evaluation of the proposal.

FINANCIAL EVALUATION

In year 2002 dollars

Investments residual Value

Actual Net Value of the Total incremental costs Opportunity Cost = 5% annually	**17.973.071**	
Actual Net Value of the Abated emissions in CO_2 tons (Assumption: CH4 is 23 times more thermo active than CO_2)	**3.691.876**	
Abatement Cost in US$ per CO_2 ton	**4,87**	
Differential fiscal impact at 2002 prices Opportunity cost (5%) Note: It is assumed that there is no sales VAT surplus to face these costs' VAT	**863.413**	
Foreign currency balance at 2002 prices Opportunity costs (5%)	**-382.268**	
Maximum employment Medium Employment	147 employees 137 employees	
Low Income Beneficiaries Up-dated Value (opportunity cost =5%) Up-dated to year 2002	**11.258.554**	**0,67** Over total Income
High Income Beneficiaries Up-dated Value (opportunity cost =5%) Up-dated to year 2002	**5.424.692**	**0,33** Over total Income
Total up-dated Income	**16.683.246**	

Budget error minimization

During the proposal adjustment process a revision of the totality of the issues will be made, and quotations will be requested for the different components of the works and necessary equipment for the project implementation and starting of operation, in order to minimize risks derived from differences between consultancy and execution budgets.

Project participants

The nine participant industries will be integrated previous to the starting of the Project as a Temporary Association, which will be in charge of the implementation thereof. The TA will receive and take care of the Project funds and will be in charge of contracting a company to carry out the construction of the treatment plants, within the framework of a public bidding. The companies participating in the bid shall compete on the basis of background and price.

Each one of the TA industries will have agreed to, as from the moment the contract is signed with the construction company, permit access to the said company to their corresponding properties to execute the engineering projects accorded with the technicians of each one of them in the first stage of implementation of the project. The construction company, at the same time, will undertake to develop the corresponding training to the participant industries' technicians, as regards to the treatment systems construction, as well as to the operation and maintenance aspects thereof.

The direct beneficiaries of the project are the nine industrial companies that present the greater methane emission of the Sub sector. With regard to the local market these are considered as big and medium sized companies.

The costs to be financed by the direct beneficiaries do not affect their profitability, benefits or operation, since these are contributions that form part of their common property or their fixed costs, as the case may be. In fact, the terrains contribution for the new treatment plants is being made on the basis of the existing companies' properties, due to the fact that the new plants, being compact, will be installed there. At the same time, the technical staff that the company is committed to keep under contract during the whole execution of the Project and afterwards for the operation of the treatment plant, consists of personnel that, according to the legal dispositions in force, each industry must include in their staff (a professional in charge of the management, treatment and final disposal of liquid effluents area).

It is not expected that the mentioned industries will withdraw from the market or go bankrupt in a near to medium future. Nor is it expected that the industries will withdraw from the project, but the signing of a contract at the beginning of the project not only forces the companies to keep tied to the contract but also, in the case of deciding to withdraw, they would have to reimburse to the TA the totality of the costs and expenses incurred by the TA to that date to include these industries in the starting of operation of the project.

It is worth mentioning that the industrial growth hypothesis and consequently the growth in the GHG emissions, has been assumed as maximum. In case that the industrial growth is less than the one foreseen, then the expected GHG emissions will

also be less. Since the investment and maintenance costs of the new treatment plants will not be substantially modified, the cost per abated CO_2 equivalent ton is expected to be higher, or, what is the same, more extended project repayment terms.

The CDM in the Uruguayan context: possibilities of project success

In Uruguay the conditions are given to propitiate CDM projects, due to the institutional progress and public awareness that has been taking place since the end of the nineties to-date, around the sustained efforts of the Climate Change Unit-MVOTMA. Following is a brief outline of the facts in which this asseveration is based.

The Ministry of Housing, Territorial Regulation and the Environment (MVOTMA) was created by law 16.112 of 8 June 1990 with the responsibility of formulating, executing, supervising and evaluating national plans and policies for the protection of the environment. Under the sphere of the National Environment Directorate (DINAMA), executory unit of the MVOTMA in charge of the environmental management nationwise, the Climate Change Unit (CCU) was created by Ministerial Resolution of December 29th, 1994. This Unit is the executing operative organ for the activities inherent to the compliance of the commitments under the United Nations Framework on Climate Change Convention (UNFCCC).

By Law Nº 17.279 of 23 November 2000, the Kyoto Protocol (KP) was approved, and ratified by Uruguay on 5 February 2001, enabling the country to participate in CDM project activities. Additionally, Law Nº 17.283, of 28 November 2000, relative to the general preservation of the environment, provided that the MVOTMA, in its character of Competent National Authority for the instrumentation and application of the UNFCCC, should establish the mitigation and adaptation measures to Climate Change, regulate GHG emissions and coordinate the commitments and duties of other public and private entities related with the mentioned matters.

Therefore, by Ministerial Resolution Nº 341/2001, of 9 July 2001, the Climate Change Unit responsibilities were extended, being entrusted with the executive duties of Designated National Authority for the application of the Kyoto Protocol's CDM. This resolution was duly communicated to the UNFCCC Executive Secretariat, which on 18 March 2002 acknowledged receipt of mentioned designation and made this information public through its web site. This designation together with the Kyoto Protocol ratification, constitute the formal steps necessary to enable the country to participate in the CDM.

Since the approval of the Kyoto Protocol, the Climate Change Unit has undertaken several efforts to be trained in this matter, to understand and to disseminate the opportunities that the CDM presents to Uruguay, on account of it being an innovative mechanism and difficult to understand by the different sectors involved. Among other

remarkable events, in December 2001 a CDM Workshop was held, with the purpose of satisfying the national expectations concerning the application of the mentioned mechanism. For this occasion an expert technician in the matters of the MVOTMA together with three Canadian experts and two Chilean experts exposed about different perspectives of this Mechanism, the international experiences and its application in our country.

During the month of July 2003 the Climate Change Unit organized, with the support of the Embassy of the Netherlands, a cycle of Workshops both in Montevideo and in the interior of the country, about the Clean Development Mechanism Application (CDM) of the Kyoto Protocol in Uruguay: opportunities for the Uruguayan industrial sector, with the purpose of promoting the CDM activities in the private sector through the increment of the CDM understanding and the opportunities that it represents for the Uruguayan industrial sector.

In October 2003 the Climate Change Unit jointly with the Centro Andino para la Economía en el Medio Ambiente (CAEMA) organized a Seminar of actualization concerning the CDM at which presentations were exposed by international experts regarding recent developments in the carbon markets, the institutional and regulatory framework, and transaction modalities of the certified emission reductions (CRE) that enable to maximize the CDM potential benefits for the project owners.

During the first semester of the year 2002, the CCU developed the "Study to support the application of the Clean Development Mechanism of the Kyoto Protocol in Uruguay", with the assistance of the International Development Research Center (IDRC). The objective of the Study was to support the actions that the country is adopting in the matter of CDM, providing the national authorities a tool to evaluate the options and opportunities of Uruguay in the potential international market of greenhouse gases (GHG) emission reduction through the CDM, as well as to contribute to the development of a strategy for the participation of the country in the carbon markets.

During the first quarter of the year 2003 the Climate Change Unit developed the "National Strategy Study for the CDM Application in Uruguay", with the assistance of the Canadian Government and the World Bank. Within this framework, a portfolio of potential CDM projects consisting of thirteen specific projects plus seven project ideas briefly described was elaborated. The project hereby presented is included in this second group of proposals.

On December 13th 2004 a Workshop was organized jointly with the Corporación Nacional para el Desarrollo (National Development Corporation), to promote among the financial sector the financial opportunities under the Kyoto Protocol. Also in December 2004, with the UNDP support, a "Presentation of the Investment Opportunities in CDM

projects in Uruguay" was developed. Taking advantage of the presence of the developed countries Government delegates at the COP 10, in Buenos Aires, this activity took place at the Embassy of Uruguay in Argentina and was addressed to potential investors and shareholders in purchasing emission reduction certificates of these projects with the purpose of facilitating the implementation thereof in our country. Among the attendants, it is important to point out the presence of the Government delegates of Canada, Italy, Spain, and Japan, as well as from the private sector of the United States of America and the United Kingdom. As a result of this effort, the implementation of the project for the capture of methane from the Montevideo sanitary landfill was specified, which constitutes the first CDM project to be developed in Uruguay. The emission reduction certificates would be purchased by the Spanish Government Fund, managed by the World Bank.

Within the framework of the aforementioned National Strategy Study, a tool for the evaluation and approval of CDM projects was developed, by means of a process of participative consultation that relied on the support of the Swiss Technology Institute. In addition to the establishment of the criteria and sustainable development indicators for the evaluation of CDM projects, a Guide for the Submission of CDM projects for their approval at the national level was defined within this framework, as well as a procedure for the evaluation and approval at the national level of CDM projects. The main requisites established by this Guide are:

a) Letter of application for approval
b) Submission of the Project Document (PDD)
c) Previous Environmental Authorization if the Project is included in the ambit of application foreseen by Decree 435/994 or an Environmental Impact Study if the proponents and/or authorities consider that the activity derived from the project generates an environmental or social negative impact
d) Declaration from the proponent concerning the contribution of the Project to the sustainable development of the country, according to the sustainable development criteria and indicators defined
e) Detailed information concerning the procedure used to collect the public comments relative to the project, the comments received and the way in which the same were considered in the project document.