

TERMS OF REFERENCE

PRINCIPAL CONSULTANT

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 The overall aim of the consultancy is to assist the Andean countries to analyze their strategic policy options, for the purpose of developing the energy potential of the Andean region in a socially and environmentally sustainable manner, in the context of hemispheric energy security. The assistance will consist in providing specific analyses as regards the policy options that affect the performance of the oil sector. Diverse policy scenarios will be developed, which will be used to illustrate the performance of the oil sector and the implications within the macroeconomic sphere. Thematic information is to be supplied on different aspects of oil activity on the basis of comparisons among countries.
- 1.2 Therefore, over the next 20 months the consultancy will unfold in two directions: Firstly, a detailed knowledge of the Oil Sector in the Andean countries will be developed. Secondly, detailed studies will be carried out of a series of issues common to the oil sector of the Andean countries. In other words, in-depth vertical studies of each one of the countries and transversal studies of issues common to the diverse countries. On the basis of this knowledge and diagnosis, scenarios under different policy options will be developed.
- 1.3 No study exists that would allow the evaluation of strategic options for the development of the hydrocarbons sector in the Andean region. This study must analyze the impact of different options under the same methodology in the different countries of the subregion in such a way as to make the aggregation of the impacts possible. A systematic knowledge of the hydrocarbons sectors in the different countries has a high added value in itself, in that it can lead to policy decisions that entail a very high generation of wealth.

II. ACTIVITIES

- 2.1 The first activity is to carry out background studies, for the Andean countries, of the following three aspects: Performance of the Sector; Importance, and Institutional Aspects. The studies will be carried out for the last twenty years as a minimum and will include scenarios for the next ten.

- 2.2 The second activity consists in coordinating six studies at the topmost level to contrast diverse aspects related to hydrocarbons, among the Andean countries and between the latter and others outside the region. The six thematic studies are: comparative advantages and potential market; industry prerequisites for investing; governance of the sector; macroeconomic aspects; sustainable environmental and social development, and issues of the indigenous peoples.
- 2.3 The studies of the first and second activity will be coordinated in such a way as to generate feedback between the findings made in the general studies on the hydrocarbons sector in the different countries and in the more detailed comparative thematic studies.
- 2.4 The third activity consists in preparing a study of medium-term regional scenarios in the Andean capitals, with the assistance of the representatives of the Andean governments and of the oil companies that operate in the region. The results of the background and thematic studies will be employed to develop a series of possible scenarios for the regions as a whole for the next ten years. Crucial attention will be paid to the added value of developing the hydrocarbons activity as an integrated regional activity rather than at an individual country level.
- 2.5 The fourth activity will consist in coordinating the preliminary national workshops, at which the background studies will be validated, and the regional workshop at the General Secretariat of the Andean Community in Lima, Peru, where the background, thematic and regional scenarios' studies will be presented. This workshop will be carried out as a culmination to the project and will include the presence of representatives of governments, regulatory entities and civil society that are involved in hydrocarbons production activities in the Andean region as well as representatives of production companies from both within and outside the region.
- 2.6 The fifth activity will consist in coordinating and contributing to the dissemination of the findings of the project in the countries of the region so as to assist the authorities and the other actors in the hydrocarbons sector in their strategic decisions related to the development of the hydrocarbons sector. Additionally, the project's findings will be disseminated among the operating companies so as to enjoy their backing in the implantation of the strategic options chosen by the authorities.

First Activity: Carrying Out Background Regional Studies

- 2.7 The first goal of the consultancy is to carry out, on the basis of factual information, a Study that describes the evolution of the hydrocarbons sector for the region as a whole, illustrating the interrelation among the following three areas: performance, macroeconomic importance and institutional framework. Each one of these three parts of the Study is described below.

A. Performance of the Hydrocarbons Sector in the Andean Region

- 2.8 The purpose of the first part of the Study is to describe the Performance of the Hydrocarbons Sector. This first part is divided into three sections: Activity, Income, and Economy. Throughout the analysis, the operation of the government corporation will be distinguished from that of private companies.
- 2.9 For the description of the Activity of the Sector, the following areas will be analyzed: Production, Reserves, Exports, Refining and Domestic Market. Activity of the oil and gas sector will be assessed in the context of the government policies and regulations that governed at the time, isolating the volatile energy sector policy swings experienced over the past 20 years. Production and reserves analysis will distinguish between types and quality of crude produced, in order to identify marketing constraints and resulting impact on price differentials (Example: Ecuador Oriente (non Central Fields) crude quality limiting the number of refineries that can process the crude, resulting in investment in refinery upgrading in Chile in order to provide an alternative to the large differentials of the US west coast refiners. Example: Venezuelan Orinoco heavy crudes exported to dedicated refineries in the US Gulf Coast). This is necessary in order to get at the central issue of compatibility with US refining capacity, and hence marketability to the US.
- 2.10 The analysis of Income will distinguish, firstly, that of the Operators, afterwards that of the Public Sector and lastly that of the Government. A comparative analysis of fiscal terms and contract types across the five jurisdictions, including a discussion of the evolution of contract terms will be performed. This will be followed by an international comparative analysis of fiscal terms and contract types in the Andean countries.
- 2.11 The third sector will analyze the Economies of the Public Corporation and of the Private Corporations.

B. Macroeconomic Importance of the Hydrocarbons Sector for the Regional Economy

- 2.12 The second study is oriented at measuring the importance of the Hydrocarbons Sector in the economy of each of the countries and in the region. The importance is to be measured in three areas of the economy: External, Fiscal and Real.
- 2.13 The privatization and deregulation initiatives introduced in the 1990s were economy-wide, and driven significantly by the “Washington Consensus” and concerted pressure from multilateral lending agencies and foreign debt holders to open these economies and to capitalize the universe of state-owned entities, in exchange for restructuring of extremely burdensome external debt obligations. The oil and gas sector opening will be analyzed in this context to ensure coverage of the broader global “aperture” playing out and the region-wide challenges.

- 2.14 The analysis of the importance of hydrocarbons in the External Sector will be carried out firstly as regards the importance of net oil exports in the commercial and current accounts.
- 2.15 Afterwards, the overall current account will be analyzed, public and private flows will be distinguished, and the insufficiency of foreign public savings will be discussed as a possible cause of the opening of the hydrocarbons sector to foreign private investment. In this regard, when analyzing the private current flow it will be necessary to take into account foreign investments' remittances of earnings on investment.
- 2.16 Once the dynamics of the current account have been described and analyzed, an analysis will be carried out of the direct foreign investment entered into the capital account. This will allow the analysis of the total external flow associated with the hydrocarbons sector.
- 2.17 In the analysis of the fiscal sphere, a step-by-step approach will be employed and the importance of oil income will be analyzed in public accounts and then in fiscal accounts.
- 2.18 As in the external analysis, the insufficiency of public savings will be investigated as one of the determining causes of the opening of the sector to private investment.
- 2.19 For the analysis of the importance of the hydrocarbons sector in real activity an estimate will be made of its direct and indirect demand for goods and services and thereby of the direct and indirect job generation.
- 2.20 Afterwards the aggregate value in the oil and related sector will be contrasted with the total GDP, and the same for jobs, i.e. those in the sector and in the related sector with regard to each country's total employment.

C. Political and Institutional Aspects of the Hydrocarbons Sector

- 2.21 The Legal and Regulatory Framework of three basic aspects of the Hydrocarbons Sector will be studied: Ownership of the Reserves and Access to the Activity; Governability of the Sector and Distribution of the Income from Hydrocarbons Sales.
- 2.22 As regards the Ownership of the Reserves, it will be specified which legal section governs their reservation for the State and to which entity within the State their administration has been allocated.
- 2.23 Secondly, it will be analyzed if access to the diverse segments of hydrocarbons activity is free or whether the monopoly on some of the segments is reserved for State corporations.

- 2.24 Regarding the structure of Governability of the Hydrocarbons Sector, the roles of, and relationships among, the following will be studied: The Ministry; the State Company; the Regulating Entity, and the Private Companies.
- 2.25 The diverse types of Contracts by which Private Companies gain access to the reserves will be studied. In particular, contractual stability and the levels at which disputes are handled will be studied.
- 2.26 For each mode of operation the parameters will be studied that govern the distribution of the operational surplus: royalties, taxes or contractually established share. The legal features of each.
- 2.27 In developing the study, the following considerations will be taken into account:
- An important element for this section will be the identification of the government-mandated strategy for the National Oil Companies (NOC) in each of the jurisdictions, and the maturity/sophistication, capabilities, and skill set of the NOC itself. These in turn illuminate and, to some extent, dictate the role available for the International Oil Companies (IOC) in the respective energy sector (competitive participant, financier, technology source, consultant, service provider, etc.). The evolution of the mandated strategy is an important determinant of how the NOC has managed and realized foreign investment in the energy sector.
 - Attention will be paid to the processes for foreign IOC's gaining access to land/licenses, which vary considerably across the jurisdictions (most open in Peru, most onerous in Venezuela).
 - The evolution of the State hydrocarbon entities in Peru and Bolivia in the mid-1990s, and the more recent changes impacting PDVSA and Ecopetrol will be captured.
 - International, National, Provincial and Municipal taxation and legislation, if any, governing hydrocarbon activities will be itemized.
 - Differences, if any, in pricing between domestic and foreign markets will be isolated. Procedures for marketing of royalty and equity/IOC crude and products will be isolated.
 - Attention will be directed to the domestic/indigenous upstream and service companies operating in the hydrocarbon sector.
 - Is the domestic sector given preference in any manner; does it compete on a level playing field with the state entity; is there local content legislation in place; do IOC's have a partnering or joint venture option available when entering the country.
 - Does the Government have policies in place encouraging development of a domestic upstream sector; if so, to what elements of the value chain does this apply (often crude oil E&P is excluded).
- 2.28 There will be a description of the legislation and institutions that regulate the relations of the Sector with the Communities in which it operates and with the natural Environment.

- 2.29 The last and perhaps most important part will study the relationship between the changes in the institutional and regulatory framework and the performance of the Hydrocarbons Sector over the course of time.

Products

- 2.30 Three Studies will be produced, one per subject: Performance of the Hydrocarbons Sector in the Andean Region, Macroeconomic Importance of the Hydrocarbons Sector for the Regional Economy, and Political and Institutional Aspects of the Hydrocarbons Sector.

Second Activity: Coordinating the Thematic Studies of the Oil Sector

- 2.31 No comparative studies exist among the countries of the Andean region and between the latter and the rest of the world on aspects such as governability, comparative advantages, contracting, sustainable development and other aspects related to hydrocarbons activities.
- 2.32 The studies will cover the following subjects, all of them in the Hydrocarbons area: Comparative Advantages and Market Potential; Industry Prerequisites for Investment; Governance of the Sector; Macroeconomic Aspects; Sustainable Environmental and Social Development, and Issues Regarding Indigenous Peoples. The terms of these studies are succinctly described below.
- 2.33 The added value of the second activity is the identification of strengths and weaknesses in the institutional framework of the Andean countries' oil sector by contrasting it with the best international practices. This will make it possible to propose changes in the institutional framework and in policies, leading to improvements in the performance of the hydrocarbons sector in the Andean countries.
- 2.34 Each one of the thematic studies will have the following five parts as a minimum: (i) review of the subject's relevant bibliography; (ii) theoretical model that will guide the empirical analysis; (iii) empirical evidence in each of the Andean countries and in the countries selected in other regions; (iv) comparison of the empirical evidence among the Andean countries and with the best international practices, on the basis of which it will be possible to extract (v) conclusions and recommendations.
- 2.35 The principal consultant will coordinate the work of the consultants contracted to carry out these studies and will ensure their quality.

A. Comparative Advantages and Market Potential:

- 2.36 This study will discuss the competitiveness of Latin American and Caribbean hydrocarbons in the United States market with regard to hydrocarbons from other regions of the world, the Persian Gulf in particular. It will take into account such factors as production, transport, transformation and marketing costs and the costs associated with the security of supply. On the basis of these costs it will derive the maximum yield to which the owner States can aspire for hydrocarbons extraction in their respective territories. In addition, in the context of the evolution of world demand for hydrocarbons it will be stated whether a market exists for the potential expansion of hydrocarbons in the Andean region.
- 2.37 For the analysis of the comparative advantages and of hydrocarbons production economies at least three types of costs will be taken into account, as a minimum: (i) exploration, production, transformation and transport costs; (ii) transaction costs: the costs of carrying out the contracts and enforcing compliance with them, and (iii) the physical security costs in such a way as to maintain the proper conditions for the operations, or, otherwise stated, the costs of political instability.
- 2.38 Regarding production, transformation and transport costs and a number of factors that are specific to the Andean basin crudes will be taken into account among others: Quality of the Oriente Basin heavy crudes in Ecuador relative to the ability of the US refiners to process. Price differentials impacting the region's heavy crudes, and resulting impact on both exploitation economics and the types of incentives that make sense for these resources. Constraints on the exploitation of the Orinoco extra heavy crudes in Venezuela.
- 2.39 The above costs for the five Andean countries will be compared cif on the United States market with those for other countries and regions. In particular they will be compared with those for hydrocarbons originating in Mexico and Canada and for those originating in the Persian Gulf, North Africa, the Caspian Sea and Russia.
- 2.40 It is important to stress the geopolitical security aspect and the costs of maintaining the peace and costs of creating the conditions for producing hydrocarbons when comparing the cif costs on the United States market of hydrocarbons originating, in particular, from the Persian Gulf and the Andean region.
- 2.41 As a minimum, three scenarios for world hydrocarbons supply and demand will be developed, and an analysis performed of the market space for the incremental production of the Andean countries. In particular, three scenarios for hydrocarbons supply and demand in the western hemisphere will be developed, and a detailed analysis carried out of the market space for Andean incremental production in its natural markets.

B. Industry Prerequisites for Investing:

- 2.42 The investment decision-making process within an upstream company will be described and discussed: the basis upon which investment decisions are made, considerations, geological risking above ground risking, hurdles, performance expectations, etc.
- 2.43 The investment decision framework developed for an upstream company will be contrasted with the institutional and physical conditions in each of the Andean countries and conclusions reached with regards to the factors that explain the usually low level of private investment and what needs to be done to foster investment.
- 2.44 The above analysis should lead to a ranking of desirable changes within the institutional framework regulating investment in the oil sector in the Andean region countries.

C. Governance of the Sector:

- 2.45 From the analysis provided in the Background Regional Studies, this study will look at the roles of each of the actors in the sector – ministries, regulating entities, state enterprises, private companies, foreign investment partners, etc. – and will highlight the principal rigidities, distortions and bottlenecks present. From the available information on operating environments in other countries, examples of specific elements contained in alternative systems, regulations, legal frameworks and contract types that could address each of the identified impediments will be ascertained. The resulting “shopping list” of alternative actions and directions forms the beginning of the dialog for change.

D. Macroeconomic Aspects:

- 2.46 The following three macroeconomic issues will be studied in their theoretical aspects and practical consequences in different countries: handling of the volatility and high variation in oil-sector income over time; absorption of resources and displacement of other activities, and sustainable economic development in countries with income based on non-renewable resources. The study will also discuss the historical and current use of funds from hydrocarbons extraction.
- 2.47 Regarding the issue of the volatility of oil income, the experience of different countries in terms of exchange rate management, external competitiveness of the economy, and the use of stabilization and savings funds and their applicability to the Andean countries will be discussed. Policies will be recommended for the handling of volatility in such a way as to prepare the countries to face this phenomenon.

- 2.48 With regards to the absorptive capacity of the economy and economic displacement, the following issues will be considered: (i) a discussion of forward and backward linkages of the hydrocarbon sector within the economy; (ii) the absorptive capacity of the economy with respect to revenue flows (this deals with the implications for domestic inflation, exchange rate movement, money supply, etc. of an inability of domestic capital investments and goods and services activity to absorb the flow of hydrocarbons revenue. Examples of insulation policies will be taken from other jurisdictions); and (iii) the issue of “crowding out” of both domestic investment capital (which may be drawn to the higher returns of the hydrocarbon sector and away from other domestic uses), and domestic skilled and unskilled labor, which may be drawn to the higher-paying hydrocarbon sector and away from alternative productive uses in the domestic economy. This is a particular challenge for the public sector (energy ministry, regulatory agency), where personnel with energy sector-relevant skills may be drawn to the private sector, leaving the public sector unable to effectively guide and regulate the industry
- 2.49 As regards the countries’ specialization in hydrocarbons production, it will be analyzed how far the Sector is integrated, in Andean countries, with the rest of the economy, and therefore what is the potential drag effect of hydrocarbons activities. At the same time, emphasis will be placed on the recommendation of policies to add value along the hydrocarbons chains with a view to making the transition from economies based on raw materials to economies based on know-how.
- 2.50 An overall system for sustainable economic development will be designed for the countries of the region having as one of its pillars the exploitation of hydrocarbons and of natural resources in general. Particular attention will be paid to economic diversification goals. The successful experiences of developed countries that export raw materials, such as Finland, Norway, Canada and Australia, particularly at a provincial/state level, will be studied.

E. Environmentally and Socially Sustainable Development:

- 2.51 Among the aspects to be studied are how it may be possible to mitigate adverse social and cultural effects on the populations in the production areas; the need to reinforce institutions to promote these goals, and the means towards an adequate public participation in the decisions on the exploitation of natural resources. The potential positive effects of the development of hydrocarbons will be noted in these studies and will be part of the evaluation of how the income derived from the production of hydrocarbons can be employed for long-term sustainable development.

F. Indigenous Peoples Issues:

- 2.52 This study will, among other aspects, evaluate special measures to ensure the ethnic, territorial and cultural integrity of the indigenous peoples affected by the production

of hydrocarbons; options for complying with the participation of indigenous peoples in the exploitation of natural resources in accordance with international treaties, and options for handling contacts with isolated peoples.

Products

- 2.53** Six studies will be produced in a span of fifteen months, on each of the subjects described.

Third Activity: Creation of Regional Scenarios for the Development of the Hydrocarbons Sector

- 2.54 Once having described and studied the historical relationship among the institutional framework, performance and macroeconomic impact of the hydrocarbons sector in the Andean countries, diverse medium-term scenarios will be created. To this end, different policy and institutional frameworks will be assumed and, on these assumptions, diverse trajectories will be designed for the performance of the hydrocarbons sector and for its macroeconomic impact. These scenarios will be the basis for the policy options that will be discussed with the governments and other actors in the hydrocarbons sector in the Andean countries.
- 2.55 In addition to, volume projections and macroeconomic implications the regional analysis will contain a summary of country-specific discussion of the rigidities, barriers and hurdles to resource exploration and exploitation, and avenues to mitigate same, that are unique to each jurisdiction
- 2.56 The added value of this activity resides in the fact that for none of the Andean countries does a study exist that analyzes the historical relationship among the performance of the hydrocarbons sector, its macroeconomic impact, and the institutional framework and policies that condition its development, and that makes it possible, on the basis of the historical experience, to establish scenarios for its possible evolution.

Products

- 2.57 A study on regional scenarios will be produced which will be presented at a Regional Workshop. Based on the recommendations and conclusions of the Workshop, the consultant will fine-tune this study.

Fourth Activity: Coordinating the Workshops for the Presentation of the Results

- 2.58 The principal consultant will be responsible for organizing both the national workshops for validation of the background studies, and the regional workshop at which the results will be presented upon the culmination of the Project.
- 2.59 The consultancy in general, and the final workshop in particular, will be used to establish and/or further a constructive dialogue between the Governments/NOC's of the Andean countries, the international oil companies that are capable of providing the investment capital, skills, and management expertise necessary for efficient exploitation of the region's energy resources, and other stakeholders.
- 2.60 The participants in the workshops, in addition to the diverse consultants, will be: representatives of the Governments, Regulatory Entities and Civil Society that are directly concerned with hydrocarbons production in Andean countries; representatives of production companies and of corporations related to the hydrocarbons sector, both national and international, and; representatives of entities devoted to integration, and to supporting the development of the region, that are concerned with hydrocarbons activities.
- 2.61 These regional workshop will be held at the General Secretariat of the Andean Community in Lima, Peru, in the second half of the second year of implementation of the project.

Fifth Activity: Coordinating and Contributing to the Dissemination of the Results of the Project

- 2.62 The principal consultant will be responsible for coordinating and contributing to the dissemination of the results of the project in the countries of the region and internationally. In the countries of the region, in coordination with the different actors linked to hydrocarbons activities, the results will be presented as they are obtained, with the aim of obtaining feedback from the parties involved. Afterwards, the results of the project will be presented at diverse pertinent forums and venues. Internationally, at the pertinent forums, the results will be presented that make it possible to illustrate the advantages of the Andean region's hydrocarbons sector.

III. QUALIFICATIONS, DURATION AND WORKING LOCATION OF THE PRINCIPAL CONSULTANT

Qualifications of the Principal Consultant

- 3.1 The principal consultant must meet the following minimum requirements: (i) extensive professional experience (a minimum of fifteen years) in the Hydrocarbons

Industry or Sector in one of the Andean countries, including senior posts; (ii) the professional experience must be in areas that link the oil industry or sector with the rest of the economy and the public sector, such as planning or corporate finances; (iii) he or she must possess applied knowledge in oil finances and in the macroeconomic accounts of the oil and public sectors; (iv) he or she must possess theoretical knowledge and practical experience of the determining factors of private investment in the oil sector in developing economies; (v) he or she must have an advanced academic degree in economics, with extensive analytical work in areas related to hydrocarbons; (vi) he or she must have theoretical and applied knowledge in areas such as macroeconomy, institutions, governability and contracting vis-à-vis natural resources; (vii) he or she must be fluent in the English and Spanish languages.

Duration, Working Location and Other Considerations

- 3.2 The initial contract will be financed by the funds from the project TC0210049RG “Hemispheric Energy Cooperation: an Examination of the Potential Contribution of the Andean Community of Nations’ Hydrocarbons Sector”, and will have a duration of 190 days in a period of 1 year, in accordance with the Bank’s policy for consultants. The principal consultant’s working location will be at IDB headquarters in Washington.
- 3.3 The total duration of the consultancy required by the project is estimated to be 330 days. This consultancy will be financed by both the IDB and the CAF, each covering separate periods that do not overlap. It is estimated that the IDB will cover approximately 240 days and that the CAF will cover approximately 90 days.

TERMS OF REFERENCE

ASSISTANT CONSULTANT

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 The assistant consultant will aid the principal consultant in all the activities of the program. This will include, but not be limited to: gathering and processing information; helping organize the workshops, and; assisting with the contracting and coordination of other consultants.

II. QUALIFICATIONS AND DURATION OF THE CONSULTANCY

Qualifications of the Assistant Consultant

- 2.1 The assistant consultant must meet the following minimum requirements: (i) professional experience (a minimum of five years) in the Hydrocarbons Sector, either in Industry or in Government; the professional experience must be in areas linked to the planning and/or design of policies that regulate the performance of the sector; (iii) he or she must be familiar with links between the hydrocarbons sector and the rest of the economy; (iv) he or she must be able to read the account books of the Andean countries' public sector; (v) preferably, he or she will have a post-graduate degree (Master's or equivalent) in a relevant area from an accredited University.

Duration

- 2.2 The consultancy will have a duration of 330 days in a period of 20 months.

TERMS OF REFERENCE

CONSULTANT ON ISSUES OF COMPARATIVE ADVANTAGES AND MARKET POTENTIAL

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 The consultant will carry out a study that analyzes the competitiveness of Latin American and Caribbean hydrocarbons in the United States market compared to hydrocarbons from other regions of the world, particularly the Persian Gulf, taking such factors into account as production, transport and transformation costs and costs associated with security of supply. On the basis of these costs the maximum yield will be derived that the owner States can aspire to from the extraction of hydrocarbons in their respective territories. In addition, in the context of the evolution of world supply and demand for hydrocarbons it will be stated whether a market exists for the potential expansion of hydrocarbons in the Andean region.
- 1.2 For the analysis of comparative advantages and of hydrocarbons production economies, at least three types of costs will be taken into account: (i) exploration, production, transformation and transport costs; (ii) transaction costs: the costs of carrying out and enforcing the contracts, and (iii) costs of physical security in such a manner as to preserve the proper conditions for operations.
- 1.3 Regarding production, transformation and transport costs and a number of factors that are specific to the Andean basin crudes will be taken into account among others: Quality of the Oriente Basin heavy crudes in Ecuador relative to the ability of the US refiners to process. Price differentials impacting the region's heavy crudes, and resulting impact on both exploitation economics and the types of incentives that make sense for these resources. Constraints on the exploitation of the Orinoco extra heavy crudes in Venezuela.
- 1.4 It is important to stress the geopolitical security aspect and the costs of preserving peace and costs of creating the conditions for producing hydrocarbons, when comparing the cif costs on the United States market of hydrocarbons originating, in particular, from the Persian Gulf and from the Andean Region.
- 1.5 The above costs for the five Andean countries will be compared cif on the United States market with those of other countries and regions. In particular they will be

compared with those of hydrocarbons originating in Mexico and Canada and with those originating in the Persian Gulf, North Africa, the Caspian Sea and Russia.

- 1.6 A minimum of three scenarios will be developed for the world supply and demand for hydrocarbons and the market space will be analyzed for the incremental production of the Andean countries. In particular, three scenarios for hydrocarbons supply and demand in the western hemisphere will be developed, and there will be a detailed analysis of the market space for the incremental Andean production in its natural markets.

Products

- 1.7 A report will be produced which will present the results of the Study on Comparative Advantages and Market Potential. This report will be presented at the Seminar where the results will be discussed of the diverse Technical Cooperation projects, in the second half of the second year of implementation. On the basis of that discussion the results of the present Study will be fine-tuned and final report produced.

II. QUALIFICATIONS AND DURATION OF THE CONSULTANCY

Qualifications of the Consultant

- 2.1 The consultant or consultants for the study of Comparative Advantages and Market Potential for the production of hydrocarbons in the Andean countries must meet the following minimum requirements: (i) wide experience (a minimum of fifteen years) in the analysis of hydrocarbons production, transport and marketing costs; (ii) experience in the analysis and measurement of transactional costs and the costs of preserving the operational conditions; (iii) experience in the operational conditions in diverse regions of the world; (iv) wide experience in the comparison of economies among regions producing hydrocarbons; (vi) a high level of academic training (Master's or Ph.D. degree or equivalent).

Duration

- 2.2 The consultancy on issues of comparative advantages and market potential will have a duration of 20 days. Travel to present the study at the regional workshop will be required

TERMS OF REFERENCE

CONSULTANT IN INDUSTRY PREREQUISITES FOR INVESTMENT

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 The investment decision-making process within an upstream company will be described and discussed: the basis upon which investment decisions are made, considerations, geological risking above ground risking, hurdles, performance expectations, etc.
- 1.2 The investment decision framework developed for an upstream company will be contrasted with the institutional and physical conditions in each of the Andean countries and conclusions reached with regards to the factors that explain the usually low level of private investment and what needs to be done to foster investment.
- 1.3 The above analysis should lead to a ranking of desirable changes within the institutional framework regulating investment in the oil sector in the Andean region countries.

Products

- 1.4 A report will be produced which will present the result of the Study on Industry Prerequisites for Investment. This will be presented at the Seminar which will discuss the results of the various Technical Cooperation projects, in the second half of the second year of implementation. On the basis of that discussion, the results of the Study in question will be fine-tuned and a final report produced.

II. QUALIFICATIONS AND DURATION OF THE CONSULTANCY

Qualifications of the Consultant

- 2.1 The consultant or consultants on the study on Industry Prerequisites for Investment must comply with the following requirements, as a minimum: (i) theoretical and applied knowledge of the hydrocarbons industry, especially the operations of

international oil companies; (ii) knowledge of the institutional and physical conditions in each of the Andean countries; (iii) relevant post-graduate degree.

Duration

- 2.2 The consultancy will have a duration of 20 days. Travel to present the study at the regional workshop will be required

TERMS OF REFERENCE

CONSULTANT IN MATTERS OF GOVERNANCE

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 From the analysis provided in the Background Regional Studies, this study will look at the roles of each of the actors in the sector – ministries, regulating entities, state enterprises, private companies, foreign investment partners, etc. – and will highlight the principal rigidities, distortions and bottlenecks present. From the available information on operating environments in other countries, examples of specific elements contained in alternative systems, regulations, legal frameworks and contract types that could address each of the identified impediments will be ascertained. The resulting “shopping list” of alternative actions and directions forms the beginning of the dialog for change.

Products

- 1.2 A report will be produced which will present the result of the Study on Governance of the Sector. This will be presented at the regional workshop in the second half of the second year of implementation. On the basis of that discussion, the results of the Study in question will be fine-tuned and a final report produced.

II. QUALIFICATIONS, DURATION AND WORKING LOCATION

Qualifications of the Consultant

- 2.1 The consultant or consultants on the study on Governability and Contracting in the Hydrocarbons Sector of the Andean countries must comply with the following requirements, as a minimum: (i) theoretical and applied knowledge of the economy of institutions; (ii) knowledge of the system of governability of the hydrocarbons Sector in different countries; (iii) thorough knowledge of the system of governability of the hydrocarbons Sector in the Andean countries, if possible through job experience; (iv) thorough theoretical and practical international experience in contracting for hydrocarbons production; (v) thorough knowledge of

contractual features in the hydrocarbons Sector of the Andean countries; (vi) post-graduate degree in economy of institutions.

Duration and Working Location

- 2.2 The consultancy on issues of governability and contracting will have a duration of 20 days and the working location may be any Western Hemisphere capital. Travel to present the study at the regional workshop will be required

TERMS OF REFERENCE

CONSULTANT ON MACROECONOMIC ISSUES

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 The consultant must carry out a study, in its theoretical aspects and practical consequences for the Andean countries, of the following three macroeconomic subjects: management of the volatility and high variation of oil income over time; absorption of resources and displacement of other activities, and sustainable economic development in countries with income derived from non-renewable resources.
- 1.2 The added value of the consultancy in macroeconomic subjects is to identify strengths and weaknesses in the macroeconomic handling of the oil sector in the Andean countries when contrasting them with the best international practices. This will make it possible to propose changes in institutions and macroeconomic policies, aimed at improving the performance of the hydrocarbons sector in the Andean countries.
- 1.3 The study on macroeconomic issues will have the following five parts, as a minimum: (i) review of the pertinent bibliography on the subject; (ii) theoretical model that will guide the empirical analysis; (iii) empirical evidence for each of the Andean countries and for the selected countries in other regions; (iv) comparison of the empirical evidence among the Andean countries and with the best international practices, on the basis of which it will be possible to extract (v) conclusions and recommendations. It will discuss the historical and current use of funds from hydrocarbon extraction.
- 1.4 Regarding the subject of the volatility of oil income, the experience will be discussed of different countries with stabilization and savings funds and their pertinence for the Andean countries will be analyzed. Policies will be recommended for the handling of the volatility so as to empower the countries to face this phenomenon.

- 1.5 With regards to the absorptive capacity of the economy and economic displacement, the following issues will be considered: (i) a discussion of forward and backward linkages of the hydrocarbon sector within the economy; (ii) the absorptive capacity of the economy with respect to revenue flows (this deals with the implications for domestic inflation, exchange rate movement, money supply, etc. of an inability of domestic capital investments and goods and services activity to absorb the flow of hydrocarbons revenue. Examples of insulation policies will be taken from other jurisdictions); and (iii) the issue of “crowding out” of both domestic investment capital (which may be drawn to the higher returns of the hydrocarbon sector and away from other domestic uses), and domestic skilled and unskilled labor, which may be drawn to the higher-paying hydrocarbon sector and away from alternative productive uses in the domestic economy. This is a particular challenge for the public sector (energy ministry, regulatory agency), where personnel with energy sector-relevant skills may be drawn to the private sector, leaving the public sector unable to effectively guide and regulate the industry
- 1.6 With regard to the country’s specialization in hydrocarbons production, the analysis will be carried out, for the Andean countries, of how integrated the Sector is with the rest of the economy and therefore what is the potential drag effect of hydrocarbons activities. At the same time, emphasis will be placed on the recommendation of policies to provide added value along the hydrocarbons chains with a view to effecting the transition from economies based on raw materials to economies based on know-how. The successful experiences in the region will be studied, such as the PDVSA case.
- 1.7 An overall model of sustainable economic development will be designed for the countries of the region having, as one of its pillars, the exploitation of hydrocarbons and of natural resources in general.

Products

- 1.8 A report will be produced that will present the results of the Study on Macroeconomic Issues. This report will be presented at the Seminar at which the results of the different Technical Cooperation projects will be discussed, in the second half of the second year of implementation. On the basis of that discussion the results of the present Study will be fine-tuned and a final report produced.

II. QUALIFICATIONS AND DURATION OF THE CONSULTANCY

Qualifications of the Consultant

- 2.1 The consultant or consultants on the study on Macroeconomic Aspects of the performance of the Hydrocarbons Sector in the Andean countries must comply with the following requirements, as a minimum: (i) highest-level academic qualifications

(Ph.D. degree or equivalent) in macroeconomy; (ii) wide experience in the macroeconomy of countries that export raw materials and especially of those that export hydrocarbons; (iii) theoretical knowledge and practical experience in macroeconomic stabilization mechanisms in economies that export raw materials; (iv) theoretical knowledge and practical experience in the developmental issues of economies that export raw materials; (v) familiarity with the literature on the development of international competitive advantages on the basis of the comparative advantages due to endowment with natural resources.

Duration

- 2.2 The consultancy on macroeconomic subjects will have a duration of 60 days. Travel to present the study at the regional workshop will be required

TERMS OF REFERENCE

CONSULTANTS ON ENVIRONMENTALLY AND SOCIALLY SUSTAINABLE DEVELOPMENT

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. AIM OF THE CONSULTANCY

- 1.1 Without exception, continued hydrocarbon exploration and exploitation within the Andean countries will involve upstream activity in increasingly remote and environmentally fragile locations. The activity will affect not only the physical environment, but also the economic, social and cultural environment for those communities and peoples living in proximity to this activity. In some particularly sensitive locales, a moratorium on upstream activity is the only socially acceptable option; however, in the vast majority of cases, a compromise can be reached that accommodates both the desire for energy sector development and the desire to protect and preserve the environment (physical and social) that will be affected by that activity. This research element will examine two complementary themes:

(a) Environmental Sustainability

- 1.2 The international energy sector has made considerable strides over the past decade in remote location “best practices”, reducing both the size of the activity footprint and the degree of environmental disturbance accompanying exploration and extraction activities. This has been driven by (i) increasing awareness of environmental degradation issues within the industry, (ii) the concerted efforts of NGOs and international agencies (World Bank, IADB, UN) to raise the profile of environmental sustainability, to develop guidelines for best practices, and to effectively “internalize the externalities” for the oil companies, and (iii) increased environmental awareness among the shareholders of the IOCs and demands for environmental compliance in foreign jurisdictions no less strict than that imposed in their home country.

Outline:

1. Introduction and Issues Identification
 - Identification of key issues and concerns
 - Review of environmental legislation governing oil sector operations in the 5 countries

2. International Best Practices

- Review of World Bank Guidelines for environmental best practices, as the industry standard globally
- Identification of alternative Guidelines (e.g., Canadian CAPP standards)
- Role of the Local and International NGOs
- Community consultation best practices, with examples from the 5 countries
- Issues in application to the Andean countries
- NOTE: Focus here on both minimizing impact and reclamation following activity

3. Cost of Compliance

- Discussion and estimation of incremental cost of compliance to resource extraction in the interior basins resulting from adherence to best practices
- Include discussion of new upstream operating practices and technologies aimed at mitigating environmental impact. Focus onto what can and can't be done, in terms of areas of operation, barriers and constraints remote operations, etc.
- Implications for competitiveness in product and commodity markets
- Implications for foreign upstream investment

4. Institutional Strengthening and Policy Reform

- Discussion and identification of inadequacies in the environmental regulations and guidelines governing resource extraction in the 5 countries
- Identification of compliance and enforcement issues, with mitigation options
- Identification of policy shortcomings, with mitigation options

5. Domestic Industry Opportunities

- Identification of commercial opportunities stemming from application of environmental best practices; services, EIA work, reclamation, etc.

6. Conclusions and Recommendations

- Action and Discussion items stemming from this research

(b) Socially Sustainable Development:

- 1.3 The movement of upstream resource activity into increasingly remote locales will have both direct and indirect impacts on the indigenous people's of the region. Two little recognized or understood realities of upstream activity—that it is temporary, and that it is not labor-intensive—combined with often inflated expectations regarding wealth generation and revenue sharing, tend to confuse the dialogue around social impacts. How these impacts are lessened or mitigated is necessarily a combination of industry practices and government policies towards socially sustainable development.

Outline:

1. Introduction and Issues Identification
 - Identification of key issues and concerns
 2. Direct Impacts
 - Indigenous people's issues
 - Colonos and impact on the social infrastructure
 3. Indirect Impacts
 - Public finance burden; provincial/state and municipal expenditure impacts (infrastructure, increased population)
 - Revenue sharing issues
 4. International Best Practices
 - Review of international best practices regarding community consultation, industry obligations, etc.
 5. Institutional Strengthening and Fiscal Reform
 - Review of current practices and guidelines of the 5 governments regarding municipal taxation, energy sector revenue sharing, public sector expenditures in the hinterland regions, social program delivery, etc.
 - Identification of policy and implementation shortcomings, with mitigation options
 6. Conclusions and Recommendations
 - Action and Discussion items stemming from this research
- (c) Case Studies:
- Consultation Practices and the OCP
 - Exploration and Exploitation in the Rainforest: Oriente Basin
 - Petroleum Revenue Management Program: Chad-Cameroon
 - Changing Past Practices: Lake Maracaibo
 - Others
- A1: Environmental legislation governing Resource Extraction in the Andean Countries: Current Practices, Deficiencies, and Recommended Changes

II. QUALIFICATIONS AND DURATION OF THE CONSULTANCY

Qualifications of the Consultant

- 2.1 The consultants on the study on Environmentally and Socially Sustainable Development must comply with the following requirements, as a minimum: (i) highest-level academic qualifications (Ph.D. degree or equivalent) in environmental or social sciences; (ii) wide experience in the environmental and social impacts of countries that export raw materials and especially of those that export hydrocarbons.

Duration

- 2.2 The consultancy will have a duration of ninety days. Travel to present the study at the regional workshop will be required

TERMS OF REFERENCE

CONSULTANT ON INDIGENOUS PEOPLES ISSUES

Project: Hemispheric Energy Cooperation: An Examination of the Potential Contribution of the Andean Community of Nations' Hydrocarbons Sector

I. BACKGROUND

- 1.1 Indigenous peoples inhabit some of the most promising areas for hydrocarbon exploration such as the Amazon basin. In the past, oil and gas activities in their territories have caused strong adverse impacts to these peoples. In addition, in international and national legal frameworks indigenous peoples have special rights over participation (previous consultation), land, resources and cultural heritage. Several national and private sector projects in indigenous territories have turned out contemptuous and in some cases the activities have been stopped. In other cases, investors have showed little interest to commit resources to these areas because of indigenous peoples opposition. Indigenous peoples demands not only relate to impact management but increasingly to their right to participate in the administration and revenues of oil and gas resources, as stated in Art. 15 of ILO 169 Convention.
- 1.2 In the last years there has been a series of efforts directed to better the business environment among oil and gas companies, indigenous peoples and governments, such as the Harvard University PONSAC supported Oil Dialogs and OLADE/World Bank sponsored tripartite meetings on hydrocarbon operation in indigenous territories in the Andean region; the consultation for secondary legislation on hydrocarbon operations in indigenous territories in Ecuador, Peru and Bolivia, Colombia's efforts to include revenues rights for indigenous peoples and Ecuador's ongoing oil policy for indigenous Amazonian nationalities dialogue .
- 1.3 The issues identified through these activities, that need to be addressed in order to ensure socio-cultural adequate hydrocarbon activities in indigenous territories are the following: (i) previous consultation; (ii) identification of exclusion areas (non contacted or isolated indigenous peoples, sacred areas, culturally sensitive); (iii) non contacted or isolated indigenous peoples especial mitigation measures; (iv) land tenure regularization; (v) capacity building and technical assistance; (vi) participation in EIAs; (vii) oil and gas management participation (the Bank is supporting Amazonia Gas initiative in Ecuador); (viii) revenues participation; (ix) relationship protocols; (x) indigenous peoples development plans ("planes de vida").

II. AIM OF THE CONSULTANCY

- 2.1 The Consultant must carry out a study, in its theoretical aspects and practical consequences for the Andean countries, of the following subjects: (i) special mitigation measures to assure ethnic, territorial and cultural integrity of indigenous peoples impacted by hydrocarbon operations; (ii) alternatives to comply with indigenous peoples participation in resource management and revenues as stated in Art. 15 of ILO 169 Convention; (iii) recommendations to exclude cultural sensitive areas from oil block biddings; (iv) alternatives to deal with non-contacted and isolated peoples impact management.
- 2.2 The added value of the consultancy in indigenous peoples issues is to identify strengths and weaknesses in the oil sector handling of indigenous rights, negative impacts and complains in the Andean countries when contrasting them with the best international practices. This will make it possible to propose changes in oil blocks biddings, legal background and policies, aimed at improving the investment environment and to assure indigenous peoples rights compliance and their participation in the management and revenues of the hydrocarbons sector in the Andean countries.
- 2.3 The study on special mitigation measures to assure ethnic, territorial and cultural integrity of indigenous peoples impacted by hydrocarbon operations will include: (i) review of the pertinent bibliography on the subject; (ii) identification of impact models on ethnic survival, indigenous territories and cultural land use management, traditional economies, indigenous health and social organization; (iii) empirical evidence for each impact topic in the Andean countries and *cross cultural* evidence in selected countries in other regions; (iv) empirical evidence for the mitigation measures adopted for impact topic in the Andean countries and in the selected countries in other regions; (v) comparison of mitigation measures uses among the Andean countries and with the best international practices, on the basis of which it will be possible to extract: (v) conclusions and recommendations.
- 2.4 The study on alternatives to comply with indigenous peoples participation in resource management and revenues as stated in Art. 15 of ILO 169 Convention will include: (i) a legal background review of paragraph one (management) and two (revenues) of article 15 of ILO 169 Convention regarding Andean nations reglamentation; (ii) a review of proposals to develop legal reglamentation of the article as in the Indigenous Peoples Development Law draft in Bolivia; Ecuador's indigenous collective rights dialogue between Confenaie and Energy and Mining Ministry; Olade's tripartite meetings on Hydrocarbon operations; and Colombia's indigenous oil revenues participation (law 200 of 2001 draft); (iii) a review of Ecuador's Amazonia Gas and Amazonia Energy experience as a way to comply with paragraph one of Art. 15 of ILO 169 Convention; (v) a review of Ecuador's Amazonia Gas and Amazonia Energy discussion on trust funds to manage revenues; and (iv) conclusions and recommendations for the Andean countries in order to

develop legal instruments and policies to comply with Art. 15 of ILO 169 Convention.

- 2.5 Regarding the recommendations to exclude cultural sensitive areas from oil block biddings, the consultant should analyze Olade's tripartite discussion on the topic, Colombia's u'wa and nukak-maku cases, Ecuador's "areas intangibles" legislation and discussion, Peru's Camisea case, and SDS/IND paper on Concept Paper for Bank Support to Pre-Qualification of Oil and Gas Exploration/Production Blocks Andean/Amazon Basin Countries at <http://www.iadb.org/sds/doc/IND%2DMDonahueOile.pdf>, and produce a comprehensive set of recommendations for the Andean countries in order to assure that an oil blocks environmental and socio-cultural sensitive areas segregation policy can be adopted to improve the region's hydrocarbon investment environment and at the same time to protect the rights and assure the survival of sensitive indigenous peoples such as Amazon hunter gatherers and Chibcha's religious societies (u'wa).
- 2.6 With regard to the alternatives to deal with non-contacted and isolated peoples impact management the consultant should build upon Peru's Camisea case and Colombia's nukak-maku case in order to develop a series of recommendations for the Andean counties to assure the survival of these peoples on a Hydrocarbon operation environment. Among others, the consultant should tackle the issues of: (i) territories regularization; (ii) territories protection; (iii) representation and indemnification management; (iv) non-contact protocols: and, specially, (v) epidemiology plans.
- 2.7 In order to advance its study, the consultant should consult with the Andean countries hydrocarbon authorities, indigenous peoples organizations (specially Amazonian) and relevant ONGs. The consultant should also contact SDS/IND specialists.

Products

- 2.8 A report will be produced that will present the results of the Study on Indigenous Peoples Issues including a set of recommendations for the Andean Countries aimed at improving the hydrocarbon investment environment and to assure indigenous peoples rights compliance and their participation in the management and revenues of the hydrocarbons sector in the Andean countries.
- 2.9 This report will be presented at the regional workshop in the second half of the second year of implementation. On the basis of that discussion the results of the present Study will be fine-tuned and a final report produced.
- 2.10 The results of the study will be widely disseminated and analyzed in each of the countries of the Andean subregion.

III. QUALIFICATIONS AND DURATION OF THE CONSULTANCY

Qualifications of the Consultant

- 3.1 The consultant or consultants on Hydrocarbon operation indigenous peoples issues: (i) high level academic qualifications in any social specialization, including law; (ii) wide experience working with indigenous peoples of countries that export hydrocarbons; (iii) theoretical knowledge and practical experience in indigenous peoples legislation, especially on hydrocarbon legislation related to indigenous peoples; (iv) theoretical knowledge and practical experience in hydrocarbon's socio-cultural impact management; (v) familiarity with the literature and discussions on indigenous peoples issues regarding hydrocarbon operations.

Duration

- 3.2 The consultancy on macroeconomic subjects will have a duration of 70 days. Travel to present the study at the regional workshop will be required