EI SourceBook

BRIEF

NATURAL GAS GUIDANCE NOTE

2011

Brief on Natural Gas Guidance Note

The objectives of this *Guidance on (Upstream) Natural Gas* are **to identify good practice with respect to natural gas exploration, development and production ("upstream") activities**, paying particular attention to: upstream gas policy, strategy, licensing; legal, contractual and regulatory requirements; and fiscal regimes. Insights on the key requirements for *downstream* gas activities beyond gas production are also presented, as gas can only be exploited if it is sold to end-users willing to pay the appropriate price.

The Guidance addresses essential upstream gas strategy and policy decisions for developing countries, the options available and good practice in the upstream sector as related to legislation, fiscal and regulatory regimes, and contracts.

1. Gas Policy Problems/ Statement of the Issues

The importance of natural gas in the world is increasing in the transition to a low carbon world. The growth of the world gas production, consumption and exports was high in the last decades and this trend will continue because conventional gas resources are quite large, unconventional gas is now more and more exploited, and gas has the advantage of a lower carbon content that other fuels. **However, gas developments may only occur if countries adopt the appropriate policies from the "wellhead to the burner tip" for encouraging both gas production and its uses.**

All the gas resources are not declared as commercial projects. **Difficulties for reaching gas commerciality** occur in particular in countries where no sufficient domestic gas infrastructure and markets already exist, which is often the case in developing countries. Commerciality requires, first, the availability of sufficient reserves, second, the identification of viable long term gas markets, locally and/or abroad when exports are justified in the country interest, and, third, finding ways for building the local processing and transmission facilities. Moreover, prioritization between the possible gas markets and uses has to be decided in order to obtain the highest possible added value for both the country and its investors.

2. Gas Policy Objectives

The two key objectives of gas policies are to encourage the exploration and production (upstream) activities in the country under a fair fiscal regime, and to actively promote the domestic uses for the produced gas. They are many ways to achieve these objectives which are detailed in the Guidance.

3. Critical Technical and Economic Considerations: Differences with Oil

Gas may be produced in two forms: as associated gas produced with oil from an "oil field" or as "nonassociated gas" extracted from "gas fields" or "gas condensate fields". Any upstream gas policy, legislation, taxation, regulation and contracts must contain specific provisions dealing with each type of gas. For example, flaring of associated gas for new oil fields should be prohibited except in very special circumstances, and priority use of associated gas when produced versus nonassociated gas should be favored.

Gas is not oil from for technical and economic reasons even if both are defined as "petroleum". Thus, on a calorific value's equivalence, gas price is generally lower than oil,; gas processing and transportation costs are greater than for oil; gas field development projects require often the prior negotiation of long term gas sale agreements with buyers, which may delay for several years the decision for development. The relative higher costs for gas require the introduction in the legislation of i*ncentives* for gas.

The type of domestic gas uses and the possibility of building export projects greatly depend on the estimated amount of available gas reserves in the country. Thus, liquefied natural gas (LNG) export projects can only be considered when significantly large reserves exist while local gas-fired power plants needs relatively small reserves.

4. Typical Sub-Optimal Practices

In summary, three examples may be given as illustrations of sub-optimal practices. First, when the petroleum law considers gas as oil without dealing with specific provisions for encouraging gas activities. Second, when the regulations do not limit flaring; or do not impose gas re-injection when such re-injection would increase the oil and condensate recovery. Third, in highly populated countries with potentially limited gas resources when gas exports are given priority versus domestic gas uses.

5. Key Principles for Good Practice

Guidelines are presented which should be introduced in petroleum legislation, taxation, regulation and contracts. They are designed for taking into account the specificities of gas versus oil and fostering gas developments in a country.

Thus, the oil and gas (petroleum) law should authorize in case of gas discoveries longer appraisal periods, and production periods, than for oil discoveries. The law should provide for mandatory joint development and exploitation of gas discoveries between several licensees when justified. The law should define the specific fiscal incentives for promoting gas activities and the principles for gas pricing as well as the specific provisions for unconventional gas. The law should also state the priorities for gas uses, in particular between viable domestic and export uses.

6. Examples/"Nuggets" of Good Practice

Many examples of successful, and less successful, countries' gas strategies and policies are highlighted under the document.

7. Conclusions/Guidance for Users of the Source Book

The gas policy has to be tailored to the respective gas resources potential and expected gas demand of the country, always with an objective of fostering gas investments.