

FUTURE GAS DEVELOPMENT PROJECTS IN SOUTHEASTERN ASIA

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The 1980s and early 1990s saw a spectacular growth in the economies of the Asian region. Energy demand in the region has been accordingly rapid, and its growth is set to continue into the next millennium. Demand is estimated to have increased by 50% in the last decade compared with a world average of 20%.

It is well documented that Asia contains over half the world's population but is less well endowed with hydrocarbon reserves. Only 4.4% of the world's proven oil and 7.1% of its proven gas lie within Asia and Australasia. The major oil producers are China and Indonesia, both of which are expected to become net oil importers by early in the next century. It is quite apparent that crude oil production will be unable to keep pace with the region's energy demand despite increased production from Vietnam and Papua New Guinea in the next few years.

In order for the oil exporters to conserve their production and for the region to reduce its dependency on crude from the Middle East there has been a significant move to develop gas reserves in the Asian region. These are estimated to be in the 350 to 400 trillion cubic feet range, and consumption is predicted to increase at an average rate of 10% per annum for the next 20 years. This fuel currently represents about 10% of energy consumption in Asia, compared with 26% in North America and 18% in Western Europe.

Countries holding large reserves of gas in Southeast Asia include Malaysia and Indonesia. Bangladesh, Thailand, the Philippines, Brunei, Burma, Vietnam, and Papua New Guinea also have significant reserves. Small amounts have also been discovered in offshore Cambodia, while there may be untapped potential in Laos where only one well has been drilled. In the past 18 months sustained exploration drilling in several of these countries has increased their reserve base. Prospects that in the past had been ignored owing to their gas-prone nature have been drilled and proved to be world-class discoveries, the most notable of these being ARCO's Wiriagar gas discovery in eastern Indonesia.

Sizable gas fields that are expected to be developed in the next decade include

- Shabazpur and Sangur in Bangladesh
- Champion, Ultra Deep and Maharaja Lela in Brunei
- Yetagun and Yadana in Burma
- Bergading Deep and Jintan in Malaysia
- Malampaya-Camago in the Philippines
- Pandora and Hides in Papua New Guinea
- Bungkal, D-Alpha, Anoa plus other undeveloped discoveries in the West Natuna Sea
- Wiriagar and Vorwata in Indonesia
- Pailin in Thailand
- Cakerawala and Bumi in the Malaysia-Thailand Joint

Development Area

- Lan-Do and Lan Tay in Vietnam

The total recoverable reserves for these fields are likely to be as much as 100 TCF. A number of other fields in the region are also slated to come on-stream.

There is significant upside for major gas discoveries with several key wells planned in the immediate future which could be tracked for early development. Those include:

- Oxy's Moulavi Bazar #1 onshore Bangladesh
- Energy Equity's Singa #1
- Asmera's Halilintar #1, and British Gas' Nambumbi #1 in Indonesia
- Amerada Hess' Phu Wiang #1 onshore Thailand
- two Unocal wells in the Thai portion of the Andaman Sea
- Texaco's Bussabong wells in the Gulf of Thailand
- BP's Hides #4 in Papua New Guinea
- The Pedco/Canadian Petroleum/Unocal well, offshore Vietnam

To encourage companies to explore, appraise, and exploit gas fields in Southeast Asia, some countries have made positive moves to relax the terms of their fiscal regimes, particularly for deepwater and remote basins.■

Note: The reservation code for this meeting is 5-0-3.