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Promoting Investment to Enhance the Energy Security of Developing Countries

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Why is Energy Security Now So Important?

Fears of running out of oil have always haunted the energy industry. After the 1973 OPEC crisis, energy security became a major foreign policy and economic policy concern for all energy importing countries. The IEA was then established as a counter to OPEC and energy importing countries made concerted moves to diversify their energy supply sources away from oil.

Over recent years, energy security has again become the most widely-discussed concern on the energy policy agenda. The main reasons are:

- (i) Since 1973, global primary energy demand has doubled.
- (ii) Despite the doubling of demand, there has been no major energy crisis since 1973 and energy has remained both available and affordable to most consumers around the world. This almost incredible achievement is due to the globalisation of energy markets.
- (iii) In more recent years, some large energy importing countries, notably the US and China, have been increasing their energy imports faster than their domestic production. They are therefore now relatively far more vulnerable to energy supply disruptions than they were in 1973. So also are developing countries because, in a globalised marketplace, a disruption that affects one will inevitably affect all.
- (iv) The final, and most recent, reason for increased concern about energy security is that terrorism is on the increase. Energy importing nations were already becoming anxious about their energy security before the events of September 11, 2001. The fear of terrorism since then has multiplied this anxiety.

The Increasing Importance of Cross-Border Trade in Natural Gas

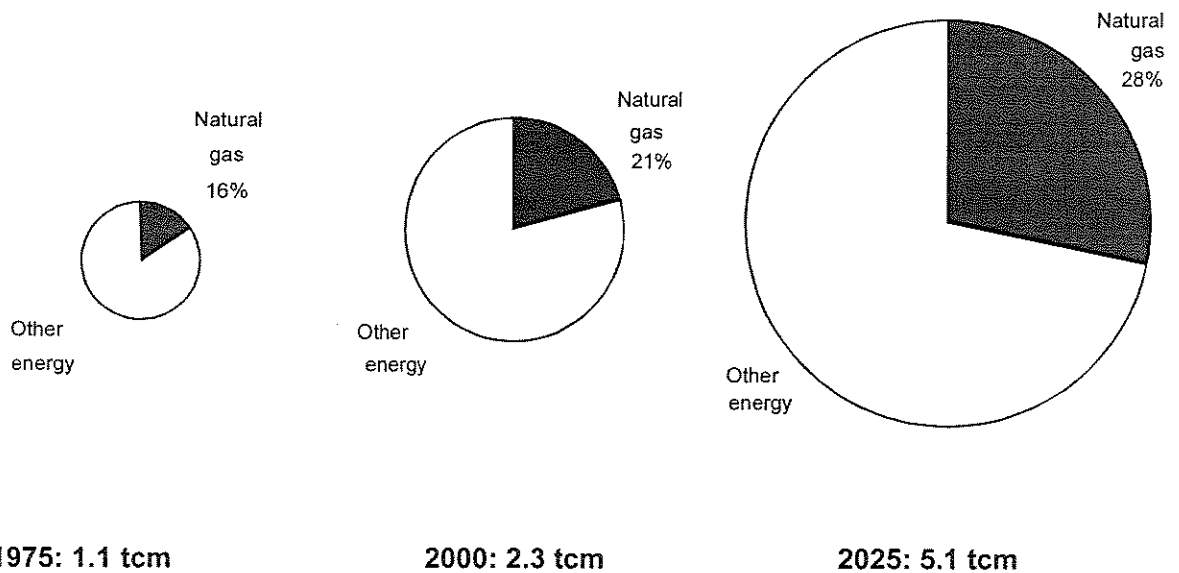
The Asia-Pacific Economic Cooperation (APEC) Energy Security Initiative outlines some short-term measures to respond to temporary supply disruptions, such as emergency stockpiling. It also outlines some longer-term policy responses, the most notable of which are measures to accelerate cross-border trade in natural gas, particularly LNG.

The International Energy Agency recently forecast that natural gas consumption would reach 5.1 trillion cubic meters per annum by 2025 and would increase its share to 28 per cent of primary energy consumption. This near doubling of the gas market, coupled with

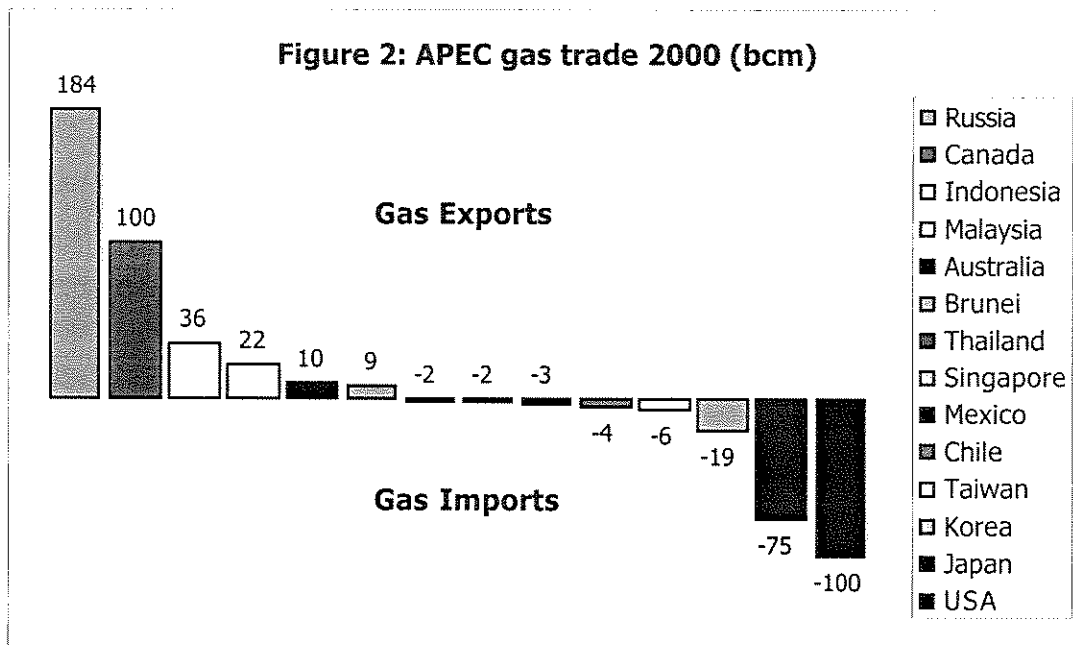
a continuing mismatch between the locations of demand and supply, will continue to drive rapid growth in cross-border gas trade.

The rate of past and future growth in the global gas market is illustrated in figure 1:

Figure 1: Global Annual Consumption of Natural Gas



There is, however, a mismatch between the location of gas resources and centres of demand. Within the APEC region, this mismatch is illustrated in figure 2:



Most of Russia's huge volume of gas exports are sent by pipeline to Western Europe and do not enter into APEC gas trade. Canada's gas exports are all sent by pipeline to the US. The pattern of APEC gas trade is about to change, with both the US and China set to become significant importers of LNG. It is noteworthy that, in 2002, China did not appear on the graph.

What Makes Individual Countries Vulnerable to Energy Supply Disruptions?

There are three main causes:

- (i) The first, and the most important, is over-dependence **on a single form** of primary energy — this applies whether it is oil, gas, coal, uranium, hydro or the new forms of renewable energy.
- (ii) The second cause is over-dependence on **any particular source** of primary energy — this applies whether it is oil from the Middle East, coal from Australia or LNG from Indonesia.
- (iii) The third cause is over-dependence on **a single delivery system** — this applies whether it is a single pipeline, a single oil or gas storage facility or a single electricity transmission grid.

Reducing energy supply vulnerability requires a portfolio approach to energy planning.

How is Security Underpinned?

Energy security for each country depends on a number of essential interrelated factors. Broadly, these factors are:

- (i) the **continuing efficiency of open global energy markets**
- (ii) a **diversified portfolio** of energy forms and energy supply sources, probably with increased utilization of natural gas and LPG
- (iii) **interconnected energy systems**: interconnection offers regional communities more opportunities to achieve environmentally favourable outcomes than they can derive from geographically isolated, smaller systems and
- (iv) **timely investment** in energy production and storage facilities, pipelines and other transport facilities, electricity generation facilities and electricity transmission and distribution networks.

What Should Individual Developing Countries Be Doing to Promote Investment?

The emphasis should not be on “investment promotion” but on market creation and market facilitation. The fundamental requirement is to create a regulatory framework which will allow market forces to operate. In this regard:

- (i) If domestic energy markets operate as competitive markets, investment should, so the theory goes, occur naturally as soon as opportunities appear.
- (ii) Underpriced energy (that is, where pricing is not allowed to reflect scarcity) is unacceptable because it destroys the incentive for investment. Higher-priced energy is better than no energy at all.
- (iii) Investors, except sometimes host governments, will not put capital into any project unless the investment environment is attractive. This means that the market risk must be manageable and that the returns on capital must be predictable.
- (iv) There are two basic “freedoms” which energy investors look for:

- the first is that energy suppliers must be allowed to operate freely as profit-seeking competitive entities;
 - the second is that a stable, predictable regulatory framework must enable the energy market to function freely, that is, without arbitrary intervention by regulators and without arbitrary imposition of price controls.
- (v) At the same time, potential misuse of market power by monopolists should be made illegal in order to protect competition in the market and to thereby protect consumers.
- (vi) A threshold requirement to attract investors is to have reliable information about energy demand and for there to be a clear growth trend. Without growth prospects, the private sector will not invest. Because of the long lead times in plant construction, it is necessary to attract investors as early as possible. A body such as an industry planning council should undertake and publish reliable annual rolling 10-year demand forecasts. Although each new energy project will be evaluated on its own merits, investors can use the published forecasts as the core information to evaluate investment opportunities.

Individual developing countries should study success stories about market creation in other countries and adapt the lessons that others have learned to their own supply and demand circumstances.

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- energy law and policy
- energy projects, project financing and risk management
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Over recent years, ResourcesLaw International has been engaged by the APEC Energy Working Group as consultants on a number of study projects. These include:

- Cross-Border Power
- Micro-Economic Reform of the Electricity Industry
- Energy Security
- Cross-Border Gas Trade by Pipelines and LNG Projects.

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Robert Pritchard is the editor of "Economic Development, Foreign Investment and the Law", published by the International Bar Association and Kluwer Law International, London, 1996.

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