

DRAFT EXECUTIVE BRIEF



Regional Centre
in Bangkok

Policy Study on Cross-Border Energy Trade and its Impact on the Poor

Background

Growth in energy demand in the Asia-Pacific region is expected to account for a fifth of global demand by 2010. With the majority of countries in the region net importers of energy, cross-border trade in energy is expanding rapidly. This is accompanied by key structural changes in energy trade, such as:

- ✚ the emergence of China and India as aggressive importers on a global scale, on par with the industrialized countries;
- ✚ the expanding outreach of trade along all available paths, including across-the-border bilateral trade between neighbouring countries, sub-regional trade agreements, and transcontinental acquisition of production facilities and construction of new supply lines; and
- ✚ growing deregulation and market-oriented reforms within the energy industry.

With international oil prices on an unprecedented uptrend, competition for available supplies across the world will likely intensify in the future. A surge in energy trade is, therefore, inevitable to secure the economic development prospects of regional countries. At the same time, structural changes in domestic energy markets can create new barriers for the poor to access modern energy, and subject them to greater economic, social and environmental hardships. Governmental policies on resource allocation, public expenditure and energy pricing can mitigate or increase the risk of such hardships to the poor who are being increasingly exposed to market forces.

Research Questions

The policy study is intended to answer the following questions:

- ✚ What are the motivations for expansion of cross-border trade in energy among exporting and importing countries within the region?
- ✚ What is the extent of current cross-border trade in energy and how is it distributed among different energy sources and technologies? What are its anticipated trends over the next 10 to 20 years?
- ✚ Which institutions play a decisive role in identifying and negotiating cross-border energy trade agreements/projects? To what extent are the poor included/excluded?
- ✚ What have been the economic, social, environmental and energy security impacts of cross-border energy trade in *exporting* as well as *importing* countries? To what extent have the poor on either side benefited or been adversely affected?
- ✚ Has cross-border energy trade widened or narrowed rural/urban and poor/non-poor gaps in social and economic status? If so, in what ways and to what extent?
- ✚ Has cross-border energy trade enhanced the poor's access to modern fuels and electricity? If so, how and to what extent? If not, why?
- ✚ What opportunities and barriers exist for the further expansion of cross-border trade in energy goods and services? To what extent will they affect the poor?
- ✚ What policies and mechanisms (e.g., price regulation, investment subsidies, public service obligations) are being employed by governments to protect the interests of the

- poor in a changing environment of expanding cross-border trade and energy market liberalization? How effective have they been?
- ✚ What strategies and policy inventions can best cope with the adverse impacts of expanding cross-border energy trade?
 - ✚ Which specific strategies and policies can be identified to ensure that the poor's access to energy services is enhanced and not curtailed, and their social and economic status advanced?

Approach, Methodology and Coverage

The study consists of a review of global and regional trends in cross-border trade in energy goods and services, an analysis of their policy underpinnings, and an assessment of their impacts, especially on poverty. It has four components:

Global assessment

Review global trends and developments in energy trade, including scenarios and projections of future energy supply and demand, and their overall impacts and implications for poverty reduction and achievement of MDGs.

Regional assessment

- a) review the economic, social and environmental impacts of energy trade against sub-regional diversities and linkages, particularly in terms of the poor's energy access levels;
- b) map principal bilateral and sub-regional trade agreements;
- c) identify and review energy trade policies and strategies with special emphasis on linkages to poverty reduction and the MDGs.

National assessment (in China, Indonesia, Lao PDR and Timor Leste)

- a) identify energy trade-poverty linkages and assess the impacts of increased energy trade on the poor;
- b) review policies on energy goods and services trade from the perspectives of both exporting and importing countries to analyze their underlying motivations; and
- c) examine the actual and potential linkages between policies on energy trade, poverty reduction and achievement of the MDGs.

Micro assessment (case studies in China, Indonesia, Timor Leste and Lao PDR)

- a) assess the impacts of energy export-oriented facilities on local communities in areas adjoining such facilities;
- b) analyze the benefits and costs of such facilities on the living conditions and livelihoods of the poor; and
- c) consult local government authorities, NGOs, facility operators and others on measures adopted to promote poor's interests.

Interim Findings

Trends in cross-border energy trade

- ✚ Japan, Republic of Korea (RoK), China and India among top ten oil importers in the world. Japan's and RoK's imports declined by 4% and 12% during 2000-2003, while China's and India's imports rose by 29% and 22%.
- ✚ Iran is only Asian country featuring among top ten oil exporters in the world.
- ✚ 27.5% of world trade in liquefied natural gas (LNG) occurs in Asia. But Asian piped gas flows are only 3% of world flows.
- ✚ 26% of world coal exports are from China and Indonesia, mostly within the region to Japan, Republic of Korea and Chinese Taipei.
- ✚ Regional trade in electricity trade largely bilateral and only about 3% of world trade.

- ✚ By 2030, region's share of oil and gas trade expected to increase by more than 50%, share of coal trade to remain the same, and share of electricity trade to increase as demand more than doubles.
- ✚ Asian oil and gas imports to rise threefold by 2030, much of it from Middle-East.
- ✚ Several new electricity interconnection projects under consideration within Asia.

Motivations for energy trade

- ✚ Lower costs, export revenues, and diversity and security of supply.
- ✚ Regional oil exporting countries becoming net importers (China, India, possibly Malaysia).
- ✚ Energy security an increasingly urgent concern.
- ✚ Increasing focus on gas production and use.
- ✚ Gas and power infrastructure bottlenecks, resulting in increasing political attention to sub-regional infrastructure networks.

Potential benefits of energy goods trade

- ✚ For exporting countries:
 - ◆ increased exports leading to higher GDP and better balance of payments;
 - ◆ fiscal receipts from ownership, royalties and taxes;
 - ◆ ability to develop national resources where local markets are small;
 - ◆ investment and economies of scale in energy production; and
 - ◆ downstream activities associated with energy production.
- ✚ For importing countries:
 - ◆ access to required energy inputs;
 - ◆ increased diversity and security of supply;
 - ◆ lower prices compared to domestic self-reliance;
 - ◆ less domestic pollution; and
 - ◆ benefits of power grid interconnection.

Potential costs of energy goods trade

- ✚ For exporting countries:
 - ◆ export of energy means import of global/regional energy prices;
 - ◆ 'Dutch disease/resource curse' due to poor management of natural resources; and
 - ◆ social and environmental impacts of large energy-industrial development.
- ✚ For importing countries:
 - ◆ exposure to global prices and volatility; and
 - ◆ dependence on politically unstable suppliers.

Implications of energy services trade

- ✚ Fiscal implications
 - ◆ shift of investment burden to private and international players; and
 - ◆ reduced operating subsidies to loss-making utilities.
- ✚ Costs and technology
 - ◆ reduced costs and improved service;
 - ◆ improved access to management skills and technology; and
 - ◆ expensive private sector capital.
- ✚ Prices and access
 - ◆ move towards cost-reflective prices;
 - ◆ efficiency gains at expense of equity loss; and
 - ◆ reduced incentive to expand access and supply low-income areas.

Actual impacts of energy trade in the region

- ✚ Macroeconomic impacts:

- ◆ export revenues have been very important for several regional countries; and
- ◆ subsidy policies have often become unsustainable as energy prices have risen, with implications for public expenditure.
- ✚ Impacts on poor:
 - ◆ energy access improving, but not necessarily more so in exporting countries;
 - ◆ access enhancing programmes more a result of explicit policies than liberalization of domestic energy markets;
 - ◆ increased commercial incentives reducing access levels due to problems of affordability;
 - ◆ tariff rises causing new difficulties for poor;
 - ◆ some exporters allocating export profits to promote access and lower prices for the poor; and
 - ◆ high prices stimulating domestic energy production with income benefits for poor.

Case study of Indonesia: macroeconomic impacts

- ✚ Export of energy resources (oil, gas and coal) has created huge state revenues.
- ✚ Substantial investments made in infrastructure, education and health, especially in rural areas.
- ✚ 'Dutch disease' and other natural resource 'curses' avoided, but governance problems underpin pace of development.
- ✚ Following Asian economic crisis of 1997, large-scale decentralization initiated, including sharing of LNG revenues between central, state and local governments.
- ✚ Significant poverty reduction gains induced by economic growth accompanied by pro-poor, rural-directed policies — but relatively low priority to social services compared to other sub-regional countries.
- ✚ Decentralization of resource allocation has increased regional disparities, with poor remaining vulnerable.
- ✚ Recent steep reduction in fuel price subsidies, with eventual intent to remove them altogether, accompanied by poverty reduction measures — but benefits of these to richest 10% five times more than those for poorest 10%.

Case study of Indonesia: impacts of export-oriented LNG plant on the poor in Bontang

- ✚ Rapid development of Bontang township.
- ✚ Significant development of roads, market, school, water, gas, electricity and other infrastructure.
- ✚ Emergence of several new shops and establishments.
- ✚ Setting up of fertilizer and coal mining facilities leading to added employment.
- ✚ Over USD 6 million invested by LNG plant in infrastructure, health, education and environmental impact mitigation.
- ✚ Significant decline in poverty as compared to provincial and national averages.
- ✚ Increased access to civic amenities and social services.
- ✚ However, unemployment levels among poor higher than provincial average, likely due to high reliance on migrant workers.
- ✚ Adverse environmental impacts by way of air and water pollution.
- ✚ Reduction in mangrove forested areas taken up by large corporations, leading to loss of livelihood for local fishermen.

Ongoing Work

- ✚ Data from macro level assessment in China and case study in Timor Leste being analyzed.
- ✚ Micro level assessment in China and case study in Lao PDR under way.
- ✚ Analytical approach being refined to more closely define and assess linkages between energy trade, poverty and MDGs.

Timeline and Follow-Up

The study commenced in early November 2005 and will be completed by end of June 2006. Its final outcomes will be reviewed by UNDP, with close attention to the methodologies developed and employed since the issues addressed by the study— crucially, the assessment of impacts on poverty and the MDGs — have insufficient precedents in past studies of energy policies.

Follow-up actions will be determined through internal cross-practice consultations within UNDP and external consultations with national governments and donors. Tentatively, these could consist of a regional policy forum, sub-regional and national policy dialogues, replication of in-depth case studies in other countries, and capacity-building and advocacy in pursuit of medium- to long-term coping strategies.

For more information:

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