

Opportunities Presented by Climate Change Mitigation and Adaptation

Asian Development
Bank

IFI Bootcamp, Winnipeg
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ADB – Purpose and Ownership

- Established in 1966
- ADB purpose to reduce poverty in Asia-Pacific
- 67 member countries
- AAA Credit Rating
- Canada the 7th largest shareholder (2nd among non-regionals)



ADB's Market and Product Range

- **Diverse Clientele:** ADB works with about 40 developing member countries, from the Caucasus to the Pacific
- **Core ADB Business:** about 80% of business with governments, remaining 20% with private sector
- **Modalities:** principally loans and grants, also guarantees and equity.
- **Scale of Financing:** \$11 billion for 82 new projects in 2007



ADB's Investment Priorities to 2020

- *Countries:* Pakistan, India and Viet Nam the largest borrowers in 2007
- *Priority Sectors:* Infrastructure, environment and climate change, regional cooperation and integration, financial sector, education.
- *Themes:* ADB integrates private sector development, good governance and capacity development, gender equity, knowledge and partnerships.



Climate Change – The Context in Asia and the Pacific



- Asia has dynamic economies, but fastest growth in GHGs

Rapid economic expansion has benefited poor, but is based on energy access – Asian energy use to rise 112% by 2030 (42% of global energy-related CO2 emissions)

Energy production and land use patterns (e.g. deforestation), waste management practices, exact a high price on environment, with concerns for security and livelihoods, and with global impact

Manifestations of Climate Change – Some Examples

- **Biodiversity:** increased extinctions of plants and animals, coral reefs under major threat
- **Crop Yields:** projected fall of 5 to 30% by 2050
- **Flood:** caused by glacial melt, and in coastal cities
- **Health:** increases in morbidity and mortality (diarrhea, cholera, water-borne diseases)
- **Hunger:** about 130 million at greater risk by 2050
- **Water:** reduced fresh water for 1 billion people by 2050

All of these factors have the potential to reverse the gains made in Asia-Pacific in economic and social development

Stablizing GHG Concentrations



- **Stern Review:** stabilize GHG between 450ppm and 550ppm
- **Reductions Needed:** To achieve 500ppm, emissions must peak in 10 to 20 years, and then drop by 4–6% annually, resulting in 50-70% below 2005 levels by 2050

'Leapfrogging' – The Role of Technology

- **Technology:** ADB believes that some DMCs could apply existing technologies and practices in OECD countries – e.g. move straight to hybrid vehicles, LED traffic lights



Promoting Clean Energy

- **Energy** represents 50% of all GHG emissions in Asia
- **Curbing Demand Essential:** with focus on industrial, commercial, residential, municipal and transport sectors
- **Multiplier effect:** means that, in some DMCs, 1 unit of demand savings leads to 10 times savings in energy input



Examples of Demand-Side Efficiency Investments supported by ADB

- Energy-efficient plant and machinery retrofits in industry and commerce
- Residential light fixtures
- Higher efficiency vehicle fleets
- Public transport, bikeways

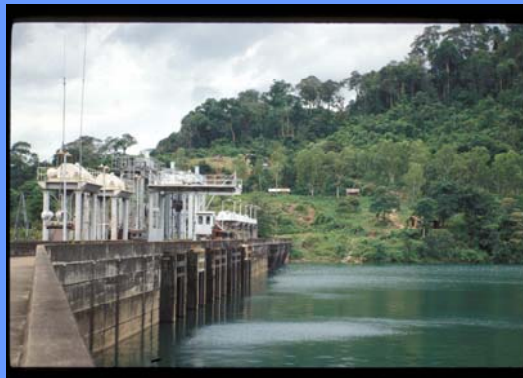


Examples of Supply-Side Efficiency Investments supported by ADB

- **Supercritical Steam Turbines**
 - can be more than 20% more efficient than conventional steam turbines
- **Recovering and Using Waste Heat:** e.g. boiler rehabilitation
- **Transmission and Distribution:** investments can cut losses by half



Renewable Energy Investments



- **Substantial Promise:** With incremental costs declining, renewable energy promises environmental and energy security benefits
- **Modes:** biomass, wind, geothermal, small hydropower and solar water heating – increasingly competitive with conventional
- **Ideal for Off-Grid and Rural Areas:** can provide lighting, refrigeration and water supply, with ensuing health, education benefits

Promoting Clean Energy Sources

- **Gas:** ADB promotes natural gas transmission and distribution (e.g. Bangladesh, PRC, India, Kyrgyzstan)
- **Hydropower:** ADB projects have ranged from 5MW to 100MW
- **Wind:** growth area – experience in India
- **Biofuels:** ADB sensitive to relationship with food security



Mitigating Fugitive Emissions

- Tackling Coalmine Methane (CMM): ADB supports improved drilling techniques and engines to produce, and capture CMM
- CMM accounts for 6% of global methane emissions – ADB estimates that CMM can be brought down by 84% in South and Southeast Asia
- ADB is also active in (i) reducing or capturing methane emissions from solid waste (which accounts for 12% of global methane emissions); (ii) reducing agricultural methane emissions, e.g. through digesters in pig and dairy farms



Mitigation through Land-Use Management

- **Critical Role of Forests:** deforestation accounts for 18% of global carbon emissions, due to reduced CO₂ absorptive capacity (Stern report)
- **Forests linked closely with poverty:** many poor people depend on forest products – so preventing emissions must be combined with economic support
- **Dry-Land Farming:** increase organic materials in soil to improve productivity, and enhance CO₂ sequestration capacity



Adaptation – Need for Investment

- Stern Review estimates \$10 billion costs annually for developing countries, with the poor worst affected
- Adjustments to infrastructure needed for floods, storm surges, water shortages, cyclones



ADB's Adaptation Program – Some Examples

- ADB is promoting national adaptation planning, including support to coastal cities (e.g. Bangkok, Ho Chi Minh, Jakarta, Karachi, Kolkata, Manila) for analysis of future climate conditions
- ADB is working on climate-proofing of infrastructure, especially in the Pacific
- In Central Asia ADB promotes land management to help countries cope with warmer temperatures, increased drought through drought-resistant crops, improved irrigation efficiency, water resource management, forest and pastureland rehabilitation and watershed protection

Planning Climate Change Activities

- With each country (and some regions), ADB concludes a **Country Partnership Strategy**, and which highlights priority areas for investment over a 5-year period
- A **Country Operations Business Plan** is prepared, detailing projects to be prepared over a 3-year period
- A **Project Information Document** is prepared highlighting key project objectives and elements

All these documents are available on www.adb.org and give a comprehensive overview of ADB's upcoming activities in response to climate change

Funding Climate Change Activities – ADB Funding Sources

- **Ordinary Capital Resources:** LIBOR-based lending resources.
- **Asian Development Fund:** concessional funding (grant or low interest) for investments in the poorest DMCs.
- **Technical Assistance and Grants:** for project preparation, advisory and capacity development support, and experimental or demonstrational projects
- **Global Environmental Facility:** ADB is an implementing agency for this global facility
- **Proposed (Climate Investment Funds):** potentially a significant source for clean technology and adaptation investments, ADB is working with other international organizations on these funds' design.

Canadian Firms and the ADB

- Canadian firms' share of goods and works procured amounted to \$29 million in 2007 (29th place)
- Canadian firms do better in consulting contracts with \$17 million in 2007 (6th place)
- Total ADB procurement in 2007 was \$7.1 billion



THANK YOU!