



# ENERGY EFFICIENCY IN ASIA AND THE PACIFIC: SELECTED POLICIES AND PROGRAMMES

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on Global Energy Efficiency 21

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# THE ESCAP REGION

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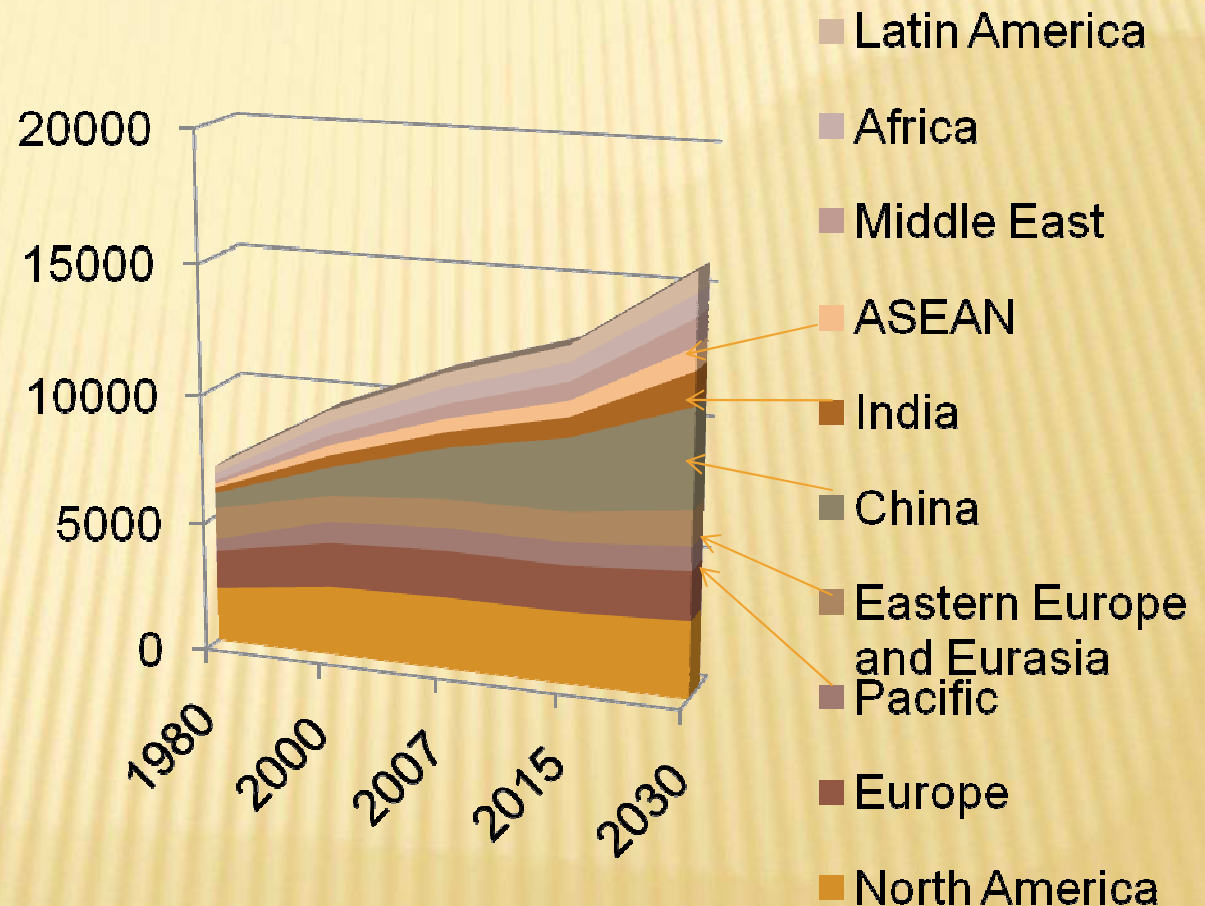
# DEVELOPMENT CONTEXT

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- ✘ Wide social, economic and geographic diversity:
  - + 53 member states & 9 associate members
  - + 14 least developed countries, 12 landlocked developing countries, 22 island states, 3 developed countries (excluding UK, US, Netherlands and France)
  - + Population in member states in 2008 ranged from 2,000 (Niue) to 1.3 billion (China)
  - + In Asia-Pacific 40% of population (1.6 billion) currently lives in urban areas; by 2030, a majority (around 2.7 billion) will live in cities and towns
- ✘ Poverty Reduction is a main priority for many countries:
  - + The region consists of 61% of the global population - around 4.1 billion and is projected to grow by another billion by 2030
  - + 25 % of population of these people live on less than \$1.25 per day – around 1 billion people, equating to a around 60% of the world's poor.
  - + 900 million people without access to electricity
  - + 1.7 billion people rely on traditional biomass
- ✘ Combating Climate change:
  - + CO<sub>2</sub> emission increased by average 3.2% between 1990 and 2007. 96% of the emission is attributed to the energy sector.
  - + Almost 48% of the global CO<sub>2</sub> energy related emissions, projected to grow to over 52% by 2030.

# PROJECTED GROWTH – PRIMARY ENERGY DEMAND BY REGION OVER TIME (MTOE)

- ✘ Primary energy demand, along with energy related CO<sub>2</sub> emissions are projected to grow by 40% by 2030 from 2007 levels.
- ✘ A large proportion of this growth will come from developing Asia as economies support their development needs.



Source: IEA, 2008



# ESCAP ACTIVITIES RELATED TO ENERGY EFFICIENCY

# STRENGTHENING INSTITUTIONAL CAPACITY TO SUPPORT ENERGY EFFICIENCY

- 2 year project (April 2009 – March 2011) aimed at building the capacity of policy makers to improve institutional arrangements in support of energy efficiency.
- Selected countries from Central, South and South-East Asia (23 countries)
- Work with subregional partners: ASEAN Centre for Energy (ACE), Eurasian Economic Community (EurAsEC), South Asian Association for Regional Cooperation Energy Centre (SAARC)
- Other participating partners: Asian Development Bank, International Energy Agency (IEA), World Bank, and USAID ECO-Asia
- Activities include:
  - review of existing national, regional and international institutions and their role in promoting energy efficiency;
  - compilation of best practices and case studies;
  - identifying measures to strengthen and sustain institutions;
  - development of guidelines to assess the gap towards optimizing the efficiency of institutional arrangements in promoting energy efficiency at the national level;
  - a gap analysis in selected countries and policy dialogues to develop strategies to improve institutional capacities.

# SUPPORTING THE IMPLEMENTATION OF THE BAKU INITIATIVE

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- ✘ Aims to support participating Governments implement joint programmes on energy efficiency for enhancing regional cooperation on energy security in SPECA countries.
- ✘ Ultimate aim of developing a “SPECA region concept on energy efficiency”, as recommended by the 2008 and 2009 PWGs.
- ✘ Baku Initiative originally adopted 2006 by the SPECA Coordinating Committee



# **SELECTED NATIONAL RESPONSES RELATED TO ENERGY EFFICIENCY**

# CHINA

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- × Clean Energy Mechanism Fund:
  - + Fund developed to expand project-level projects to national level
  - + Levied from CDM projects implementing in China
  - + Mandate to support and promote domestic activities to address climate change
  - + Will be used for capacity building and public awareness along with concrete actions of mitigation and adaptation

# CHINA - ENERGY CONSERVATION LAW (2008 AMENDMENT)

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- ✘ Amended in April 2008 to help meet the targets of the 11<sup>th</sup> 5-year plan:
  - + 20% reduction in energy intensity and 10% reduction in emissions.
- ✘ Reduction requirements differ across each province
- ✘ In addition to power supply and availability, the transport, construction and public sectors have been added
- ✘ Success in meeting goals linked to contracts of the senior management in the local government
- ✘ Requires governments at all levels to increase investment in public transportation, improving services and encouraging people to use public transportation.
- ✘ Market-based enforcement solutions to the law, though still under development, include national and local energy conservation funds, tax and subsidies for energy efficient products, loans and government procurement requirements.

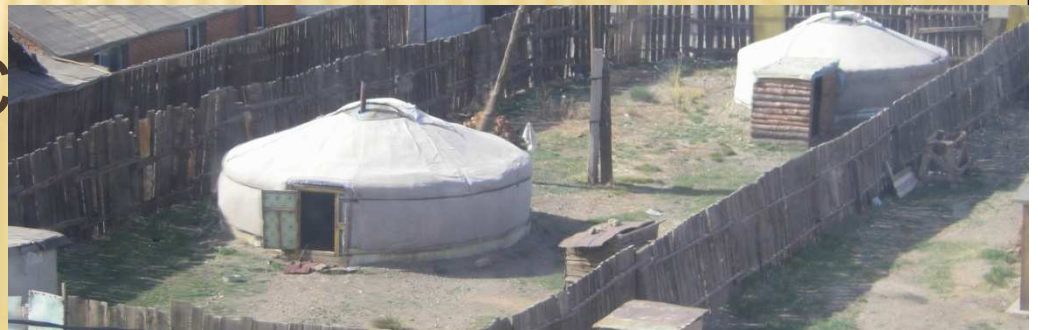
# CHINA - PROMOTION OF ESCOS

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- ✘ Specific government regulation to promote energy service companies – announced 6 April 2010.
- ✘ Companies that sign a contract with an ESCO is provided with a number of financial benefits and tax breaks. Details still being developed, but include:
  - + Exemptions from income tax over the first six years of the contract;
  - + Exemption from VAT for energy saving infrastructure purchased under the contract;
  - + Support for ESCO contracts from the central government budget allowing access to a number of financial mechanisms such as loans, subsidies, etc.
- ✘ Also encourages financial institutions to develop innovative credit products, broaden their range of collateral used for loans, and steam-line application procedures , among other services.

# MONGOLIA - XAC BANK

- ✘ 70% of the pollution in the Ger District and 60% of the pollution in the city during the heating season is attributed to coal burning in Gers (WB estimate)
- ✘ 60% of the city population live the Ger District
- ✘ The bottom fifth quintile spend as much as 40% of the monthly winter income on heating fuels
- ✘ Temperatures in winter can reach  $-40^{\circ}\text{C}$



# XAC BANK GREEN PROJECT

- ✘ Provides loans for specific products aimed at reducing the energy consumption and pollution from Gers – efficient cooking stoves and highly insulated Ger blanket
- ✘ Loan terms: 0% down payment, 17% annual interest, 2 year term
- ✘ A grant from FMO is used to reduce the interest rate – usually interest rates are 22% or more
- ✘ Xac Bank has an agreement with Microenergy Credits who purchases carbon credits for each product sold, bundles these credits and sells them on the carbon market.
- ✘ Financial savings for the customer:
  - + Stove: save up to 66% on monthly fuel costs – payback period around 5 months

Ger blanket: save up to 50% on monthly fuel costs – payback period 14 months

Product	Cost	Monthly payment	Fuel cost w/o product	Fuel cost with product	Fuel + Loan	Monthly savings
Stove	164,000	7,550	82,600	41,300	48,850	33,750
Ger blanket	550,000	27,190	82,600	41,300	68,490	14,110

# INDIA - BACHAT LAMP YOJNA

(CDM-based lighting project for households)

- ✘ First pilot project registered by UNFCCC in September 2008 (National Roll out to be take place shortly)
- ✘ Targeted 400 Millions incandescent Lamps and its replacement to CFLs at the price of incandescent bulbs to avoid 4000 MW Capacity Addition.
- ✘ The difference in cost would be recovered through the carbon credits CERs that accrue because of their lower energy use.
- ✘ CFLs distribution by Private-sector companies and DISCOMs



# INDIA - IREDA

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- ✘ Indian Renewable Energy Development Agency (IREDA) was incorporated in 1987 under the administrative control of the Ministry of New and Renewable Energy.
- ✘ Operates a revolving fund for development and deployment of RE and for EE investments.
- ✘ In-house technical capability along with out-sourced expertise, including a network of business development centres to help develop pipeline projects.
- ✘ Loan procedures were seen as very bureaucratic and they tend to have less flexibility in changing market needs. Has had some difficulty in competing with local banks once the initial market has been developed.

# INDIA – CLUSTER LENDING FOR SMES

- ✘ Lending programmes in India worked better for larger firms than small to medium enterprises (SMEs).
- ✘ Therefore, the State Bank of India developed a cluster lending approach for technology upgrades in clusters of industries that are co-located or similar technologically.
- ✘ Simplifies processes and transaction costs for SMEs for the purpose of upgrading technology and improving performance, either directly or indirectly leading to efficiency gains.

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**THANK YOU!**