



Asia-Pacific
Economic Cooperation

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Agenda Item: 5

APEC Energy Security and Sustainable Development Through Efficiency and Diversity

Purpose: Information
Submitted by: EWG Secretariat



8th Meeting of Energy Ministers
Darwin, Australia
29 May 2007

The APEC Australia 2007™ Year

APEC energy security and sustainable development through
efficiency and diversity

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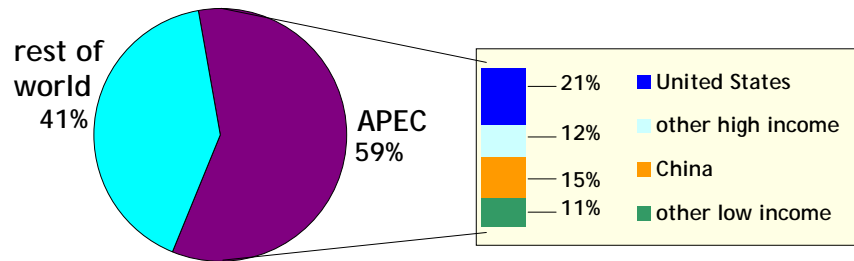
Darwin, 29 May 2007



Key themes

- Role of clean energy technologies in achieving sustainable development
- Barriers to investment in new technologies
- Policy challenges to improve technology R&D, adoption and transfer
- Areas for further work by the EWG

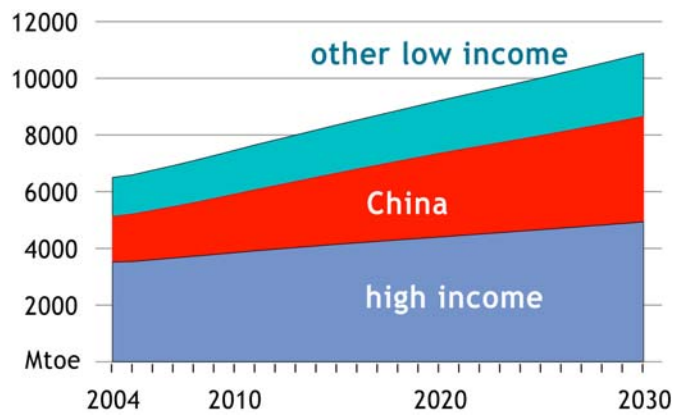
APEC represents a significant share of world energy consumption



in 2004

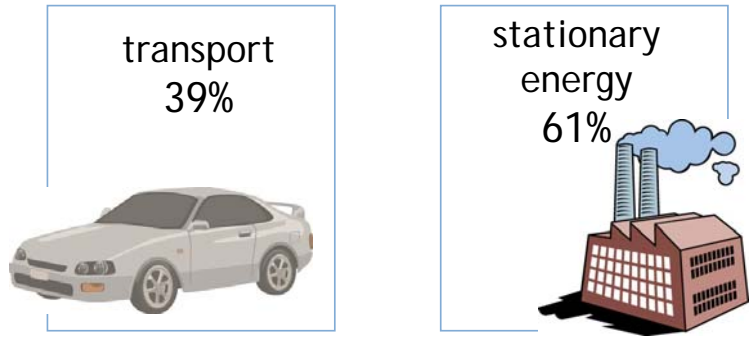
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China dominant in future APEC energy consumption growth



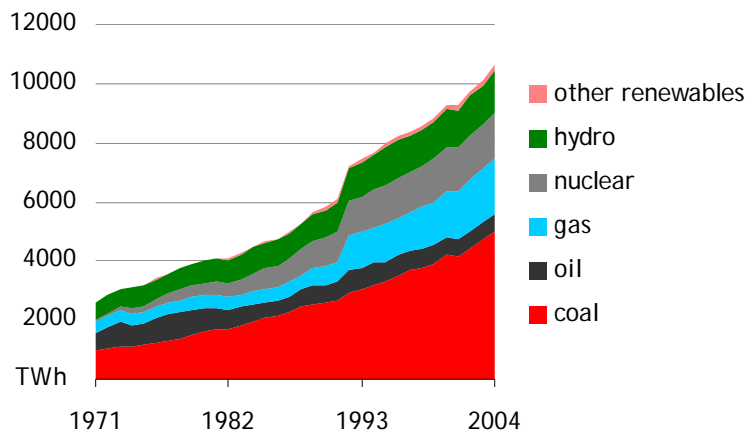
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Energy consumption in APEC stationary energy sector in 2004



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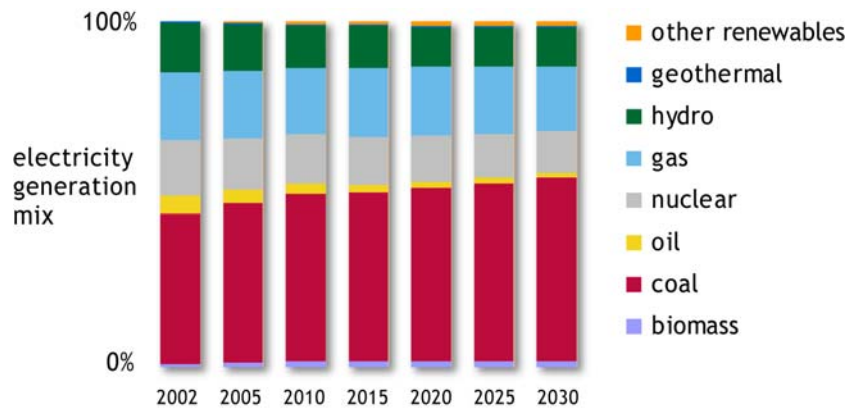
APEC electricity generation by fuel type



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excludes Russian Federation before 1992

Coal will dominate APEC electricity generation to 2030



source: APERC (2006)

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Policy options

- Enhancing energy security
- Improving the operation of energy markets
- Facilitating investment in cleaner energy technologies
- Encouraging energy efficiency

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Technology options for electricity generation

Technologies

- advanced coal
- advanced gas
- nuclear power
- renewables

Emission control options

- electrostatic precipitators
- flue gas desulfurisation
- selective catalytic reduction
- carbon capture and storage

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Technology options for end use sectors

- direct reduced iron in iron and steel production
- inert anodes in aluminium sector
- fluidised bed kiln technology in cement sector
- lighting in households
- energy management systems for buildings

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What are the barriers to investment?

- macroeconomic conditions and trade restrictions
- inadequate institutional capacities
- inadequate infrastructure
- inadequate intellectual property rights
- inadequate human capital



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Policy options to encourage new technology

- Intellectual property rights
- Government technology and performance standards
- Grants, subsidies and tax incentives
- Emissions trading /tax schemes
- Joint ventures and international collaboration

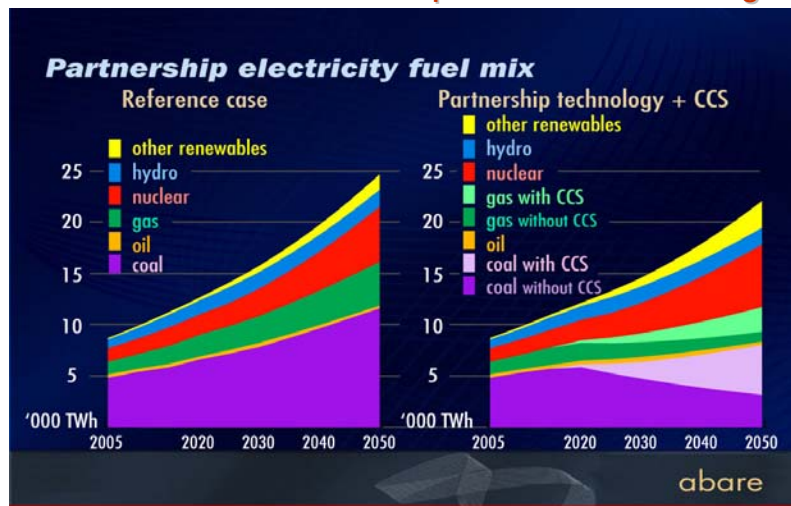
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The importance of cooperation

- Solid achievements of APEC Energy Working Group
- Collaboration with other international organisations, including the IEA, APP and EAS
- Cooperation can achieve tangible results

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APP - collaborative adoption of technologies



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Conclusions

- Assess the options for addressing barriers to technology uptake
- Efficient operation of markets can enhance uptake
- Encourage energy efficiency and diversity
- Continue to collaborate and share information