
APEC Energy Overview

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Outline

- Background
- Scope of Work/Task Sharing
- Format and Content
- APEC Economic Profile
- APEC Energy Profile
- Notable Energy Developments

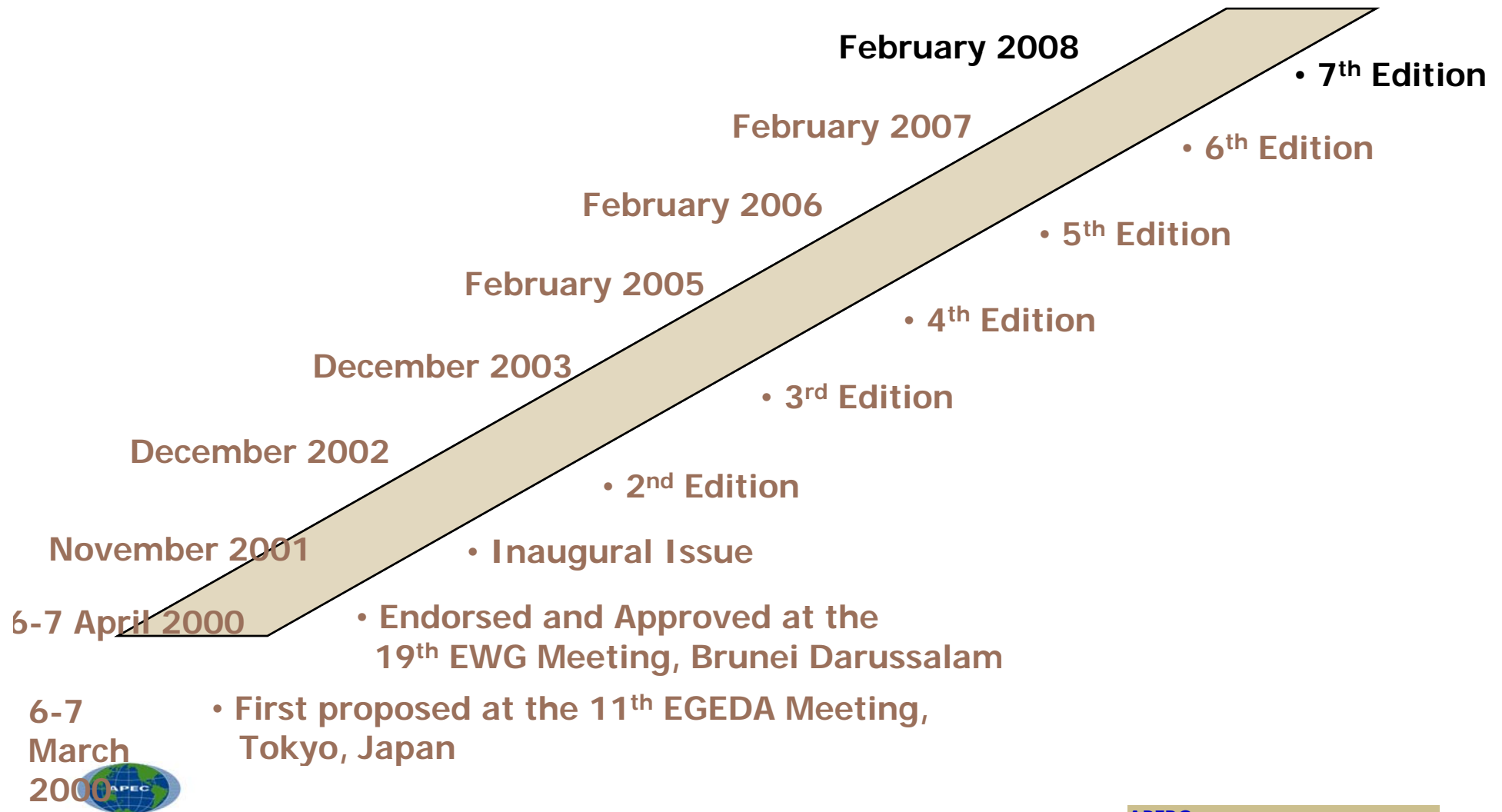


Background

- The project was proposed at the 11th EGEDA Meeting held on 6-7 March 2000, Tokyo, Japan.
- The project was approved at the 19th EWG meeting held in Brunei Darussalam, 6-7 April 2000.



History of Publication



Scope

- Annual publication of up-to-date energy trend analysis for the APEC region
- Provision of an overview for recent and notable energy developments in the 21 APEC member economies



Task Sharing

EDMC, IEEJ

- To prepare the summary of energy demand and supply data, based on the APEC Energy Database

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- To coordinate information gathering from the member economies
- To prepare drafts of Overview for EGEDA review
- To finalise the Overview and submit it to the EWG

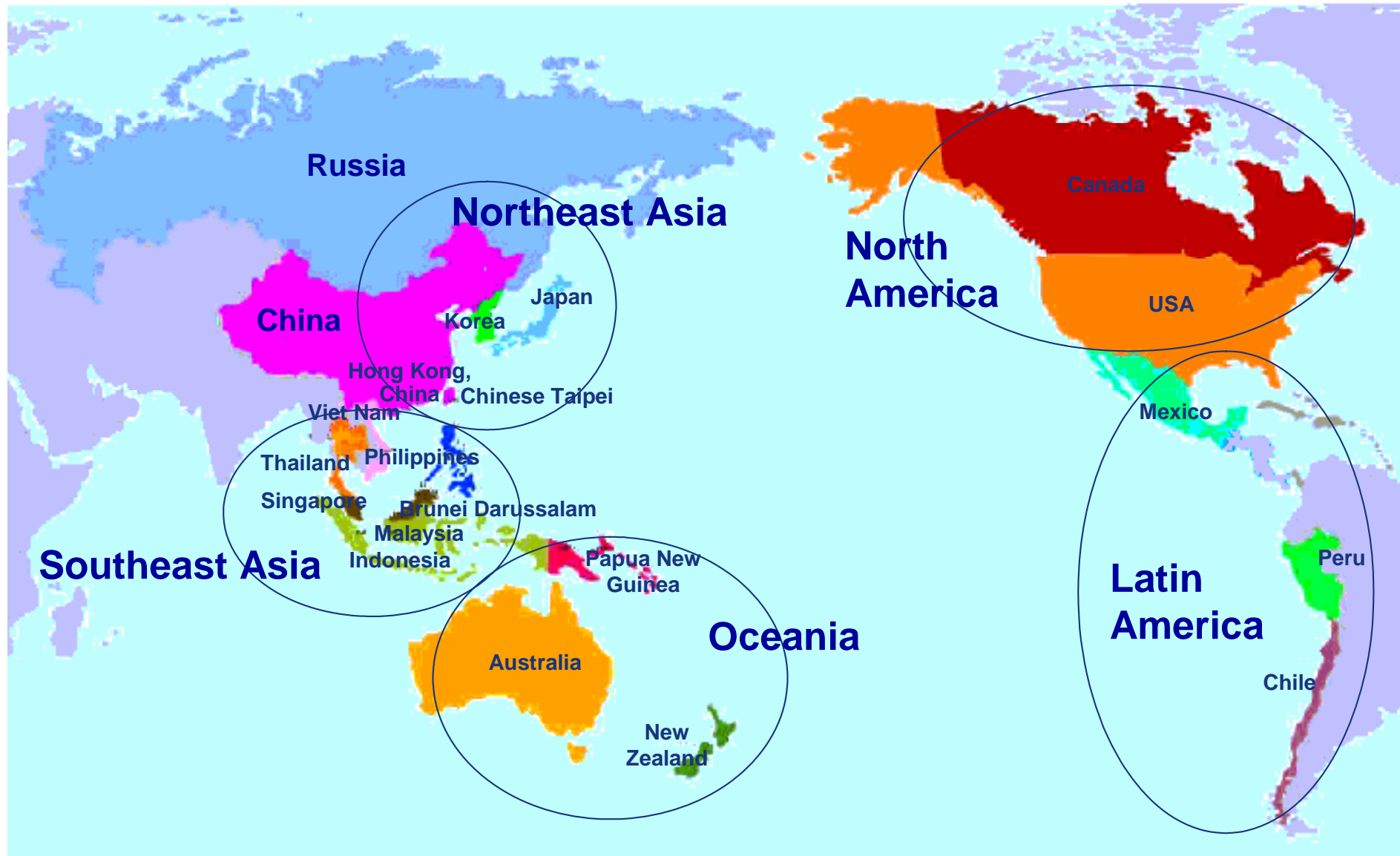


Contents of the Overview 2007

- Introduction
 - Key data and economic profile (2005), energy reserves
- Energy Supply and Consumption for 2005
 - Primary Energy Supply
 - Final Energy Consumption
- Policy Overview
 - Energy Policy Goals, Objectives and Strategies
- Notable Energy Developments (2005-2007)
 - Recent Energy Policy Changes or Energy Infrastructure Developments



Regional Grouping

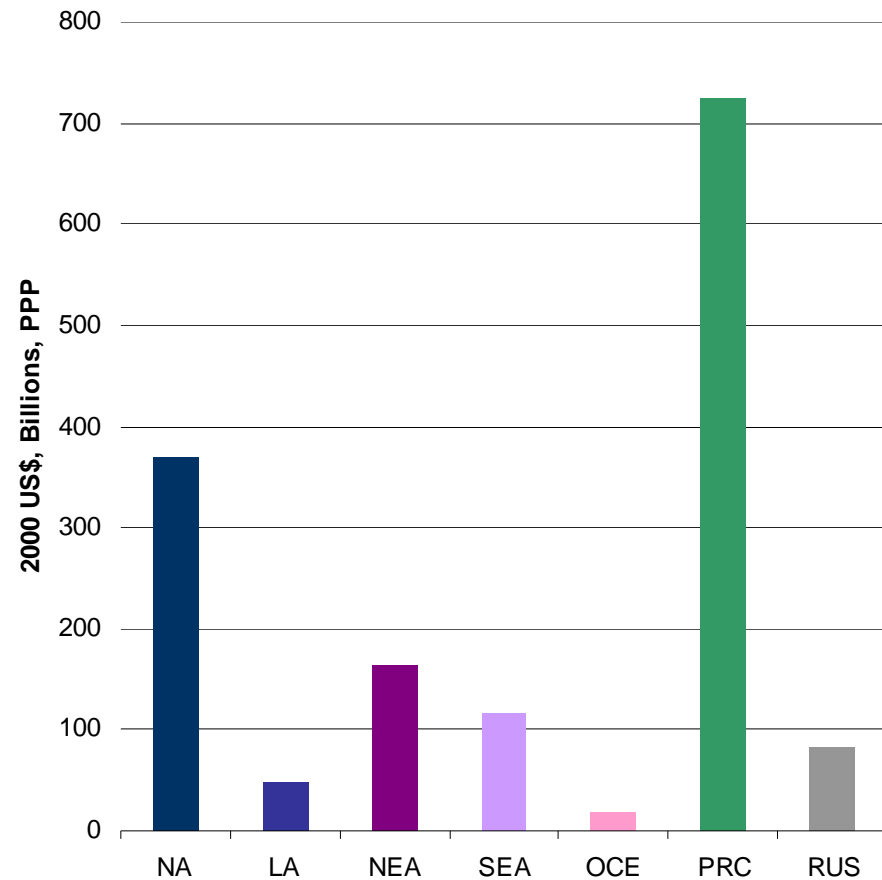


GDP in APEC (2004-2005)

GDP by Region (2004-2005)

	2000 US\$, Billions, PPP		AAG
	2004	2005	2004-2005
APEC	29207	30730	5.2%
North America	11636	12005	3.2%
Latin America	1263	1311	3.8%
Northeast Asia	5125	5288	3.2%
Southeast Asia	2,108	2,223	5.5%
Oceania	662	680	2.7%
China	7116	7842	10.2%
Russia	1298	1381	6.4%

Incremental Growth of GDP by Region (2004-2005)



Total Primary Energy Supply in APEC (2004-2005)

TPES by Region (1990, 2004 and 2005)

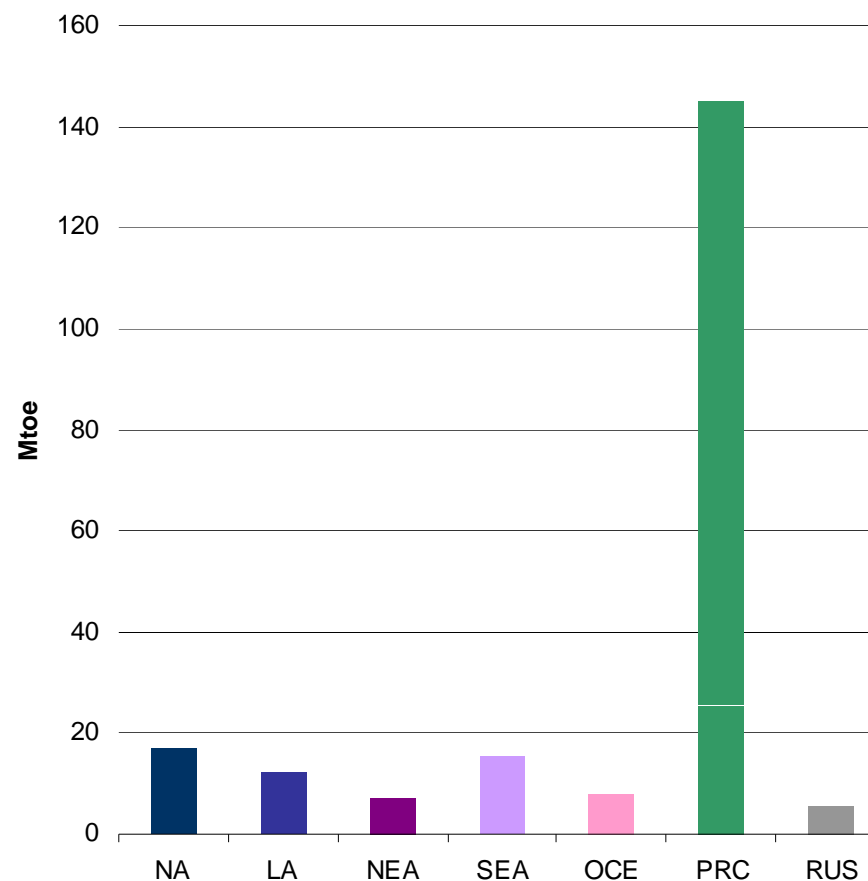
	Mtoe			AAG
	1990	2004	2005	2004-2005
APEC	3764	6195	6405	3.4%
North America	2137	2611	2628	0.7%
Latin America	146	205	217	6.0%
Northeast Asia	583	851	858	0.8%
Southeast Asia	139	353	368	4.3%
Oceania	104	133	141	5.9%
China	654	1400	1545	10.4%
Russia	0	641	647	0.8%



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Source: APERC (2008)

Incremental Growth of TPES by Region (2004-2005)



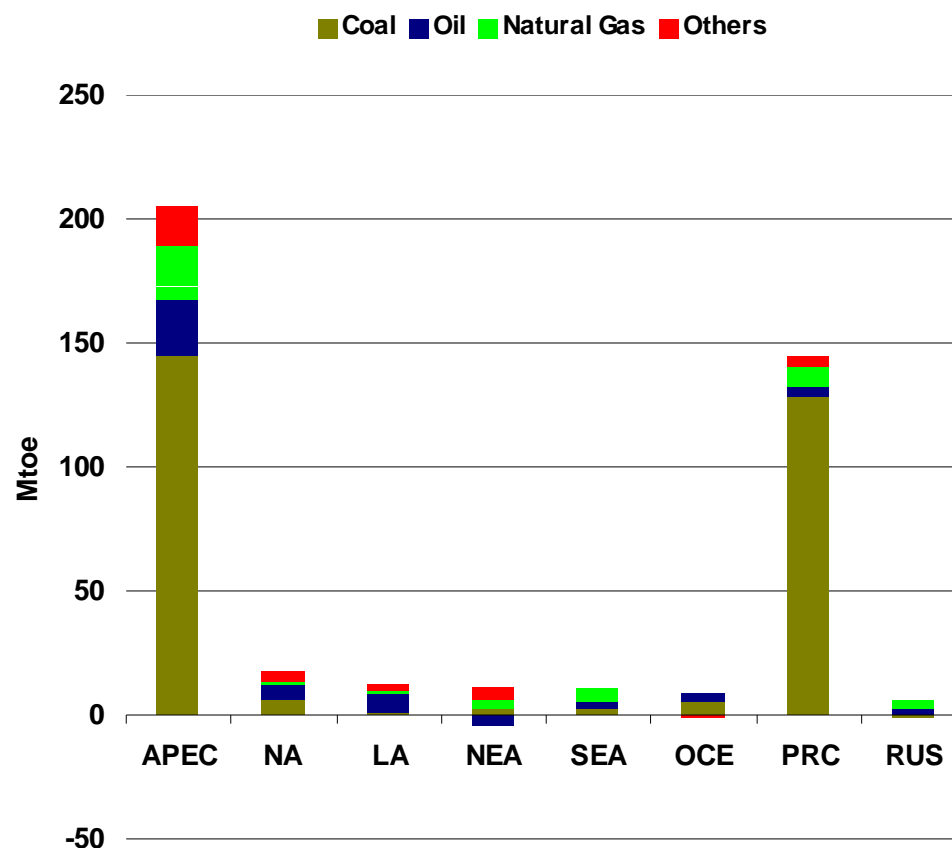
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Tokyo

Total Primary Energy Supply by Source and by Region (2004-2005)

TPES by Source (1995, 2004 and 2005)

	Mtoe			AAG
	1995	2004	2005	2004-2005
Coal	1462	1994	2140	7.3%
Oil	1856	2240	2266	1.1%
Natural Gas	1087	1258	1281	1.8%
Others	599	703	718	2.3%

Incremental Growth of TPES by Fuel and by Region (2004-2005)



Energy Supply in APEC (2004-2005)

Indigenous Energy Production by Region (1990, 2004 and 2005)

Net Energy Imports by Region (1990, 2004 and 2005)

	Mtoe			AAG		Mtoe			AAG
	1990	2004	2005	2004-2005		1990	2004	2005	2004-2005
APEC	3328	5620	5794	3.1%	APEC	555	672	707	5.3%
North America	1925	2058	2048	-0.5%	North America	284	577	601	4.1%
Latin America	211	271	276	1.9%	Latin America	-63	-63	-57	
Northeast Asia	106	149	155	3.7%	Northeast Asia	482	730	721	-1.4%
Southeast Asia	205	400	418	4.4%	Southeast Asia	-52	-27	-20	
Oceania	175	275	286	4.2%	Oceania	-65	-139	-144	3.5%
China	706	1308	1426	9.0%	China	-30	104	138	32.7%
Russia	-	1158	1185	2.3%	Russia	-	-511	-531	

Notable Energy Developments

- Enhancement of Energy Security
 - Energy Efficiency Improvement
 - Infrastructure Development
 - Energy Source Diversification
 - Upstream Development
- Regulatory Reform
- Environmental Protection



Energy Efficiency Improvement

Australia

- Energy Efficiency Opportunities Act 2006 and Regulation 2006 to encourage large energy users to take a more rigorous approach to energy management

Canada

- A few initiatives are implemented to provide financial support for energy efficiency improvement across the sector.
 - Mandatory fuel economy standard to be introduced from those automobile produced in 2011

China

- Ten key projects for energy launched
 - Target to save 240 million tonnes of coal equivalent
- Top-1000 Enterprise Energy Conservation Action Plan launched
 - Target to save 100 million tce by 2010

Hong Kong, China

- 3,200 projects have been registered under the voluntary energy efficiency labeling scheme.

Japan

- Amendment of energy conservation law to improve passenger vehicle fuel economy standards, to mandate freight truck owners to report conservation target, and building owners (larger than 2,000m²) to report conservation target.
 - Fuel economy standard of new passenger vehicles would increase from 13.6 km/l in 2004 level to 16.8 km/l in 2015.

Korea

- Implementation of Average Fuel Economy Standards (AFE) and amendment of labeling standards for energy efficient products.

New Zealand

- Under the NZ Energy Strategy maximise the efficient use of energy to safeguard affordability, economic productivity and the environment

USA

- Implementation and plan for various measures for energy efficiency improvement
 - Energy efficiency standards for appliances
 - Tax incentives for the purchase of efficient appliances and vehicles
 - Promote energy efficiency and saving at federal agencies
 - Establish renewable fuel standards

Viet Nam

- UNDP and the Vietnam Ministry of Science and Technology will implement a project to raise the effectiveness of energy use at small and medium enterprises (SMEs)

Energy Infrastructure Development and Energy Source Diversification

<p>Brunei Darussalam</p> <ul style="list-style-type: none"> ■ LNG export terminal expansion programme <p>Canada</p> <ul style="list-style-type: none"> ■ 4 LNG receiving terminal projects received government approval for construction <p>China</p> <ul style="list-style-type: none"> ■ Guangdong LNG terminal started operation in June 2006. ■ The first section of China's ultra-high-voltage electricity grid was started in August 2006. <p>Indonesia</p> <ul style="list-style-type: none"> ■ LNG investment to be made in the Timor Sea by a Japanese company. ■ Advancing in preparations to possess the first nuclear power plant <ul style="list-style-type: none"> – The first series of four nuclear power plants of about 4000 MW to be introduced in 2025. 	<p>Malaysia</p> <ul style="list-style-type: none"> ■ Expansion of Petronas LNG to 24 million tonnes per year is underway, to be completed in 2009. <p>Mexico</p> <ul style="list-style-type: none"> ■ Four permits for LNG re-gasification facilities on the Gulf of Mexico (one unit) and Baja California (three units). <p>Peru</p> <ul style="list-style-type: none"> ■ Camisea LNG project will be operational by 2009. Currently gas is supplied domestically by pipelines. <p>Philippines</p> <ul style="list-style-type: none"> ■ Undertaking a review of scientific and technical options to revive the economy's nuclear power program. 	<p>Russia</p> <ul style="list-style-type: none"> ■ Construction of the pipeline from Eastern Siberia to the Pacific coast was started in April 2006. ■ Announcement of economy's plan to host several types of international nuclear fuel cycle service centres as joint ventures with other economies <p>Thailand</p> <ul style="list-style-type: none"> ■ The plan for LNG procurement. ■ Nuclear power plants are under consideration, with a total generating capacity of 4,000 MW (2,000 MW in 2020 and another 2,000MW in 2021). <p>Viet Nam</p> <ul style="list-style-type: none"> ■ Vietnam Ministry of Industry (MOI) has submitted to the government for approval the pre-feasibility study on building a 2,000 MW nuclear power plant.
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Upstream Development

Australia

- Made available a number of new offshore petroleum areas for exploration. 36 areas remained open for bidding between March 2005 and March 2006.

Brunei Darussalam

- Two new blocks were tendered in 2005 and taken by international oil companies in 2006.

Canada

- New innovative process for extracting oil sands developed and applied to maximise recoverable resources.

China

- Restructuring of small coal mines and building larger coal production bases with annual production over 100 million tonnes.

Indonesia

- In 2006, Indonesia offered a total of 68 blocks for oil and gas exploration.

Mexico

- PEMEX to use the multiple services contracts system to work around constitutional limitations and allow private parties in exploration activities for oil and gas.

Papua New Guinea

- A number of international companies are showing their great interests in investing in the PNG's upstream oil and gas sector. By the end of 2007, the total number of petroleum prospecting licenses (PPLs) reached 37 compared with 17 in 2003.

Philippines

- The economy now has 28 service contracts (SC) with foreign investors. Four of these are approved under PECR 2005 and three negotiated SCs are firmed up in 2006

Russia

- In December 2006, Gazprom took over control of the Sakhalin 2 project and oil and natural gas production was restarted.

Thailand

- The 20th Petroleum Concession Bidding Round was announced in May 2007, and the bid submission is open for one year for 65 exploration blocks: 56 onshore and 9 in the Gulf of Thailand.

Environment

Australia

- In July 2007 the Australian Government released Australia's Climate Change Policy - Our economy, Our environment, Our future to set an aspirational long-term goal for GHG emissions reduction

Canada

- The Government of Canada is pursuing an integrated strategy to address climate change and air quality problems through its Clean Air Agenda.

China

- The Chinese government published the first "China's National Climate Change Programme" in June 2007 to address climate change and show its determination to reduce greenhouse gas (GHG) emissions

Japan

- On 21 December, 2007, the joint study committee under METI and Ministry of Environment released the revised plan to meet the Kyoto target.
 - Encouragement of lifestyle change, higher emissions reduction target for industries, and mandatory introduction of an adiabator for newly constructed houses and buildings.

Chinese Taipei

- The 2005 General Energy Conference identified the need for Chinese Taipei to commit itself to the global efforts to mitigate climate change.

USA

- In the absence of federal commitments to reduce US GHG emissions, a number of regional, state, and city-level initiatives have been formed and were active as of 2007.
 - California The Global Warming Solutions Act of 2006
 - Midwestern Greenhouse Gas Reduction Accord
 - Ten states in the north-eastern US are members of the Regional Greenhouse Gas Initiative
 - the US Mayors' Climate Protection Agreement, launched in Seattle in 2005



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