



Asia-Pacific  
Economic Cooperation

Asia Pacific Energy  
Research Centre



# 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 11<sup>th</sup> EGEDA Meeting held on 6-7 March 2000, Tokyo, Japan.
- The project was approved at the 19<sup>th</sup> 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

## **APERC**

- 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 2006

- Introduction
  - Key data and economic profile (2004), energy reserves
- Energy Supply and Consumption for 2004
  - Primary Energy Supply
  - Final Energy Consumption
- Policy Overview
  - Energy Policy Goals, Objectives and Strategies
- Notable Energy Developments (2004-2006)
  - Recent Energy Policy Changes or Energy Infrastructure Developments



# Regional Grouping





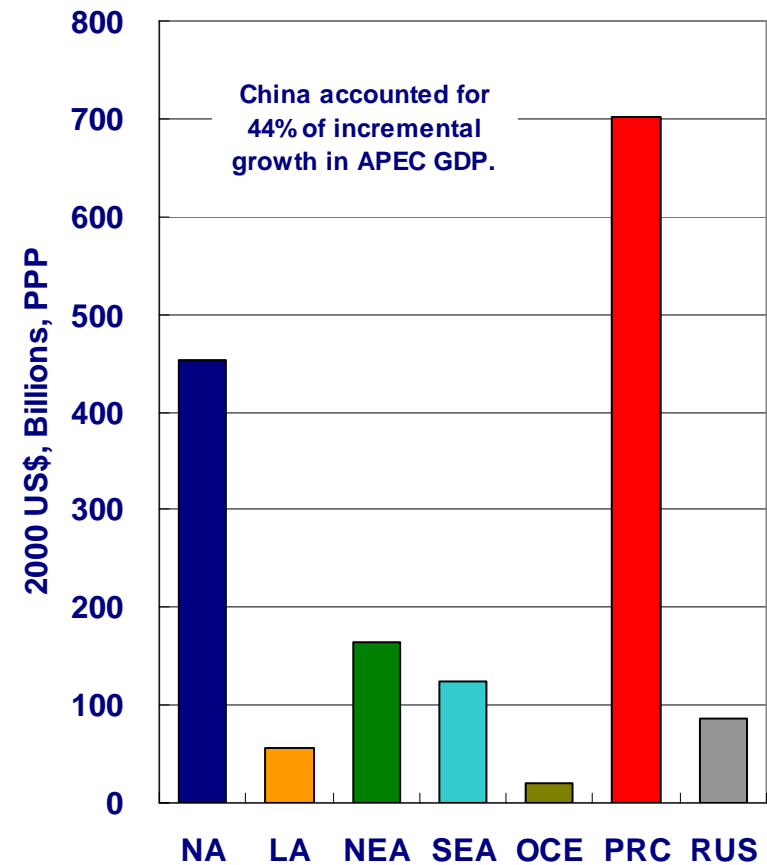


# GDP in APEC (2003-2004)

GDP by Region (2003-2004)

	2000 US\$, Billions, PPP		AAG
	2003	2004	2003-2004
<b>APEC</b>	<b>27,801</b>	<b>29,406</b>	<b>5.8%</b>
<b>North America</b>	<b>11,051</b>	<b>11,504</b>	<b>4.1%</b>
<b>Latin America</b>	<b>1,194</b>	<b>1,249</b>	<b>4.6%</b>
<b>Northeast Asia</b>	<b>4,725</b>	<b>4,889</b>	<b>3.5%</b>
<b>Southeast Asia</b>	<b>2,017</b>	<b>2,141</b>	<b>6.1%</b>
<b>Oceania</b>	<b>641</b>	<b>661</b>	<b>3.2%</b>
<b>China</b>	<b>6,954</b>	<b>7,656</b>	<b>10.1%</b>
<b>Russia</b>	<b>1,219</b>	<b>1,306</b>	<b>7.1%</b>

Incremental Growth of GDP by Region (2003-2004)



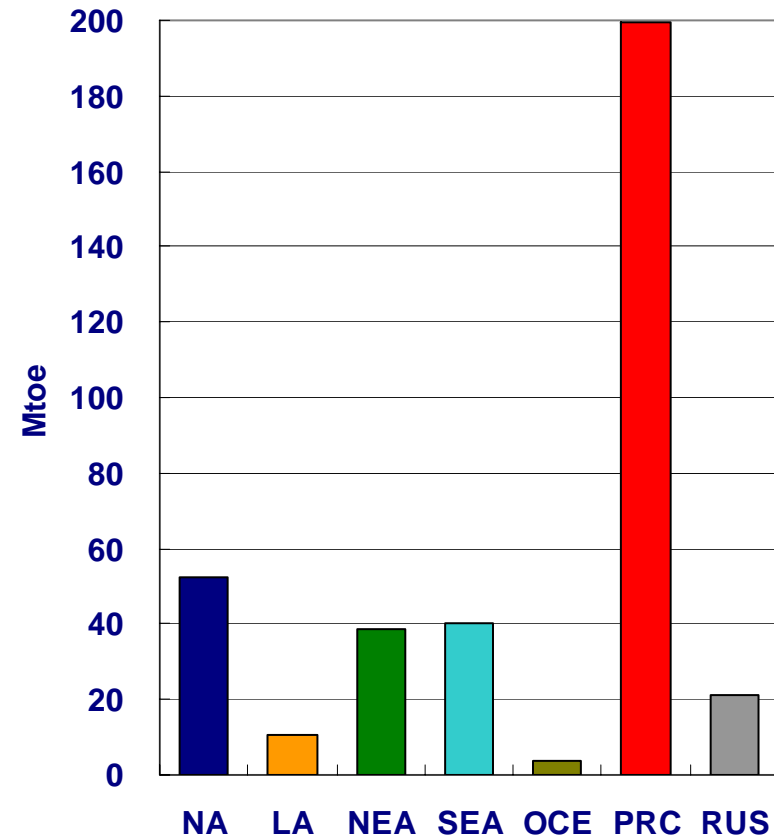


# Total Primary Energy Supply in APEC (2003-2004)

TPES by Region (1990, 2003 and 2004)

	Mtoe			AAG
	1990	2003	2004	2003-2004
APEC	3,655	5,710	6,075	6.4%
North America	2,070	2,544	2,597	2.1%
Latin America	144	195	206	5.4%
Northeast Asia	579	815	853	4.7%
Southeast Asia	139	314	354	12.7%
Oceania	103	132	136	2.7%
China	621	1,089	1,288	18.3%
Russia	-	620	641	3.4%

Incremental Growth of TPES by Region (2003-2004)



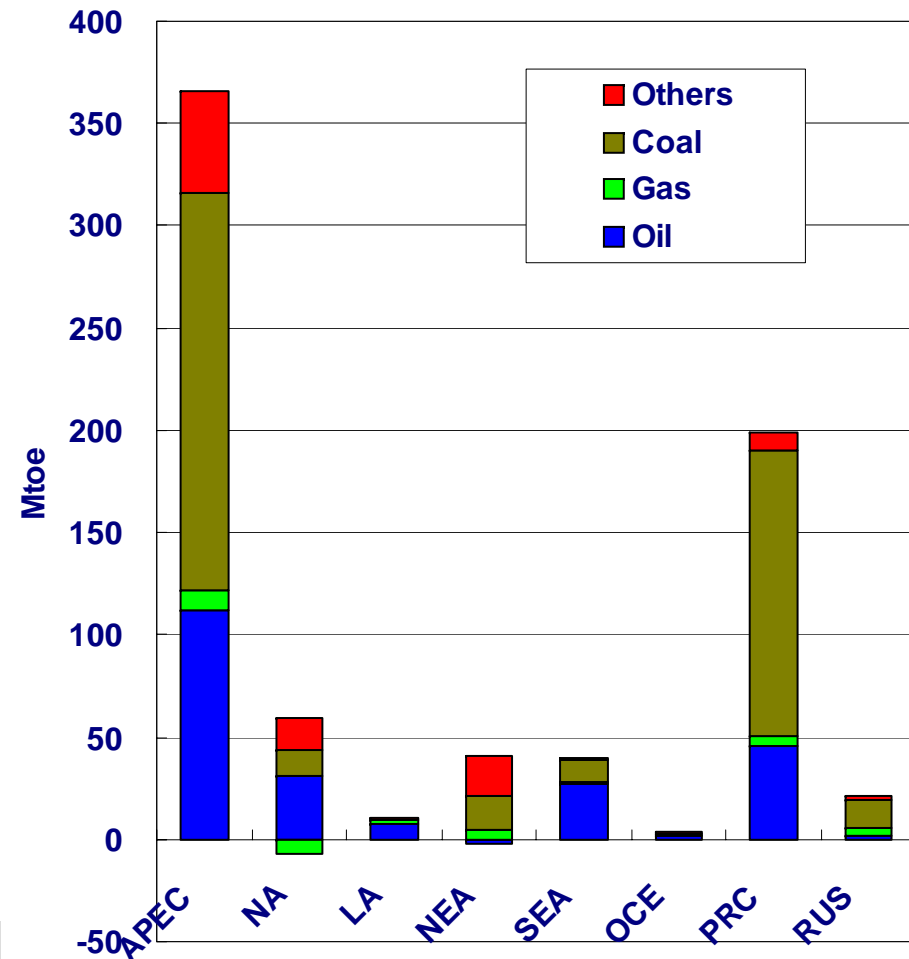


# Total Primary Energy Supply by Fuel and by Region (2003-2004)

TPES by Fuel (1995, 2003 and 2004)

	Mtoe			AAG
	1995	2003	2004	2003-2004
Oil	1,864	2,109	2,221	5.3%
Coal	1,433	1,706	1,901	11.4%
Natural Gas	1,095	1,250	1,260	0.8%
Others	584	644	694	7.7%
TPES	4,976	5,710	6,075	6.4%

Incremental Growth of TPES by Fuel and by Region (2003-2004)





# Energy Supply in APEC (2003-2004)

**Indigenous Energy Production by Region (2003-2004)**

	Mtoe		AAG
	2003	2004	2003-2004
<b>APEC</b>	5,183	5,497	6.1%
<b>North America</b>	2,019	2,041	1.1%
<b>Latin America</b>	260	272	4.4%
<b>Northeast Asia</b>	128	149	16.3%
<b>Southeast Asia</b>	370	401	8.5%
<b>Oceania</b>	270	278	2.9%
<b>China</b>	1,049	1,198	14.2%
<b>Russia</b>	1,087	1,159	6.6%

**Net Energy Imports by Region (1990, 2003 and 2004)**

	Mtoe			AAG
	1990	2003	2004	2003-2004
<b>APEC</b>	466	601	675	12.4%
<b>North America</b>	231	536	580	8.3%
<b>Latin America</b>	-64	-63	-63	0.0%
<b>Northeast Asia</b>	474	704	735	4.3%
<b>Southeast Asia</b>	-53	-32	-26	-16.4%
<b>Oceania</b>	-72	-136	-139	2.4%
<b>China</b>	-49	47	100	112.9%
<b>Russia</b>	-	-455	-511	12.2%



# 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

## ■ 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

- Issue of labels for 2,960 appliances.

## ■ Indonesia

- Biofuels programme initiated.

## ■ Japan

- New Energy Strategy calls for another 30 percent improvement of energy intensity by 2030.

## ■ Korea

- Implementation of a mandatory energy management audit
- Implementation of no driving days for employees of public offices

## ■ Malaysia

- Implementation of demonstration projects for energy efficiency improvement in industry and commercial sectors.

## ■ 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

## ■ Brunei Darussalam

- LNG export terminal expansion programme

## ■ Canada

- 8 Proposals to build LNG facilities underway

## ■ China

- Guangdong LNG terminal started operation in June 2006.
- The first section of China's ultra-high-voltage electricity grid was started in August 2006.

## ■ Indonesia

- New pipeline construction awards granted.
- LNG investment to be made in the Timor Sea by a Japanese company.

## ■ Malaysia

- Expansion of Petronas LNG to 24 million tonnes per year is underway, to be completed in 2009.

## ■ Mexico

- Four permits for LNG re-gasification facilities on the Gulf of Mexico (one unit) and Baja California (three units).

## ■ Peru

- Camisea LNG project will be operational by 2009. Currently gas is supplied domestically by pipelines.

## ■ Russia

- Construction of the pipeline from Eastern Siberia to the Pacific coast was started in April 2006.

## ■ Singapore

- Singapore to develop LNG receiving terminal in cooperation with Korea's KOGAS.

## ■ Thailand

- Plans to upgrade electricity transmission capacity over the next five years.



# 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.
- Joint Operating Agreement (JOA) for the Cebu block was signed.

## ■ Mexico

- Capital expenditure needed for exploration and production over next five years will be US\$45.3 billion.
- PEMEX to use the multiple services contracts system to work around constitutional limitations and allow private parties to participate in exploration activities for oil and gas.

## ■ Russia

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



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