

**Asia Pacific Scenarios  
Global Environmental Outlook - 3  
(GEO-3)**

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# GEO-3 Scenarios

- **Four Scenarios:**
  - Conventional Development Scenario
  - Policy Reform Scenario
  - Fortress World Scenario
  - Great Transition Scenario
- **For certain scenarios, quantitative illustrations are provided for two future years, 2015 and 2032**

# Conventional Development Scenario

This refers to a future governed by market-driven development. It features accelerated globalization, trade liberalization and convergence of developing countries toward the development and institutional models of developed countries. Furthermore, economic growth is expected to automatically contribute to recover the environmental damage incurred with development.

# Policy Reform Scenario

The Policy Reform scenario accepts the basic development and modernization model of Conventional Development, but envisions the successful imposition of policies to meet strong environmental sustainability and social goals. The scenario is constructed as a “back-cast” that explores the implications of meeting the scenario goals. Policy initiatives for achieving the goals are regionally differentiated but include a mix of economic reform, regulatory instruments, voluntary actions, social programs and technology development.

# Fortress World Scenario

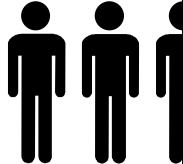




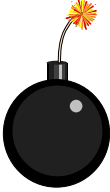
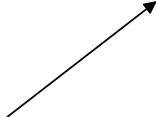
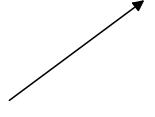
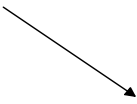
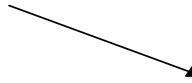






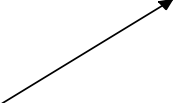
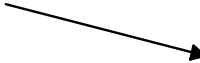



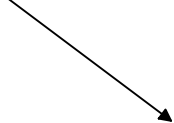

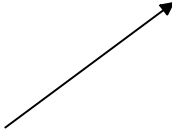



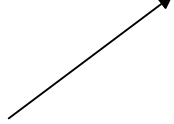
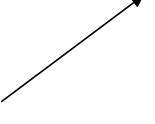
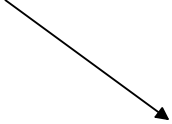
Connotes a future of global polarization, extreme inequity and rampant conflict, in which increasing social and environmental problems lead in time to increasingly authoritarian “solutions.” The scenario has two faces: the elite minority live in protected enclaves – the “fortresses” – while the majority leads precarious life on the margin.

As socio-economic and environmental stresses mount, the world descends toward fragmentation, extreme inequality and widespread conflict - A bleak/isolationist future

# Great Transition Scenario

The essence of this scenario is values-driven fundamental modification of conventional development paradigm. Here social, cultural and environmental goals take priority over market driven policy tools. It leads to more equitable distribution of wealth and access to resources than the Conventional Development assumptions.

# Scenarios Structure with Illustrative Patterns of Change (Source: Raskin, 2000)

<b>Scenario</b>	 <b>Population</b>	 <b>Economy</b>	 <b>Environment</b>	 <b>Equity</b>	 <b>Technology</b>	 <b>Conflict</b>
<b>Conventional Development</b>						
<b>Policy Reform</b>						
<b>Fortress World</b>						
<b>Great Transitions</b>						

# Conventional Development Scenario (Selected Asia Pacific Storylines)

- Rapid increase in population in East and South Asia
- South Asia experiences accelerated economic growth rates
- Urban environment continues to degrade in most large cities
- Development and increased use of cleaner technologies (solar, wind, micro-hydro, bio-gas, etc.)
- Scarcity of fresh water increases
- Increase in transboundary competition for key non-renewable natural resources

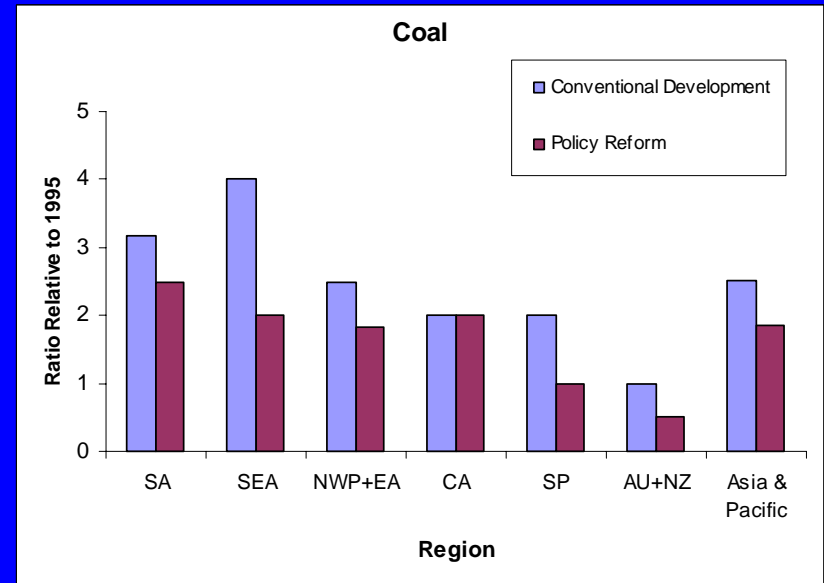
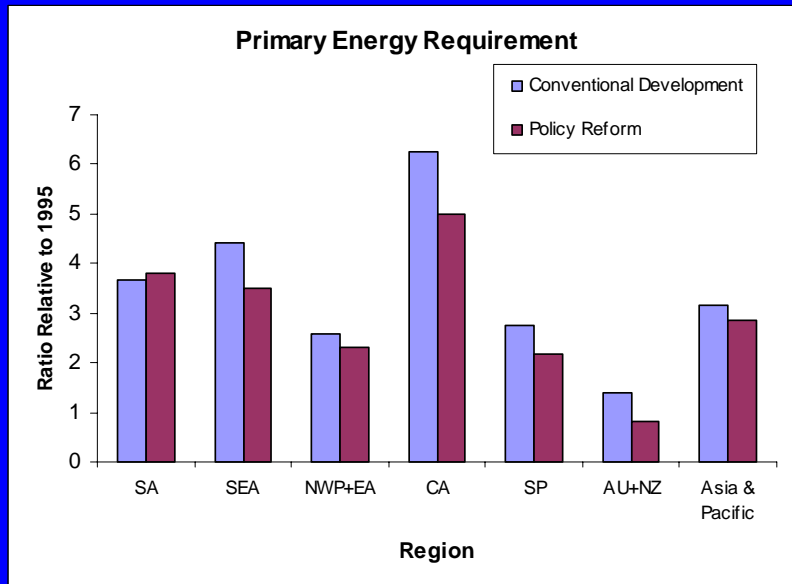


# Policy Reform Scenario

## (Selected Asia Pacific Storylines)

- Integrated economic and environmental policies, environmental pricing and phasing out of subsidies to environmentally harming activities are undertaken.
- Implementation of policies related to education, distribution of basic needs such as water and power, and health
- Policies to promote environment friendly technologies in the field of energy and IT
- Natural forests preserved, and reforestation initiatives taken
- Development Assistance supports implementation of environment-related policies in less developed countries

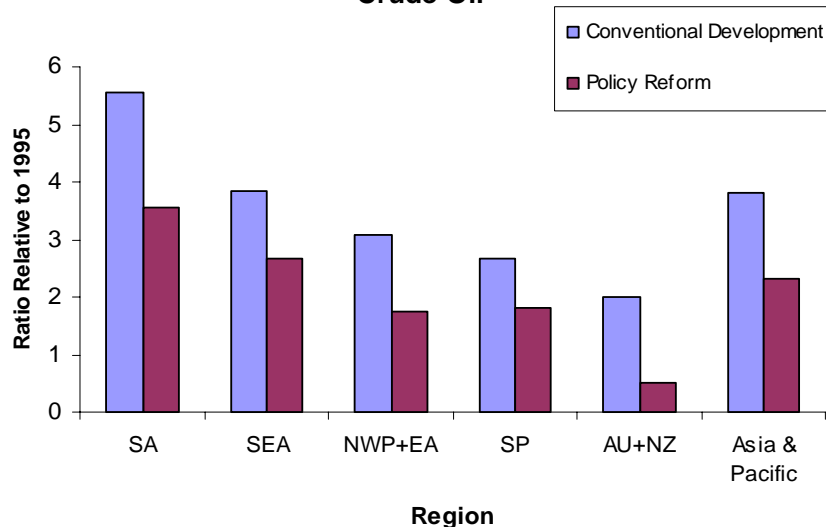
# Primary Energy and Coal Requirement in Asia Pacific Region under CD & PR Scenarios



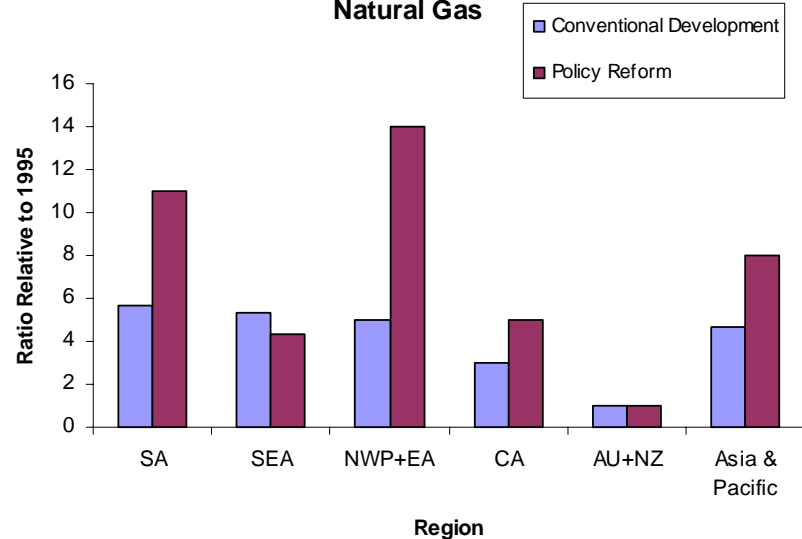
Data Source: Raskin, 2000

# Crude Oil and Natural Gas Requirement in Asia Pacific Region under CD & PR Scenarios

### Crude Oil



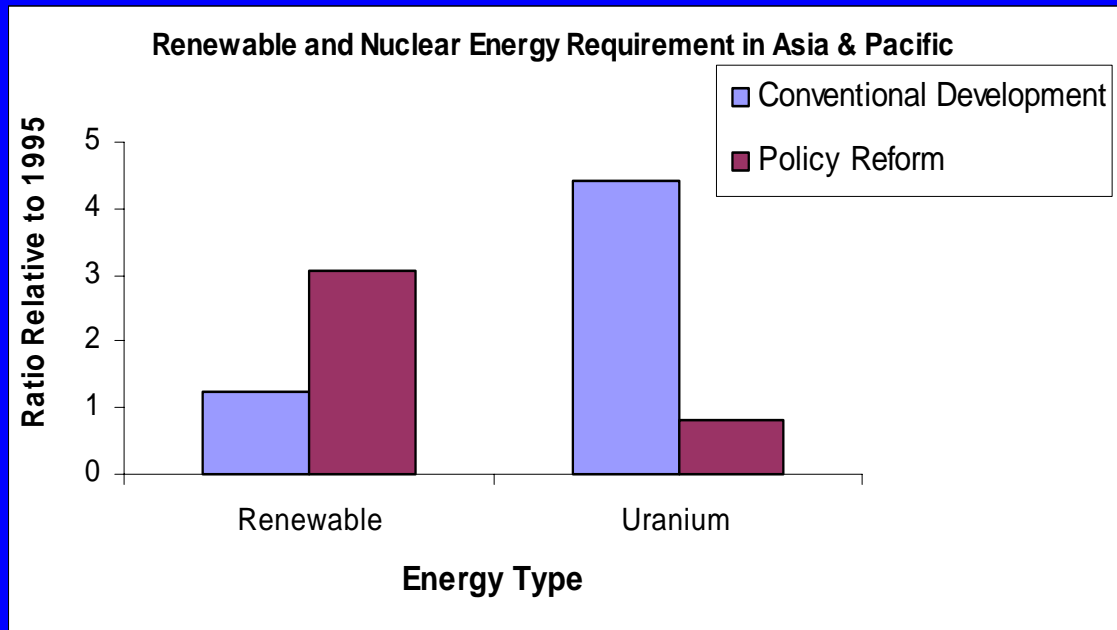
### Natural Gas



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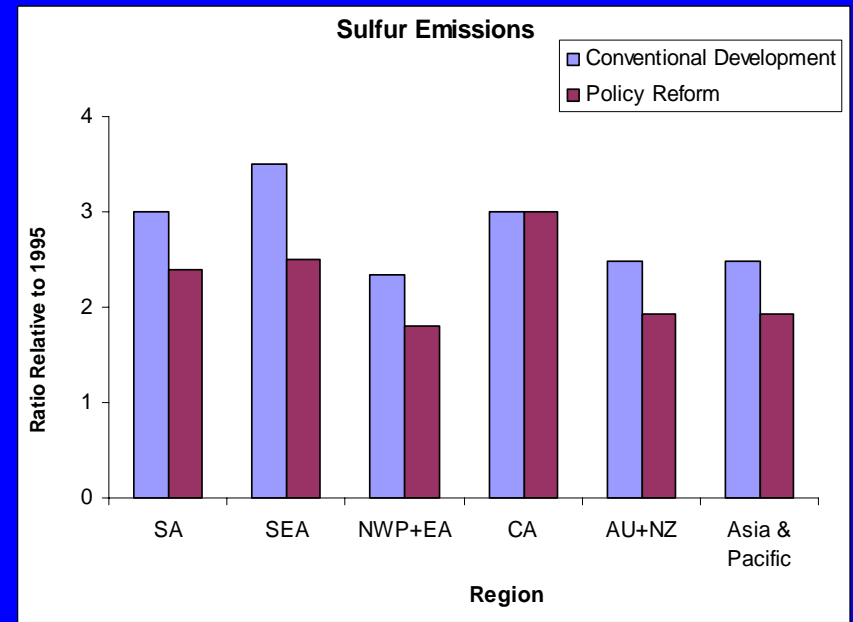
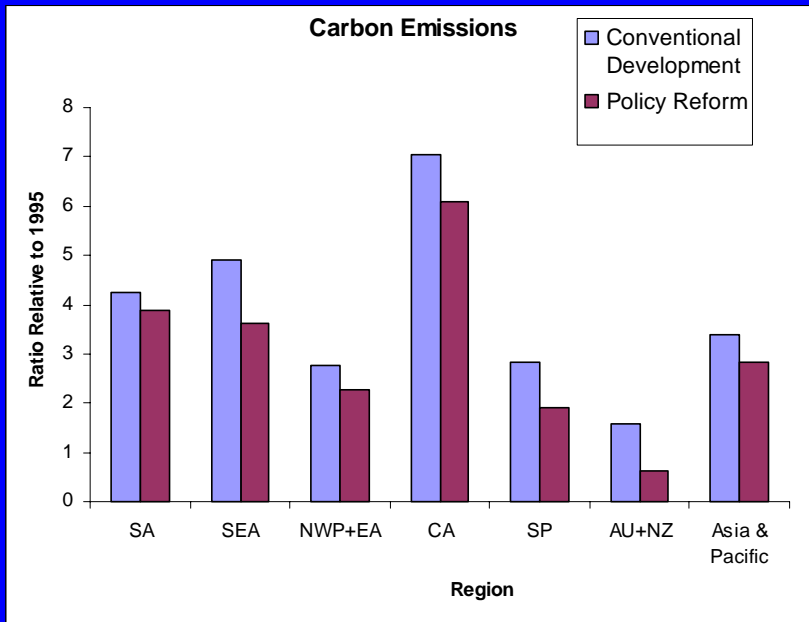
# Renewable & Nuclear Energy Requirement in Asia Pacific Region under CD & PR Scenarios



Data Source: Raskin, 2000

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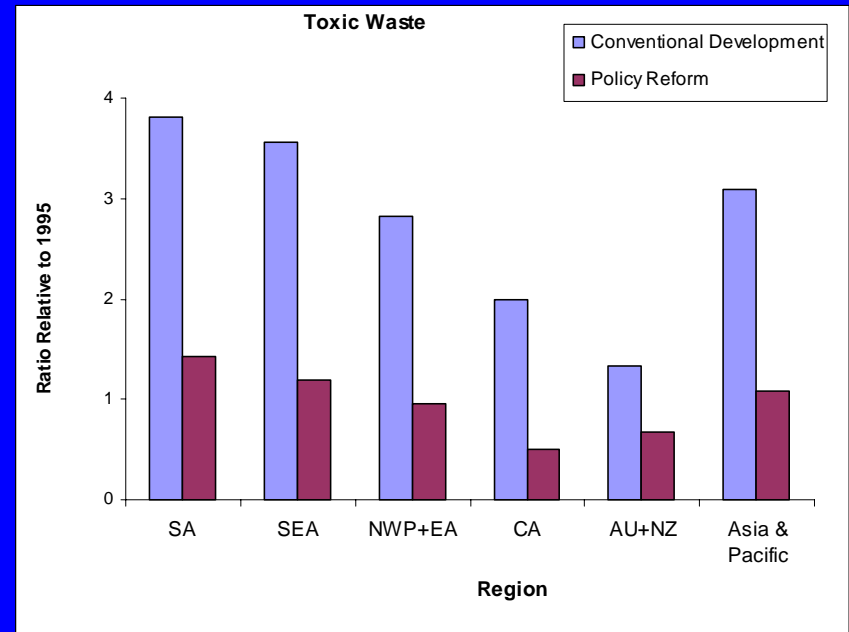
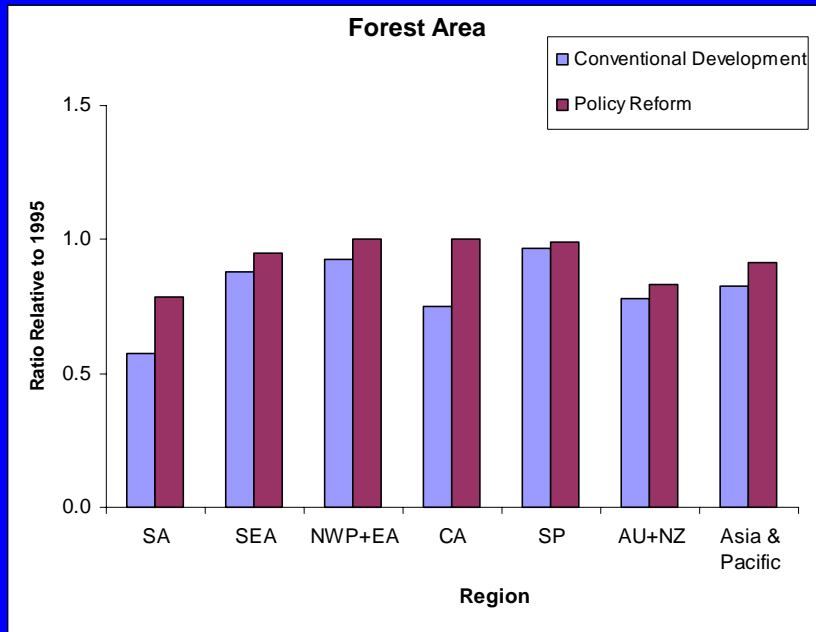
# Carbon and Sulfur Emissions in Asia Pacific Region under CD & PR Scenarios



Data Source: Raskin, 2000

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# Forest Area and Toxic Waste in Asia Pacific Region under CD & PR Scenarios



Data Source: Raskin, 2000

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# Fortress World Scenario (Selected Asia Pacific Storylines)

- Collapse of major “powerhouses” of economic and technological growth in the Northwest Pacific and Southeast Asia
- Increased protectionist policies in countries
- Greater pressure on domestic natural resources due to reduction in imports of natural resources, especially oil and gas
- Water resource stress, land degradation and solid waste accumulation are the critical environmental problems.
- Corruption and breakdown of regulatory mechanisms, complete breakdown of governance, weak rule of law and prevalence of terrorism and militancy are prevalent.
- Highly populated countries like India adopt one-child policy

# Great Transition Scenario (Selected Asia Pacific Storyline)

- Asia eventually emerges as a powerhouse within the world
- Energy- related technological progress sees the reduction of energy consumption, as well as SO<sub>x</sub>, NO<sub>x</sub> and CO<sub>2</sub> emission
- Equitable access to basic services (potable water and sanitation), IT services and literacy rates, extending to over 80 per cent
- Income sharing policies (fiscal, taxation and market based) see more equitable distribution of wealth and spread of benefits from the powerhouse nations to the wider region.
- Population growth, structure and density will stabilize
- Gradual improvement in the quality of the environment due to enhanced role of civil society and business in governance



# Thank You

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# GEO 3 Scenarios

- **Key Features:**
  - analysis at regional and sub-regional level
  - driving forces:
    - Demographics
    - Economics
    - Social
    - Culture
    - Technology
    - Environment
    - Governance
  - time horizon: 2002-2032

# **GEO 3 Scenarios compared to other Scenarios**

**GEO3**

**IPCC**

**CD**

**A1**

**PR**

**B1**

**FW**

**A2**

**GT**

**B2**

# **GEO 3 Scenarios compared to other scenarios (contd.)**

- **Different time horizon (GEO 3: 2000-2032, IPCC: 1990-2100)**
- **Focuses on environmental issues in addition to climate change**
- **considers poverty alleviation and equity issues**
- **storylines include themes such as social, cultural and governance**

# IPCC Scenarios

- **Key Features:**

- 4 sets of scenarios - A1, A2, B1, B2 (altogether 40 scenarios)
- analysis at regional level
- driving forces:
  - Demographics
  - Economics
  - Resources
  - Technology
  - Policies (non-climate)
- time horizon: 1990-2100

# IPCC Scenarios

- **A1 Scenario - integrated unsustainable world**
  - very rapid economic growth
  - global population with peak in mid-century and declining thereafter
  - rapid introduction of new and efficient technologies
  - reduction in regional differences in per capita incomes
  - increased cultural and social interactions
- **A2 Scenario - fragmented unsustainable world**
  - describes a heterogeneous world
  - underlying theme is self-reliance and preservation of local identities
  - continuously increasing global population
  - per capita economic growth and technological change are slower than in other storylines

# IPCC Scenarios

- **B1 Scenario - integrated sustainable world**
  - global population with peak in mid-century and declining thereafter
  - growth in service and information sector
  - introduction of clean and resource efficient technologies
  - improved equity
  - additional climate initiatives
- **B2 Scenario - fragmented sustainable world**
  - continuously increasing global population, but at a rate lower than A2
  - emphasis on local solutions to economic, social and environmental sustainability
  - less rapid and more diverse technological change

# GEO 3 Report Series

- A comprehensive global state of the environment reports, initiated by UNEP in response to the environmental reporting requirements of Agenda 21
- Produced using regional and participatory approach: through a network of more than 30 Collaborating Centres, UN Organisations, and independent experts
- GEO Report Series:
  - GEO 1: January 1999
  - GEO 2: September 1999
  - GEO3: April 2002