



Urban Planning — Sustainable Cities

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Tokyo, 12 September 2005, 1



What is Sustainable Development

In 1987, the U.N. Brundtland Commission came up with the following definition of sustainable development:

"Sustainable development is that, which meets all the needs of the present without compromising the ability of future generations to meet their own needs"

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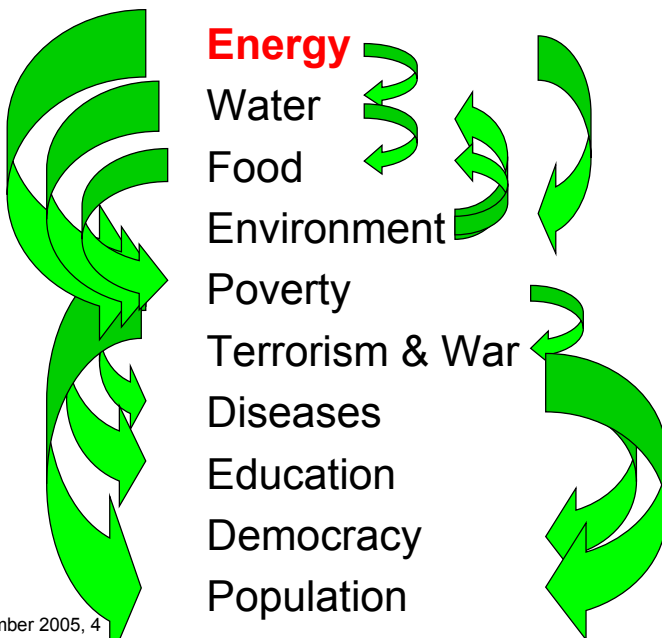


Limitation of Resources

- Land Availability
- Energy Availability
- Water Resources and Quality
- Air Quality

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Top 10 Global Problems for next 40 years




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2050: 10 billion people in the World

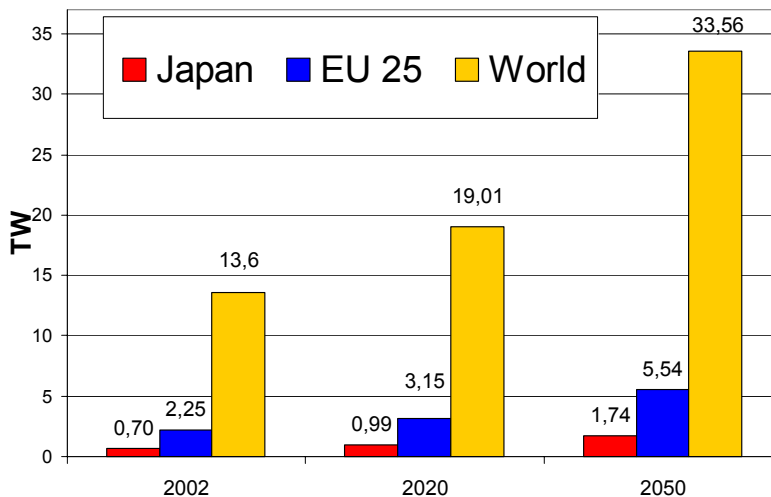
- Energy Needs: (TPES)
- 2002: 10,230 Mtoe/year = **13.6 TW**
- 2050: > 25,000 Mtoe/year = > 33.2 TW
- Electricity 2002: **1.8 TW**, of which 0.3 nuclear
- Transport 2002: **2.5 TW**

If 50% of new capacity in 2050 nuclear = 10 TW:
 one reactor every second **DAY**

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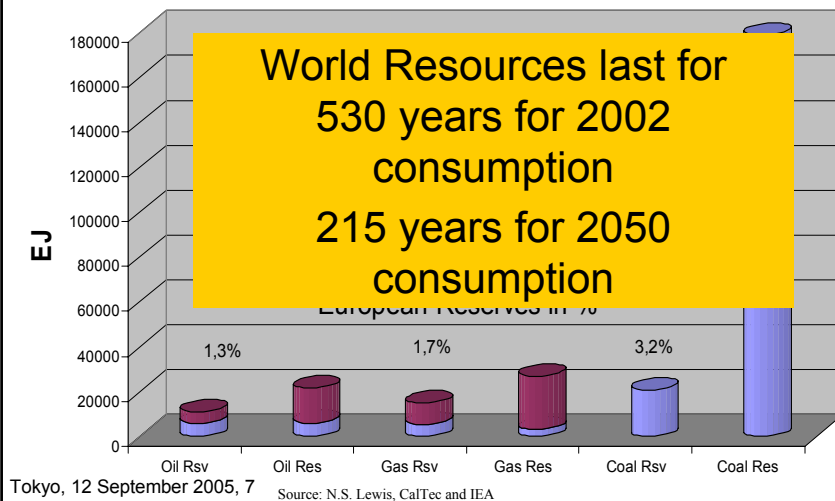
Total Primary Energy Supply



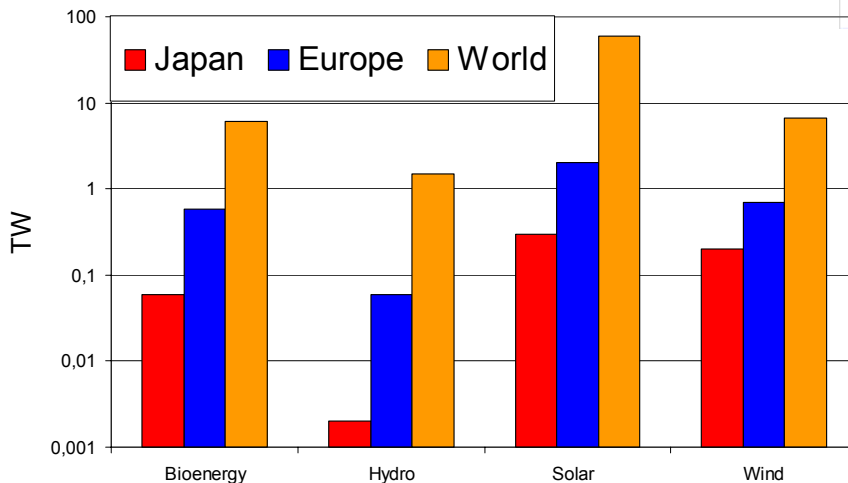
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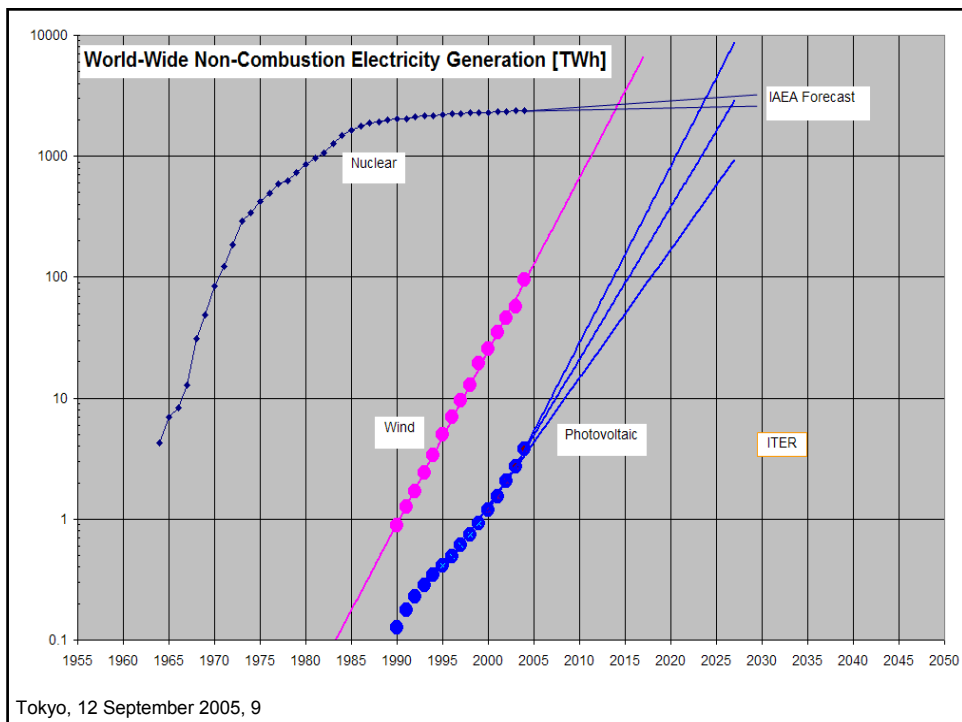


Fossil Energy Reserves and Resources



Renewable Energy Resources*





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Key Questions

- How can the economic development of urban areas be reconciled with environmental sustainability?
- Do cities place unsustainable burdens on the regions in which they are located?
- What are the appropriate policies for dealing with air pollution and waste?
- Under what circumstances will providers of utility services work with consumers to manage water, energy and transport rather than providing supply to meet all conceivable demands?

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