

Conference on the International Atomic Energy Agency at 60

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第41回原子力委員会
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Panel III. Promotion of Peaceful Uses



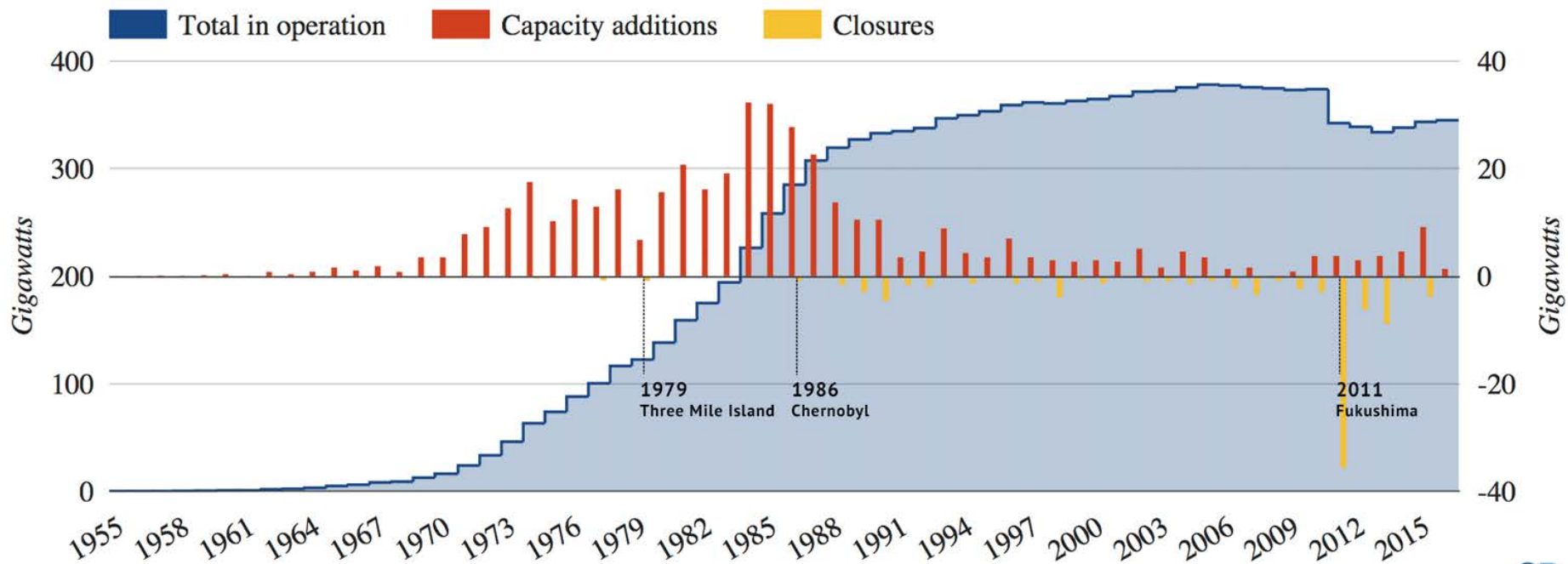
Nobuyasu Abe, Commissioner
Japan Atomic Energy Commission

An individual view of one Commissioner

- IAEA: key instrumental role in promoting peaceful uses of nuclear energy
- Learning the history: *History of the IAEA; the First Forty Years*, David Fischer
- “Atoms for Peace” by President Eisenhower
- Original idea; to build a common nuclear energy structure to share fissile material and uranium international fuel bank.....long, long afterwards

- Driving force for promoting peaceful use of nuclear energy ➡ national governments & industries
- Initial focus: nuclear energy for electric power generation ➡ later focus on agricultural, industrial, health applications
- Golden Age of nuclear energy 1960s and 70s ← 1956 Suez Crisis, 1973 Oil Crisis
- Rapid growth continued to mid-1980s.
- Major slow downs after three big accidents, TMI, Chernobyl, Fukushima
- Confounded by concerns about proliferation and nuclear terrorism
- Austria and some other Western countries moved away from nuclear power generation.
- ★ Many optimistic projections proved to be way over the marks attained in reality.

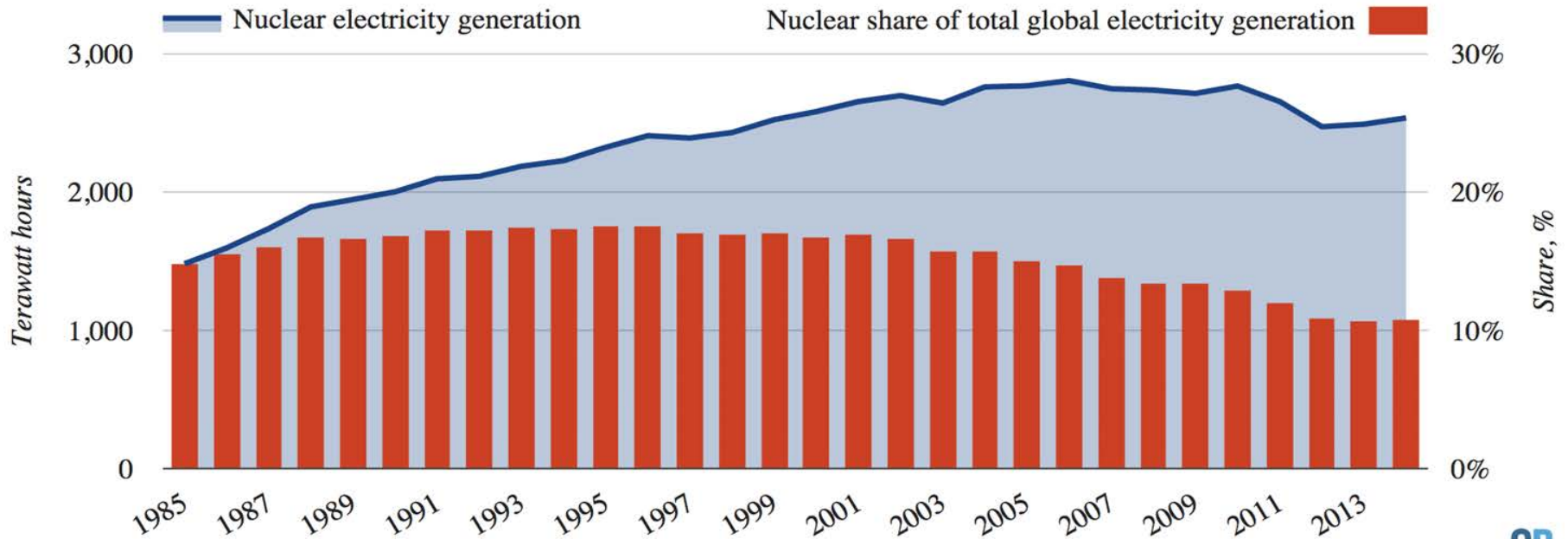
Global nuclear power generating capacity



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Total global nuclear power generating capacity in operation between 1955 and 2016 (blue area, left axis). Annual additions (red bars, right axis) and the capacity of reactors going offline or being shut down (yellow bars, right axis). Source: International Atomic Energy Agency (IAEA) PRIS database and Carbon Brief analysis. Chart by Carbon Brief.

Nuclear electricity generation



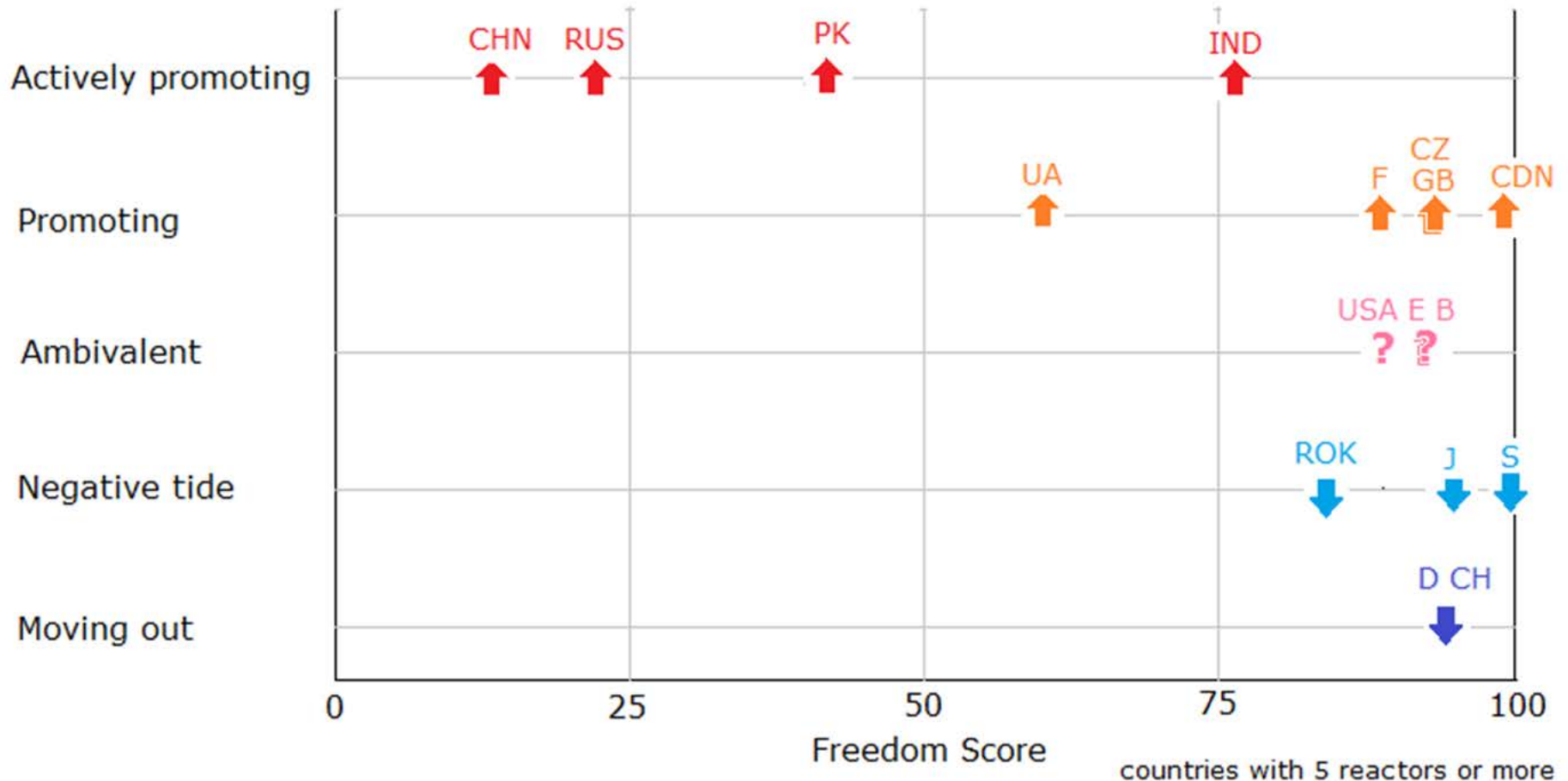
Global nuclear electricity generation (blue area, left axis) and nuclear's share of total world power generation (red bars, right axis). Source: BP Statistical Review of World Energy 2015 and Carbon Brief analysis. Chart by Carbon Brief.

Future

- **Group A:** wealthy, advanced industrial countries facing increasing difficulty, some moving away; Austria, Sweden, Switzerland, Germany, the U.S. (?), Japan (?), the U.K. and France in grey zone.
- **Group B:** rise of the non-market economy giants and the new comers; Russia, South Korea (?), China, India
- Key determining factors; (1) how far the world tries seriously to prevent global warming,
- (2) how to count the near carbon-free nature of nuclear energy into equation. (e.g. carbon tax)
- (3) how to take care of the nuclear accident liability, should the state be the ultimate recourse?
- (4) Can the nuclear waste disposal be managed well?

Promotion vs. moving out

Nuclear Energy: promotion vs moving out



Freedom Score: based on “Freedom in the World, 2016” by Freedom House (<https://freedomhouse.org/report/freedom-world/freedom-world-2016>)

Promotion vs. moving out: grading done by Mr. Nobuyasu Abe, generator of this chart.

Country name abbreviation: based on ISO country codes

Future-2

- Uncertain prospect casts doubts about future investment in nuclear power.
- Certain incentivizing framework needed; subsidies, carbon tax, price guarantee, investment guarantee, favorable damage compensation arrangement
- They should better be least market interfering, least corruptible ⇒ carbon tax preferred, e.g. Baker/Shultz, Paulson proposal.