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Safe and Peaceful Uses of Nuclear Power  
are  
Essential for Sustainable Development

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# Nuclear Power Generation in Japan

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- In operation : 53 units , 47GW
- Representing : 1/3 of total electric power generation
- Reducing CO<sub>2</sub> emission : by about 20%
  
- Under construction : 3 units
- Under planning : 7 units

# Nuclear Fuel Cycle

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- Reprocessing Plant
  - : Completed at Rokkasho-mura
  - U-based test runs are under way.
- Fast Breeder Reactor
  - : prototype “Monju” to be repaired and resume operation.
- Supreme Court ruled in favor of the government.

# Bright and dark side of Nuclear Energy

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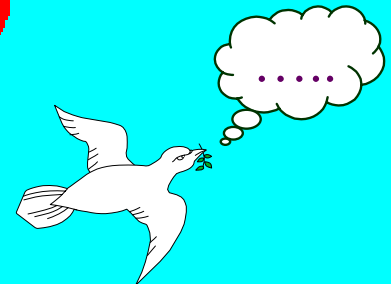
- Every science and technology
  - the bright side ; benefits it offers
  - the dark side ; risks it involves
- Proponents of Nuclear Power
  - : tend to stress the bright side.
- Opponents of Nuclear Power
  - : tend to stress the dark side.

 Spiral of Silence

# “Spiral of silence”



No need for nuclear power!  
How about renewable energies?  
Restrooms attached?



## Risks to overcome

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- Technological Risks :
  - potential for criticality, reactivity accidents, LOCA.
- Political Risks :
  - change of administration, referendum, threats of terrorist attacks, proliferation of N-weapons.
- Economic Risks :
  - uncertainties due to the liberalization of the power market, prolonged recovery of investment.
- Social Risks :
  - public acceptance hampered by negative information.

# Advantages of Nuclear Power

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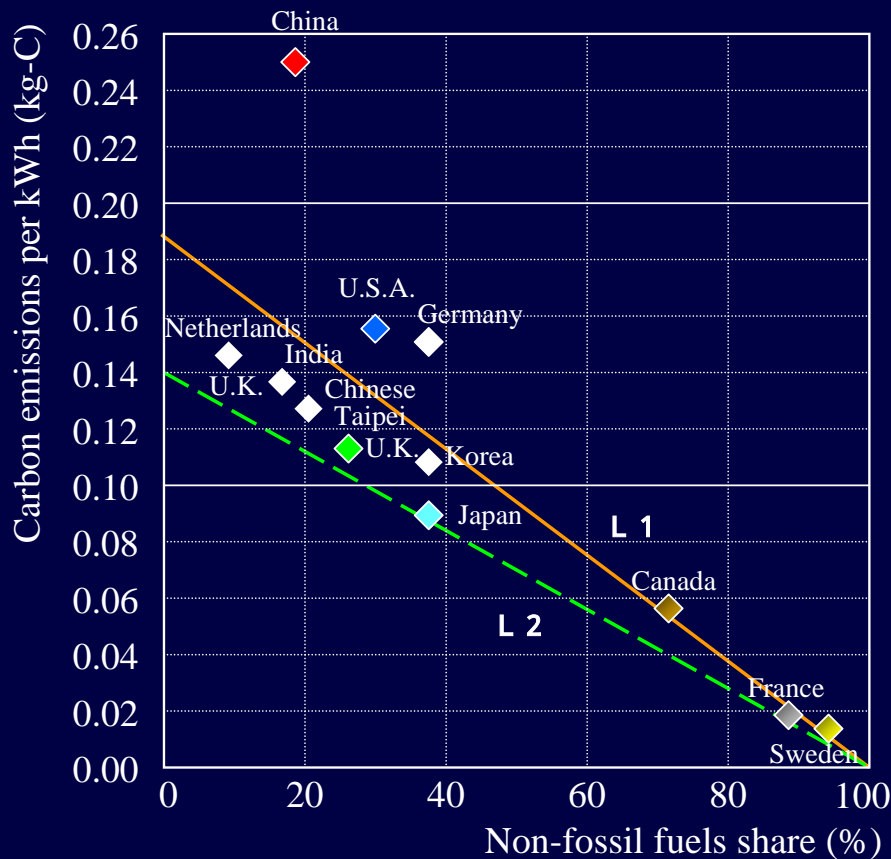
- Stable power source :
  - to serve as a base load  
(US – 20%, OECD – 24%, Japan – 34%,  
France – 75%)
- Security :
  - effective in stockpiling.  
U resources distributed in stable countries.  
Recycling of SF eases constraints of energy supply.
- Environment :
  - SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub> emissions are minimal.

# Peaceful uses of Nuclear Power are essential for Sustainable Development

- Message to send out.

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- Populations to increase
  - Economic growth to continue
- } in DCs    Straining  
⇒ { natural resources  
    and  
    environment.
- Solution for Sustainable Development  
    ⇒ De-carbonization
  - De-carbonization
    - a. Energy conservation
    - b. Renewables
    - c. Clean and efficient use of fossil fuels.
    - and d. Safe and peaceful use of Nuclear Energy.

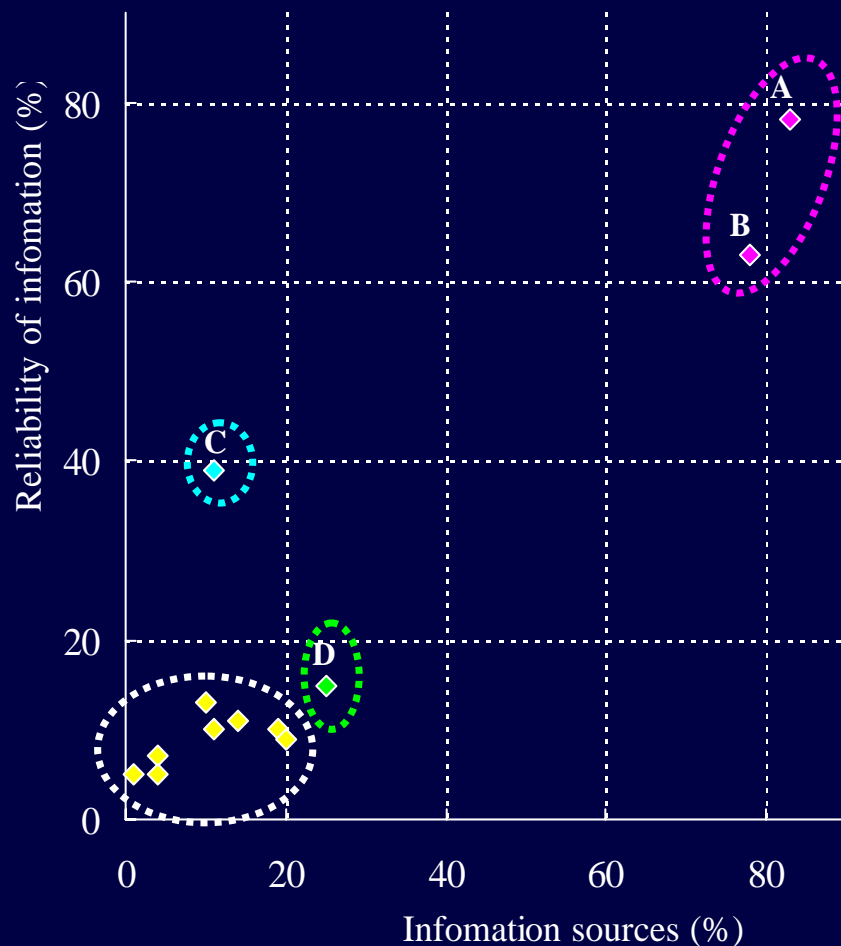
# Reverse correlation between non-fossil fuels share and per kWh CO<sub>2</sub> emissions



	Nuclear power	Hydro, etc.	Total
U.S.A	20.1	8.3	28.4
U.K.	22.9	3.0	25.9
Germany	29.1	9.2	38.3
France	78.7	11.7	90.4
Italy	0.0	18.0	18.0
Canada	12.6	59.7	72.3
Japan	27.1	10.3	37.4
Netherlands	4.1	5.6	9.7
Sweden	46.3	48.7	95.0
Korea	36.4	1.2	37.7
Chinese Taipei	19.1	3.1	22.2
China	1.5	17.7	19.2

Source : Energy Balances of OECD/Non-OECD Countries 2001-2002, IEA  
CO<sub>2</sub> Emissions from Fuel Combustion 2001-2002, IEA

# Nuclear Power-related Information Sources and Reliability



A: Newspaper articles (83 / 78)

B: TV programs (78 / 63)

C: Expert's comments (11 / 39)

D: Magazines, weeklies (25 / 15)

E: Books (10 / 13)

F: Pamphlets by power companies (11 / 10)

G: Comments by journalists (14 / 11)

H: Friends, family members (19 / 10)

I: TV-CM / paper ads (20 / 9)

J: Gov.'s publication (4 / 7)

K: Meetings, seminars (1 / 5)

L: Comments by gov. officials (4 / 5)

(note: info / rely)

## Gaining the public trust

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- Safety record / safety culture.
- “Visible nuclear”
  - facilities, workers, information, to be made visible.
- Relations with mass media.
  - People rely on media for 70-80%.
  - Media should be informed constantly, quickly, correctly and sufficiently.
  - Incorrect reports should be corrected by quick action taken by respective organizations.

## Recent results of nuclear policy

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- Basic law on Energy Policy Making  
; June 2002 (LDP Diet)
- Basic Energy Policy ; June 2003 (LDP)
- Basic Energy Plan ; October 2003 (Cabinet)
- The basic policy on Nuclear Power in Japan  
; August 2005 (LDP)
- The fundamental Nuclear Policy  
; October 2005 (JAEC Cabinet)

# Conclusion

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- De-carbonization is essential for Sustainable Development.
- To that end : energy conservation, renewables, clean and efficient use of fossil fuels as well as safe and peaceful use of Nuclear Energy.
- Promotion of Nuclear Power as a pillar energy source.  
(NPG share should be 30 ~ 40%)
- Commercialization of FBR, by 2050 or earlier.
- Increase R&D.
- Nuclear options should be involved in CDM.

# - My favorite French CM -

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En France,  
on n'a pas de pétrole,  
mais  
on a des idées.

*Thank you for your attention.*

*Merci beaucoup pour votre attention.*