

# Per què plans i escenaris energètics alternatius? Aproximació històrica

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# Per què plans i escenaris alternatius?

- Problemàtica
  - Preguntes clau:
    - Quina quantitat d'energia es precisa consumir?
    - Quin tipus de tecnologia cal emprar?
    - Qui ha de controlar els sistemes energètics?

# Aproximació històrica

- Els inicis
  - Publicació de *The Soft Energy Path*, Amory Lovins, l'any 1976

ENERGY

# THE SOFT PATH—FIFTEEN YEARS LATER

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FIFTEEN YEARS AGO, Amory Lovins, RMI's Director of Research, published an article in *Foreign Affairs* outlining an energy future called the "soft path" in which efficiency and renewable technologies would increasingly supply the nation's energy services.

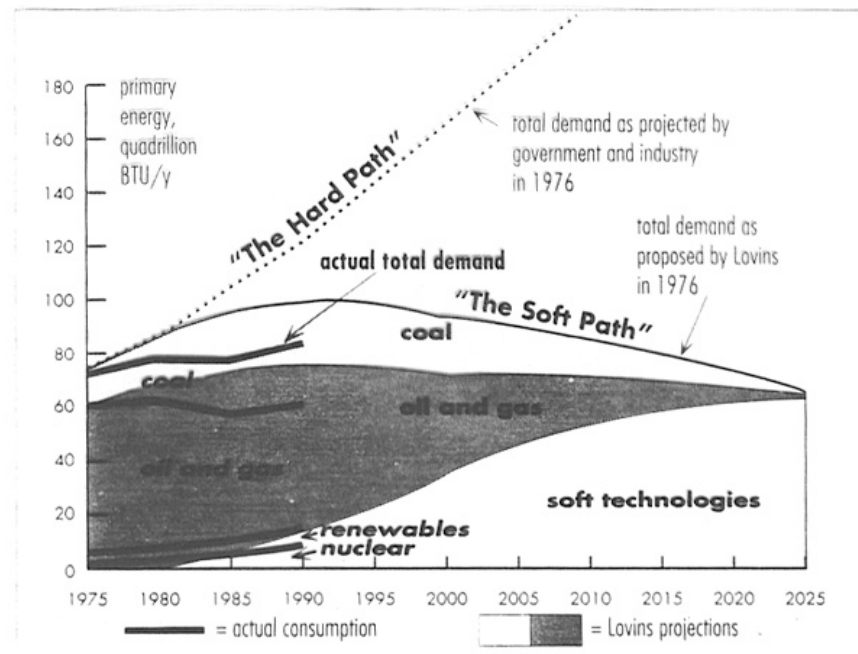
This graph compares Lovins's original soft-path scenario with actual energy consumption over the past fifteen years (heavy lines at left). The dotted line, shooting up toward the right, represents 1976 forecasts by government and industry.

Although it wasn't meant as an exact prediction, Lovins's scenario has stood the test of time far better than the conventional wisdom. Even he, however, underestimated by one-third the role efficiency would play in reducing U.S. energy consumption. From 1975 to 1985, the energy intensity of the U.S. economy fell by 22%, a remarkable accomplishment. For the past five years, low oil prices and anti-efficiency federal policies have slowed progress, causing energy use to rebound somewhat.

What is apparent from this graph

is that the hard path hasn't happened and won't. As for the soft path, the key question is whether renewable technologies quickly emerge to displace much of the oil and gas we currently consume. This will depend on many factors, including environmental concerns about climatic change, energy prices, the pace of scientific and technological advances, state and federal policies, and each of us.

Lovins (1976) vs. Actual Use (1975-90)



# Aproximació històrica

- Exemples planificació energètica alternativa - PEA (1):
  - 1977, *Solar Sweden*
  - 1977, *An Alternative Energy Strategy for the UK*
  - 1978, *Projet ALTER (FR)*
  - 1979, Una estratègia de baixa energia para Gran Bretaña

# Aproximació històrica

- Exemples PEA (2):
  - 1979, *Energy options & development* (UK)
  - 1979, Modelo energético de tránsito (ES)
  - 1980, *The Easy Path Energy Plan* (USA)
  - 1980, *Solar versus Nuclear: Choosing energy futures* (S)
  - 1980, *Energy Supply without nuclear power & oil for the FRG*

# Aproximació històrica

- Exemples PEA (3):
  - 1980, *Energy Strategies: Toward a Solar Future* (USA)
  - 1981, *Zero Energy Growth for Canada*
  - 1981, *An Energy Policy for Wales*
  - 1982; L'autonomia energètica de Catalunya: una opció possible
  - 1982, *Energy Efficient Futures: opening the solar option* (UK)

# Aproximació històrica

- Exemples PEA (4):
  - 1983, *A Second Chance - New Hampshire's Electricity Future: a Model for the Nation*
  - 1983, *2025 Soft Energy Futures for Canada*
  - 1983, *Life After Oil: a renewable energy policy for Canada*
  - 1983, *Solar Project: the potential for renewable energy (UK)*

# Aproximació històrica

- Exemples PEA (5):
  - 1984, *The Audubon Energy Plan* (EUA)
  - 1984, *The road to trillion dollar energy savings* (USA)
  - 1984, *Energy for the Future: alternative energy plan 1983* (Dk)
  - 1987, *Cornwell Energy Plan*
  - 1988, *Das Grüne Energiewende Szenario 2010*

# Aproximació històrica

- Plans per abandonar la nuclear:
  - 1986, *Shut Them Down: A 4 year timetable for closing all Britain's Nuclear Reactors*
  - 1987, *Too Costly to Continue: The Economic Feasibility of Phasing Out Nuclear Power*
  - 1987, *Sortir du Nucléaire: Un Plus . . . . pour l'économie*
  - 1987, 1992 sin nucleares: un proyecto para substituir la energía nuclear en España

# Planificació energètica

- Plans per abandonar la nuclear (2)
  - 1989, Energía Atómica: es posible su abandono inmediato - un programa que marca el camino, Alemania

# Planificació energètica

- Plans per a la sostenibilitat energètica
  - *Energy for a Sustainable World*  
Goldemberg, Johansson, Reddy, Williams
  - *Towards a Fossil Free Energy Future: The Next Energy Transition*
    - Stockholm Environment Institute - Boston Center, for Greenpeace International