YESDC

develop your energy network

Great Nuclear Energy Debate

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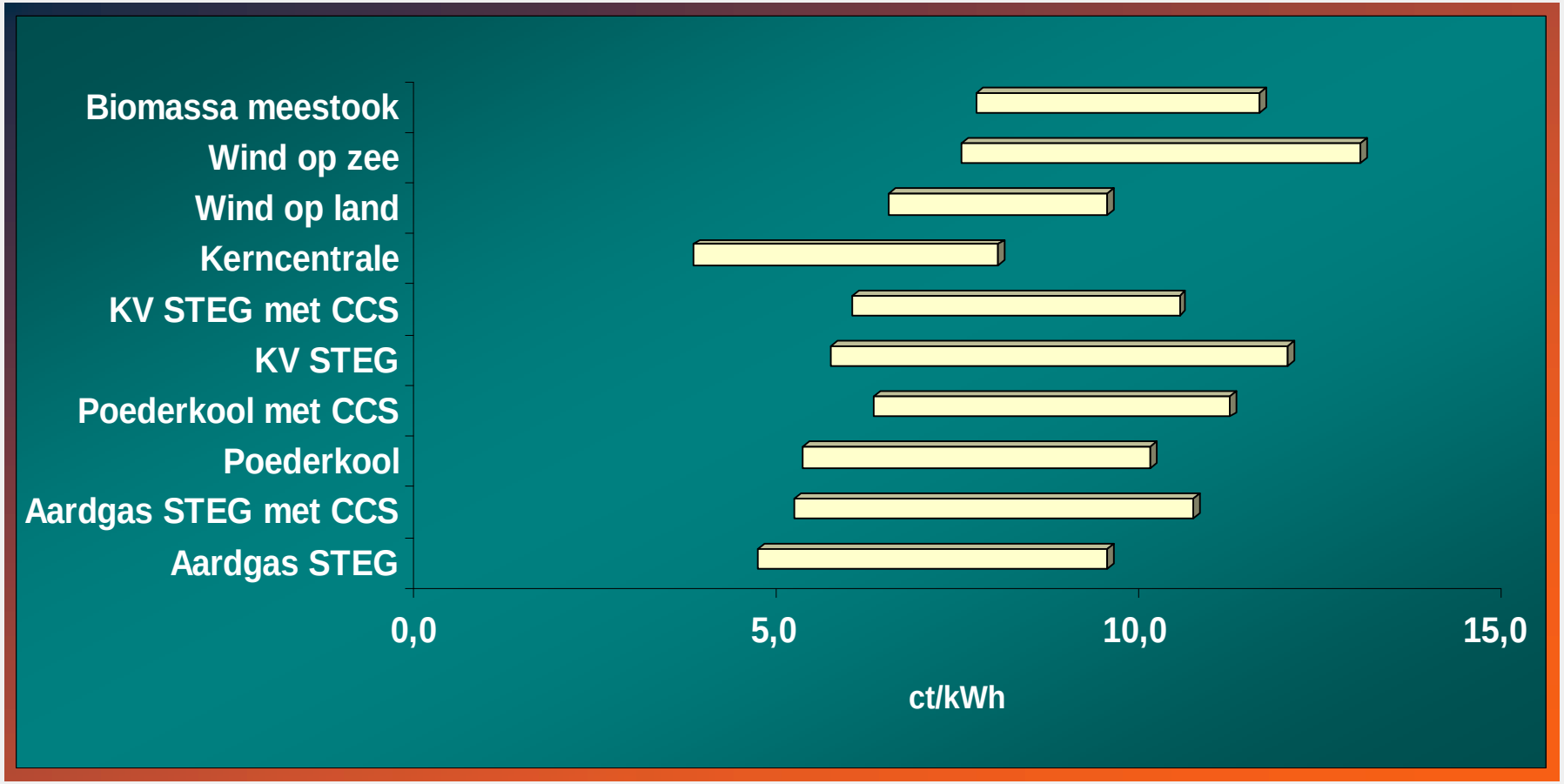
The full (societal) costs of nuclear energy

- Production costs vs investment costs
- Projects often refinanced
- Less dependence on imported foreign oil
- No need for subsidies
- Renewable energy much more expensive

- Practice, not the theory
- Hard to predict the very far future
- Costs of whole cycle
- Sometimes hard to quantify in Euro’s



Electricity Production Cost (€ct / kWh)

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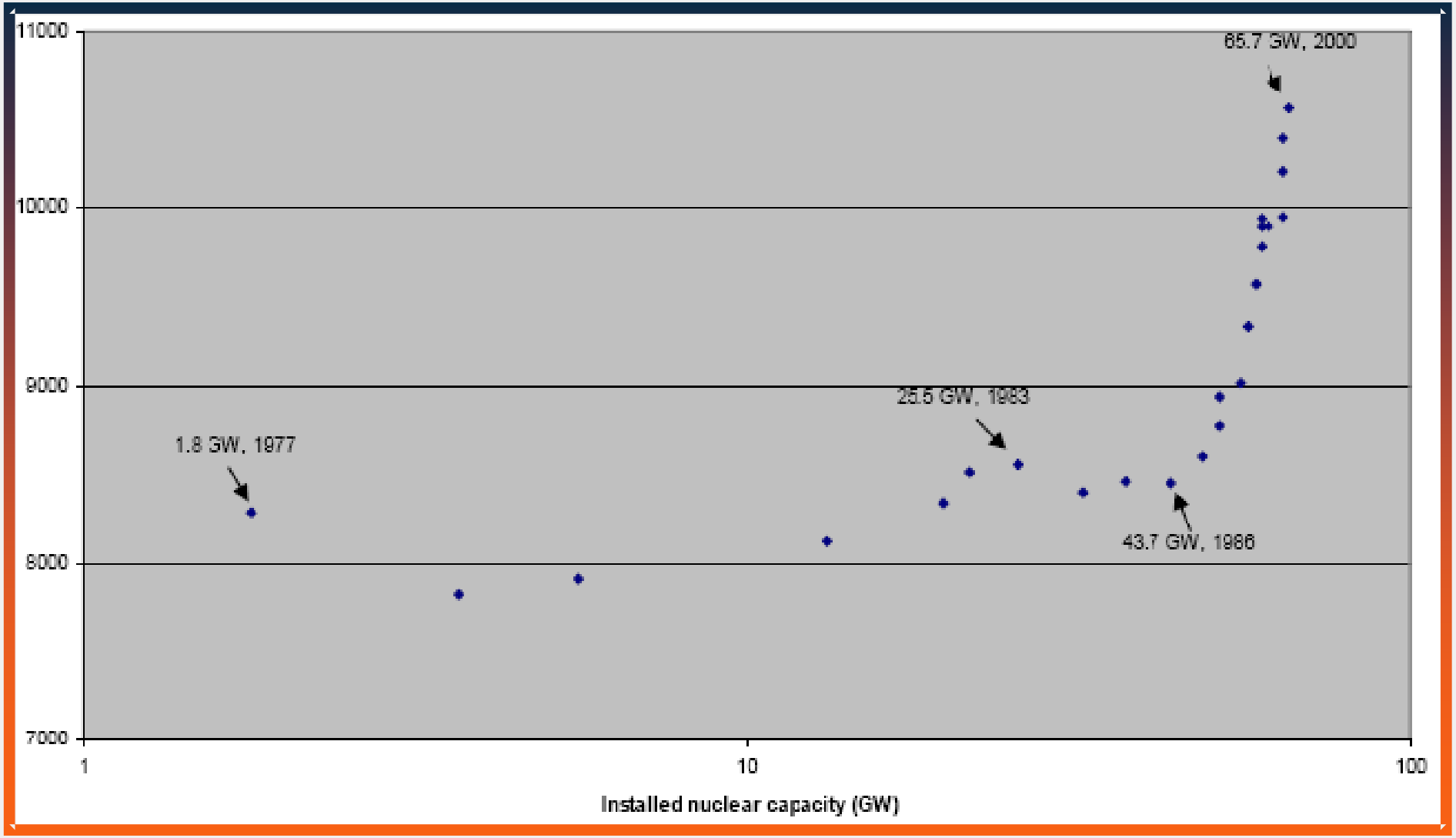
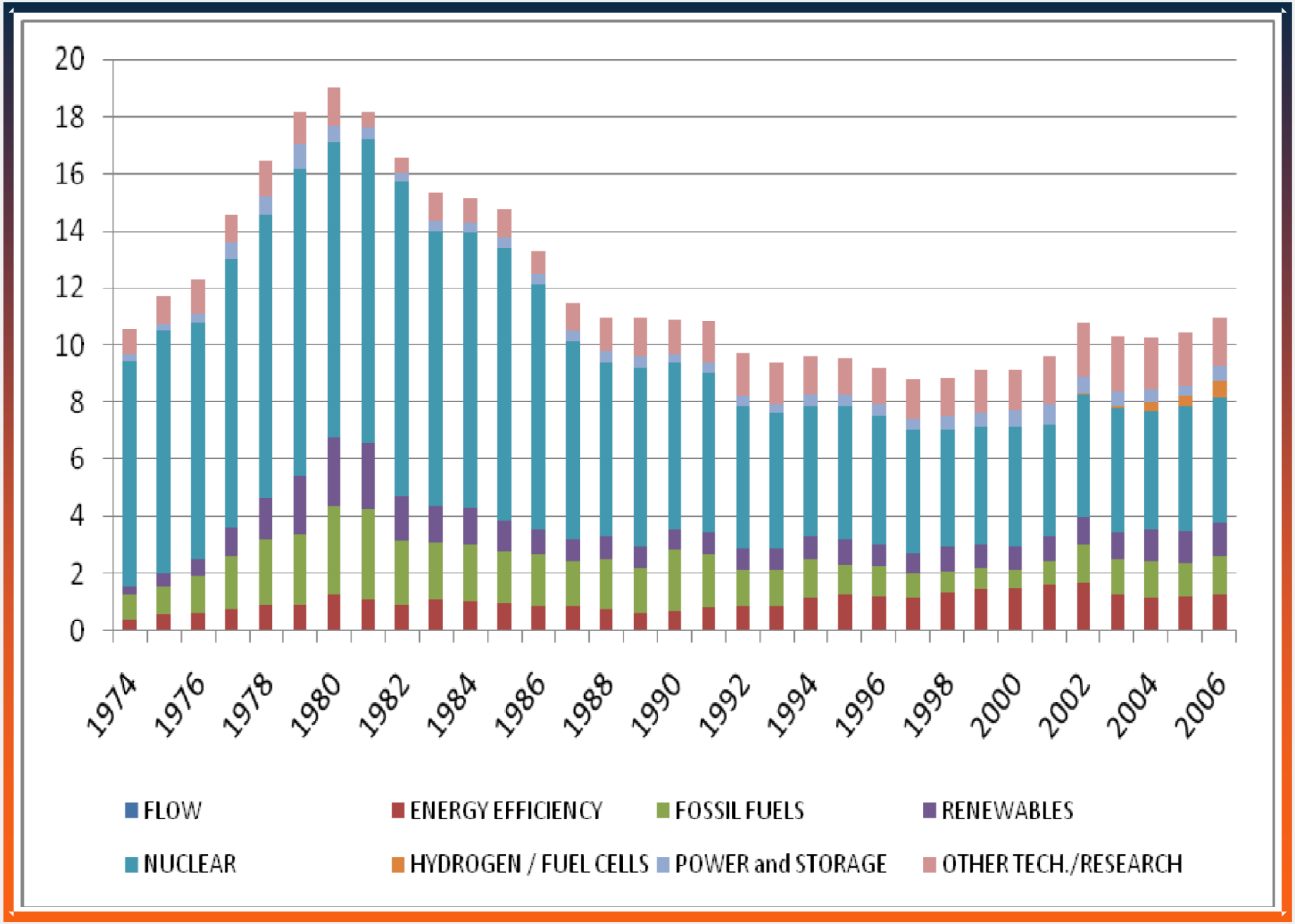


Specific Investment Cost Nuclear Energy (1998 FF / kW)



Energy R&D budgets OECD 1974 - 2006

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Nuclear waste: problems and solutions

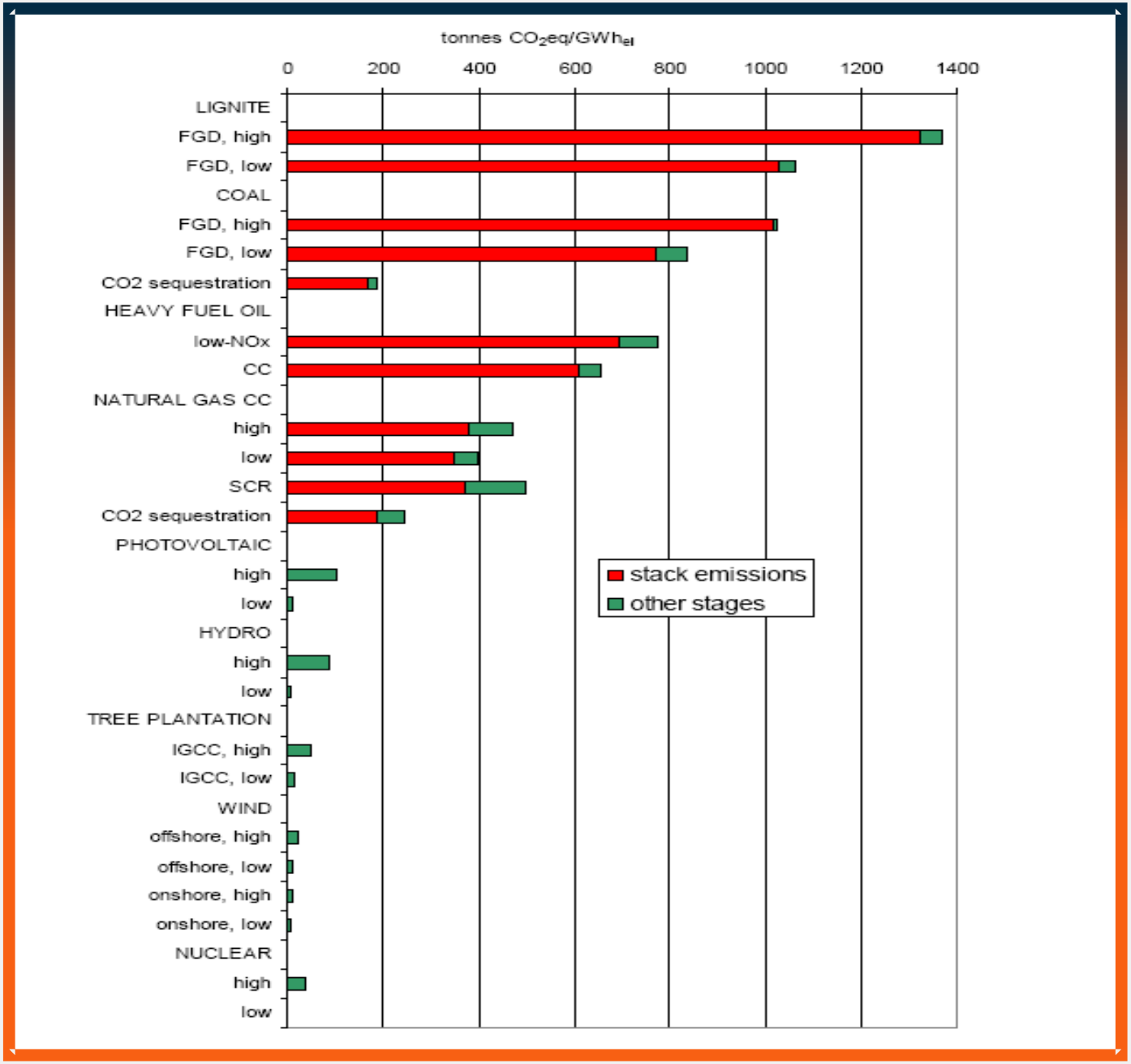
- Duration is the problem
- No experience, it's an experiment
- Conflicts with every moral law and int'l agreement
- Based on trust and faith; track record of industry is not helpfull
- Stop producing, jointly seek a solution

- 50.000 m3 radioactive waste vs 10 million m3 toxic industial waste
- Only 500 m3 highly RAW
- Lowest fatalities per Gw
- Good models to predict storage safety
- Isolation and insulation
- RAW not weapons grade
- IEAE to oversee non-proliferation

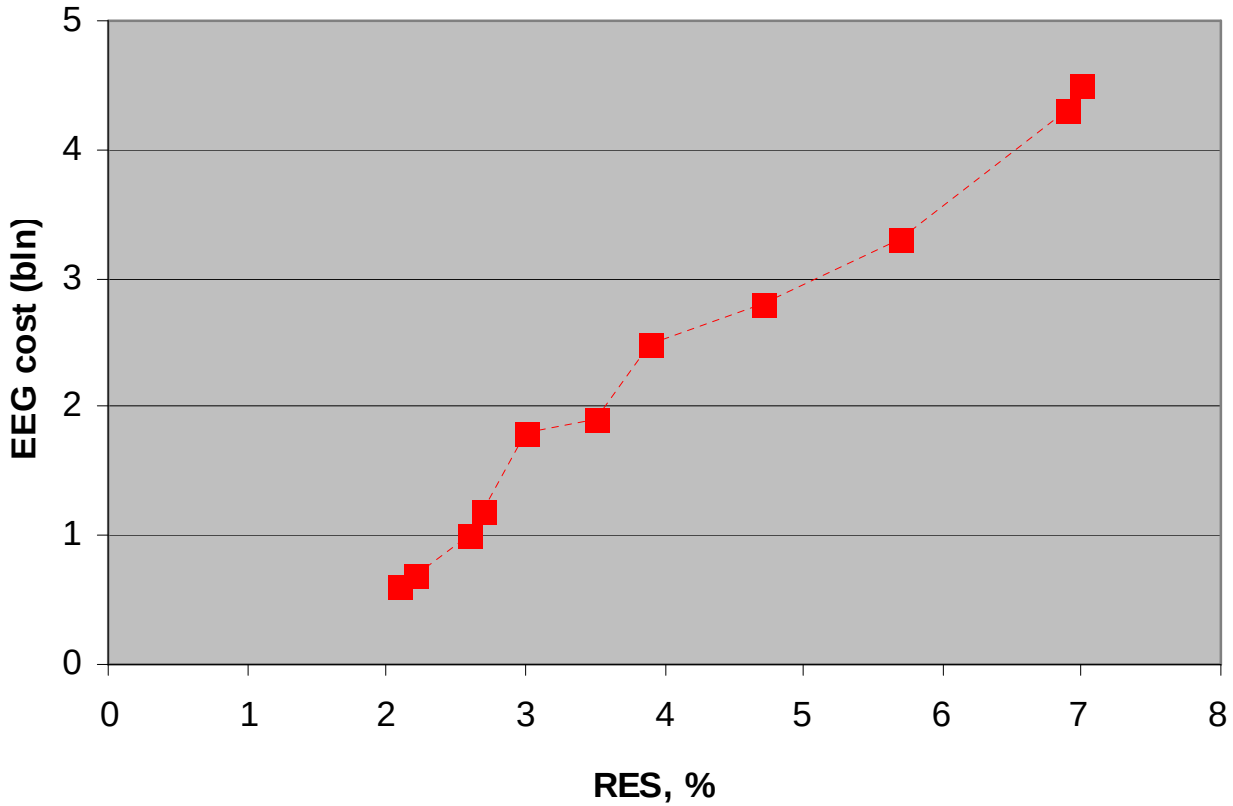
Nuclear energy as a solution to climate change and security of supply

- Lowest CO2 free production costs
- Large Scale Baseload & Load following
- Reserves for 100 years minimum with current technology
- 10.000 years with FR
- Gap between ambition and reality renewables

- Too late
- Too little
- Too expensive
- Lock-in
- New dependency
- Finite resources

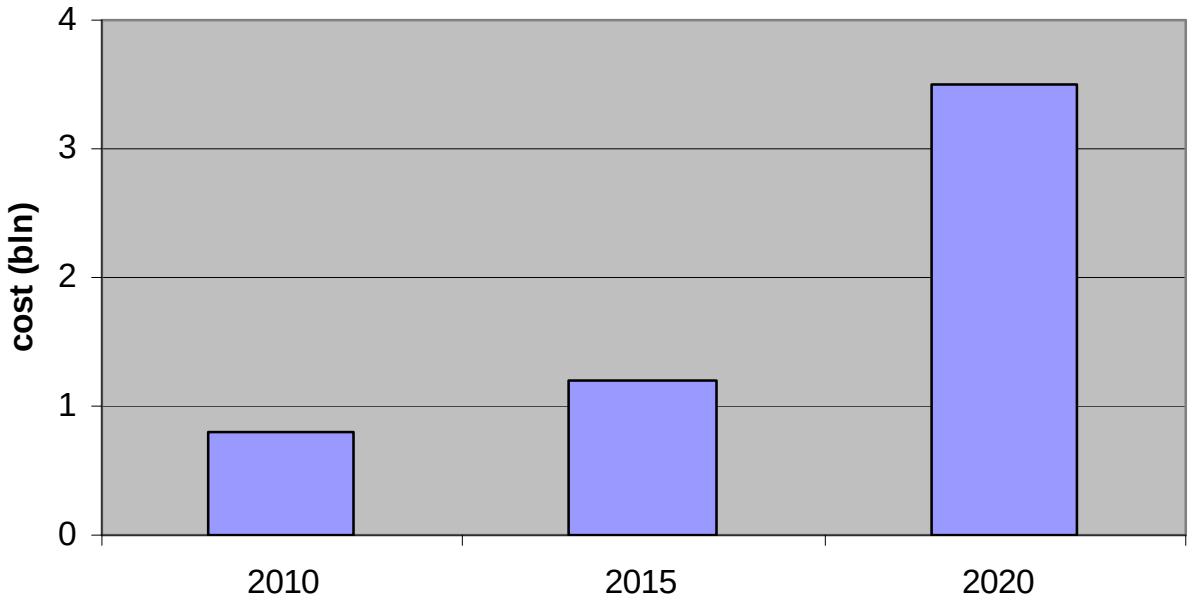


Greenhouse gas emissions energy production technologies
(tonnes CO2-eq / GWh)



Costs of EEG, Germany

Cost of MEP, Netherlands



RES (primary)	1997 (%)	2008 (%)	2010 target (%)	2020 target[1] (%)
UK	1,0	2,6		15
France	7,1	7,5		23
Italy	5,3	8,2		17
Spain	6,3	7,5		20
Germany	2,1	7,0		18
Denmark	8,3	17,6		30
Netherlands	0,8	3,4	5 (BAU: 4)	14 (BAU: 6%)
EU-27	5,4	8,2	11,5 (BAU:9)	20 (BAU: 12%)

Gap between ambition and reality of renewable energy production in the EU

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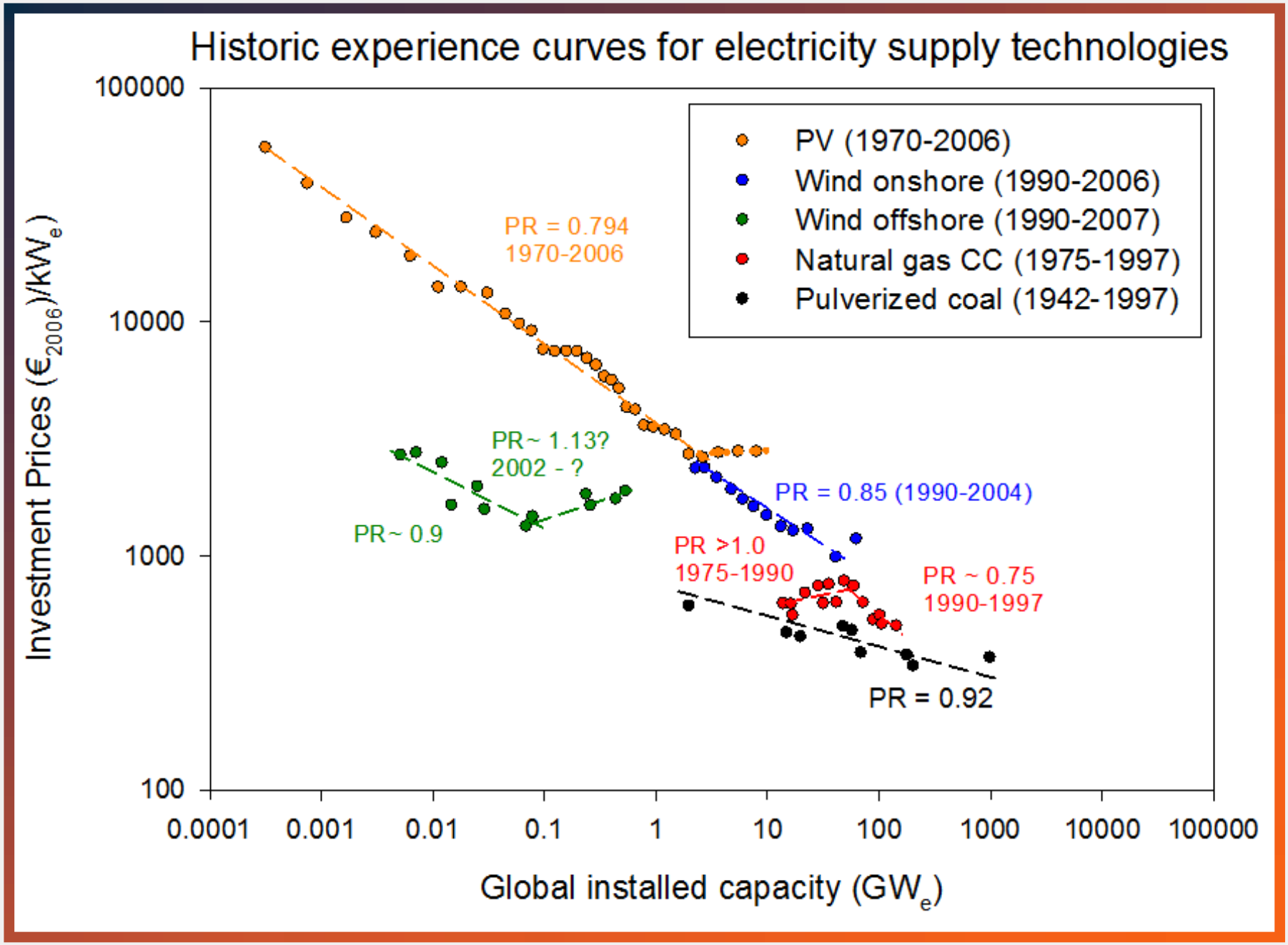
Historic experience curves for electricity supply technologies
PV (1970-2006)
Wind onshore (1990-2006)
Wind offshore (1990-2007)
Natural gas CC (1975-1997)
Pulverized coal (1942-1997)
PR = 0.794
1970-2006
PR~ 1.13?
2002 - ?
PR~ 0.9
PR = 0.85 (1990-2004)
PR >1.0
1975-1990
PR ~ 0.75
1990-1997
PR = 0.92
Investment Prices (€2006)/kWe)
Global installed capacity (GWe)
100000
10000
1000
100
0.0001
0.001
0.01
0.1
1
10
100
1000
10000
100000

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- Drinks at bar Walden! First round on YES-DC

www.yes-dc.org