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Docket: NRC-2019-0063
Criteria to Return Retired Nuclear Power Reactors to Operations

Comment On: NRC-2019-0063-0003
Criteria to Return Retired Nuclear Power Reactors to Operations

Document: NRC-2019-0063-DRAFT-0012
Comment on FR Doc # 2019-15934

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General Comment

Because of Climate Change, we must increase the production of electricity with highly efficient, CO2-FREE, 24/7, CO2-free, resource-conserving nuclear power, he safest way to generate electricity, by restoring idled plants to production and building more. Please see the attachments that prove my point. All of them and more are included in Unintended Consequences: the Lie That Killed Millions and Accelerated Climate Change, the PDF of which is attached. For paper copies see Amazon.com. George Erickson 218-744-2003

Attachments

2 resouurces

1 safety 1a

3 Capacity factors

4a Subsidy chart

4 EmissionsPerSource (002)

7a Solar German results

5 coal v nuke ad

4b cost of electricity in $$ per kwh

8a Solar toxic waste

11 Windmill and fracking waste 2

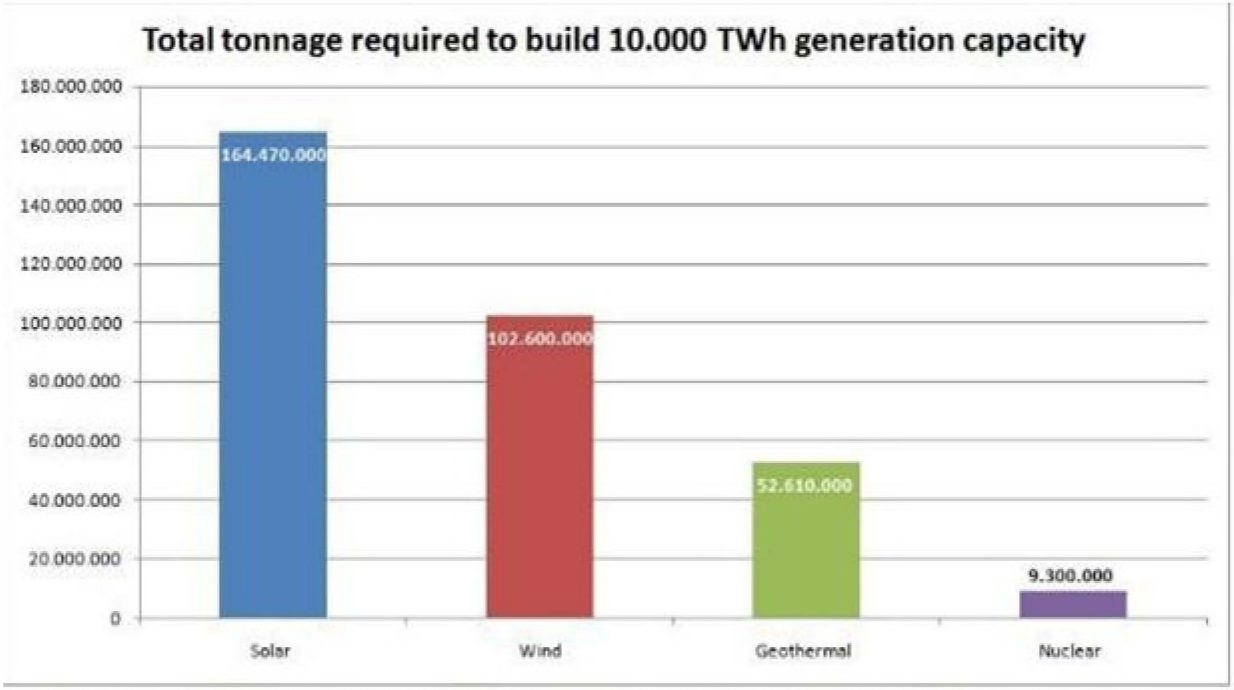
10 Wind Germany - light blue area supplied by burning carbon

Hansen on nuclear

CO2 air -seawater pH

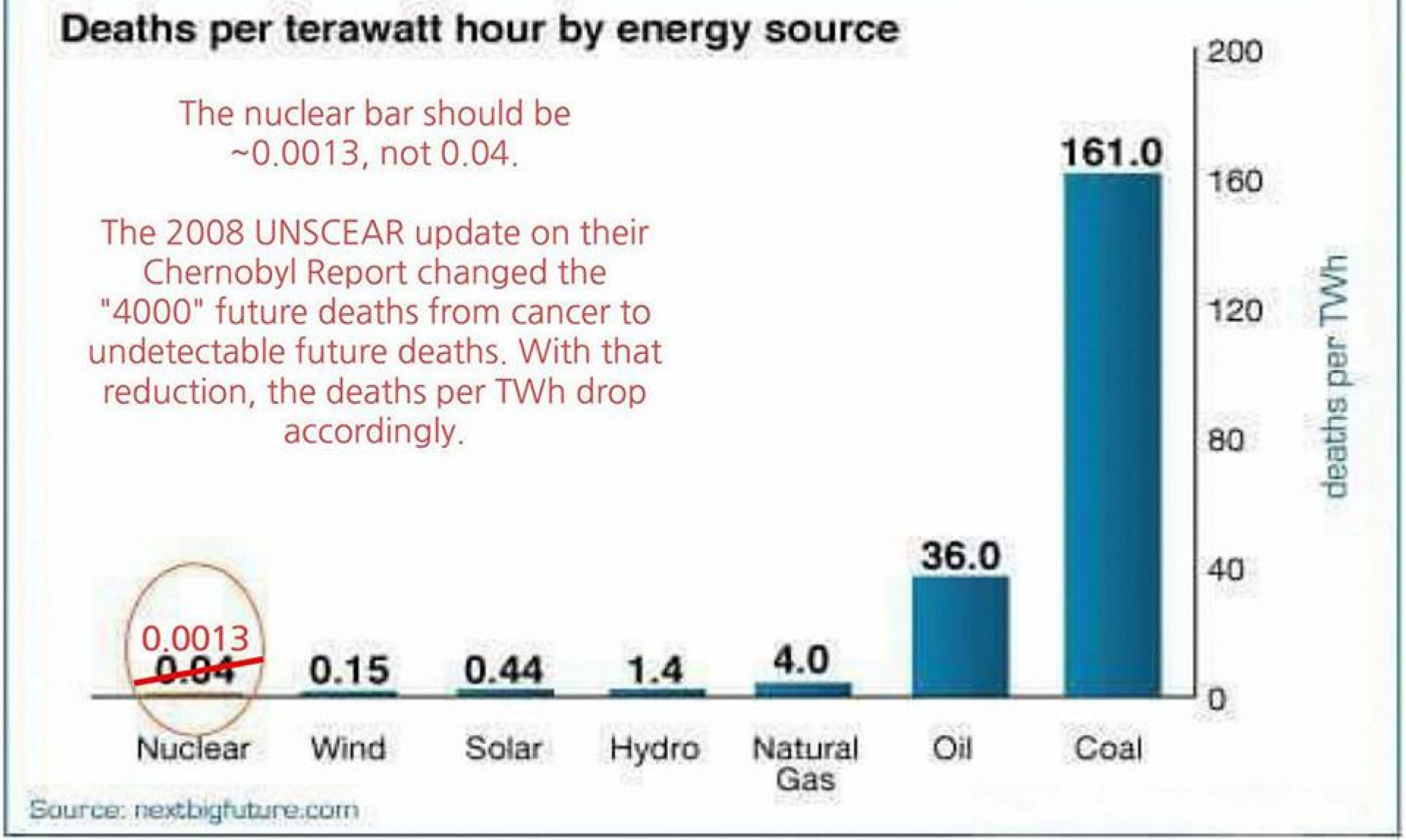
ocean acid graph

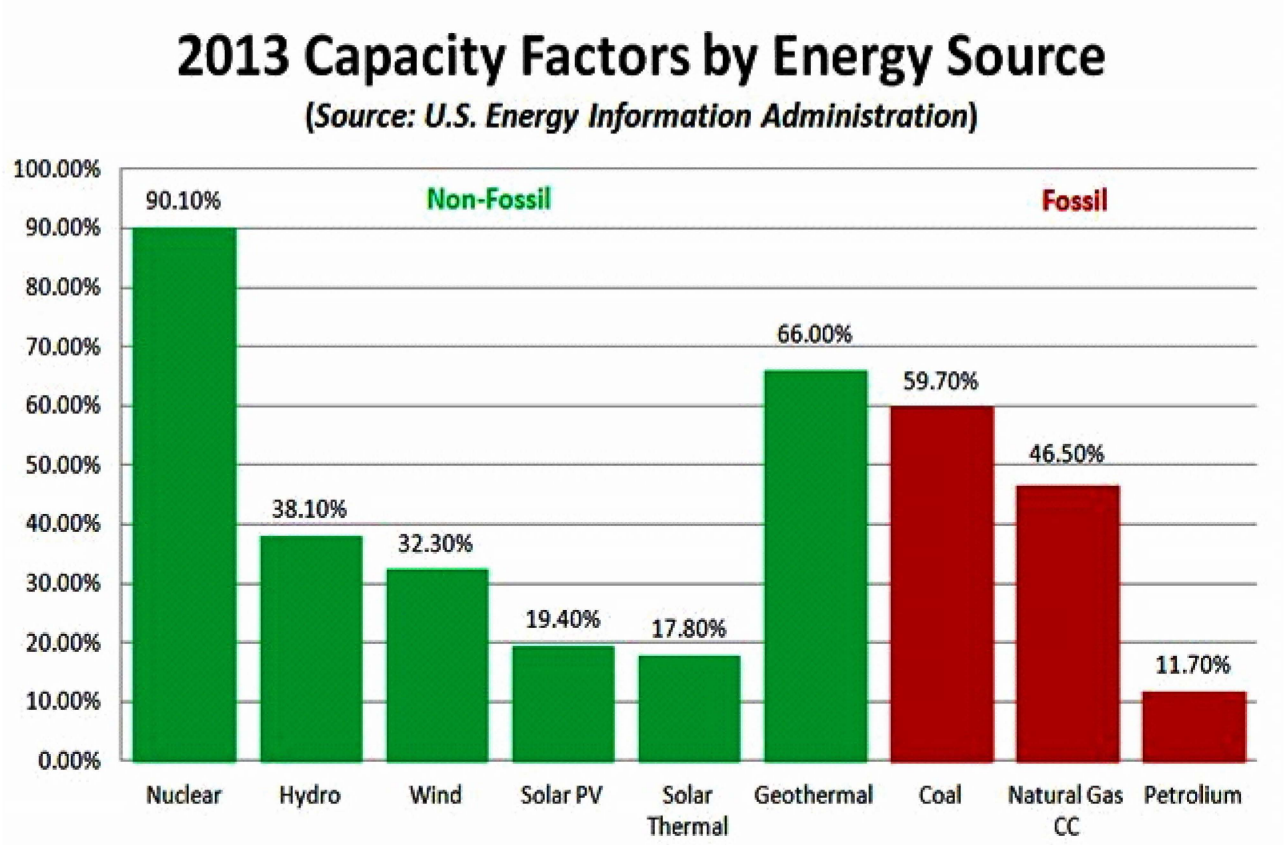
methane leak image

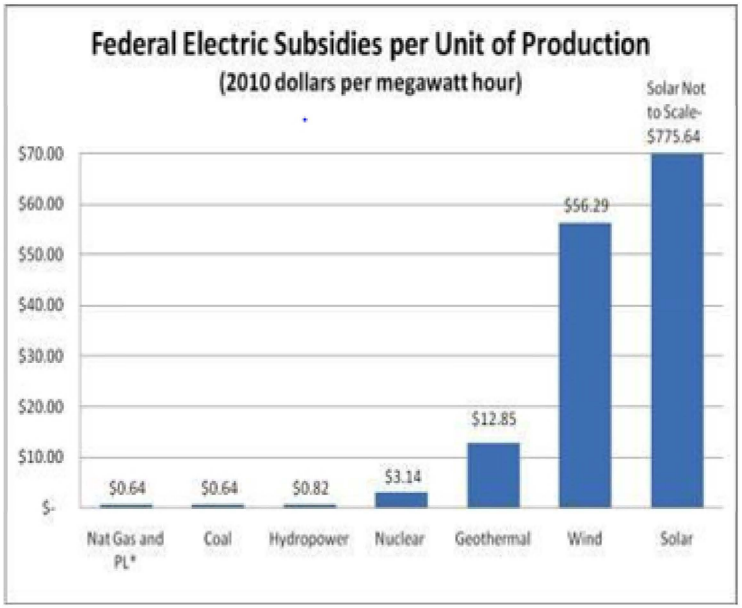


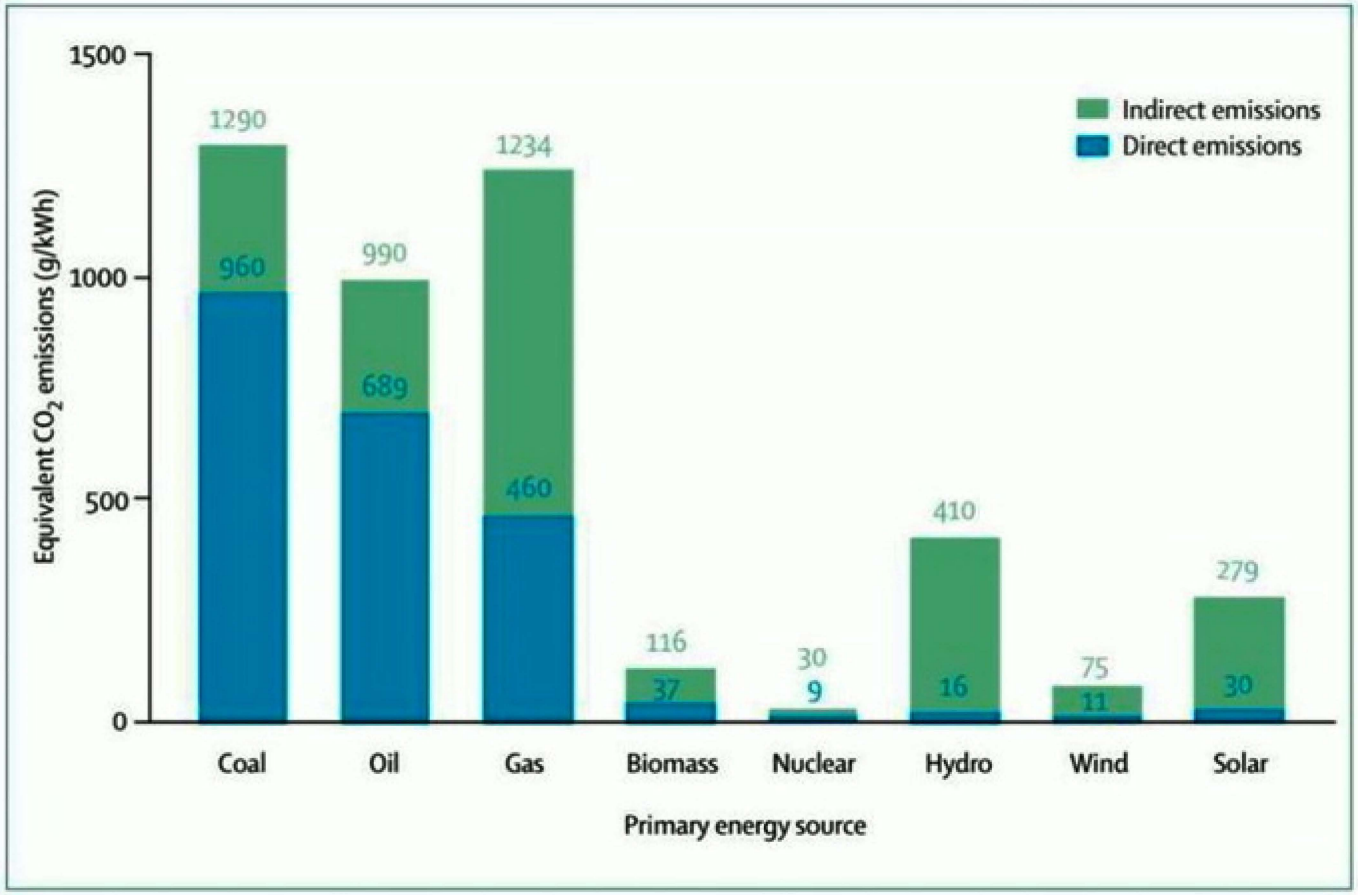
Source : Quadrennial technology review / Capter 10 : Concepts in integrated analysis | September 2015 | www.energy.gov

Nuclear: The Safest Energy Source of All



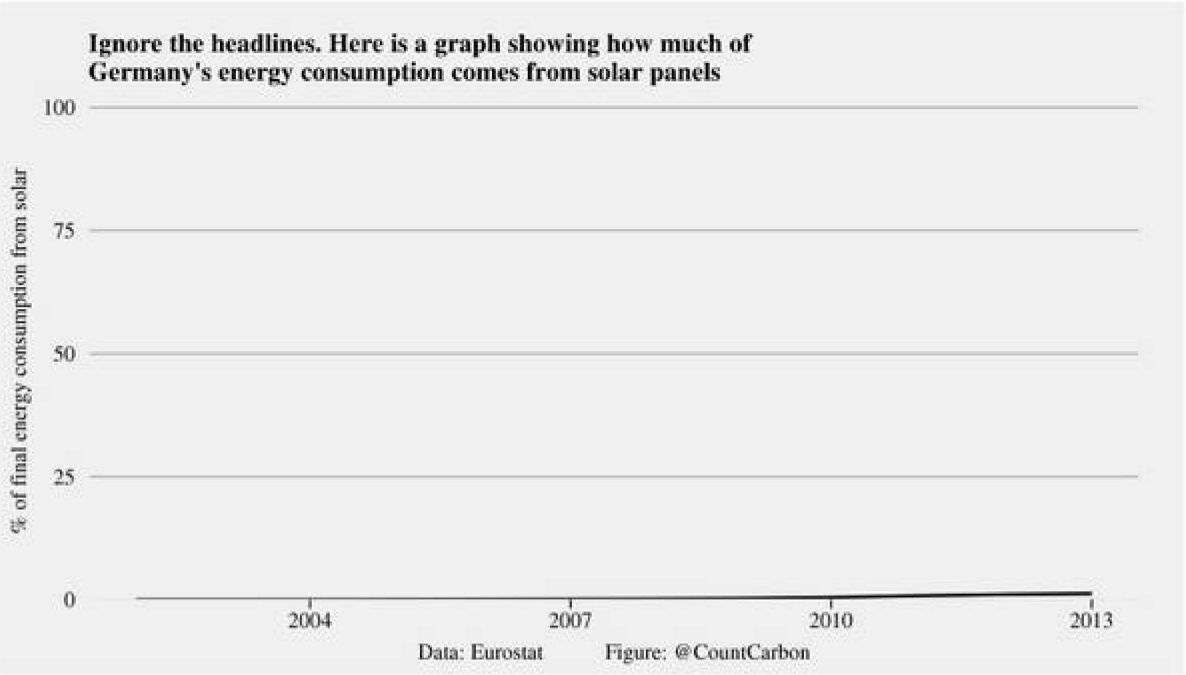

2013 Capacity Factors by Energy Source
(Source: U.S. Energy Information Administration)
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Non-Fossil
Fossil
90.10%
38.10%
32.30%
19.40%
17.80%
66.00%
59.70%
46.50%
11.70%
Nuclear
Hydro
Wind
Solar PV
Solar Thermal
Geothermal
Coal
Natural Gas CC
Petrolium


Federal Electric Subsidies per Unit of Production
(2010 dollars per megawatt hour)
Solar Not to Scale- $775.64
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$-
$0.64
$0.64
$0.82
$3.14
$12.85
$56.29
Nat Gas and PL*
Coal
Hydropower
Nuclear
Geothermal
Wind
Solar

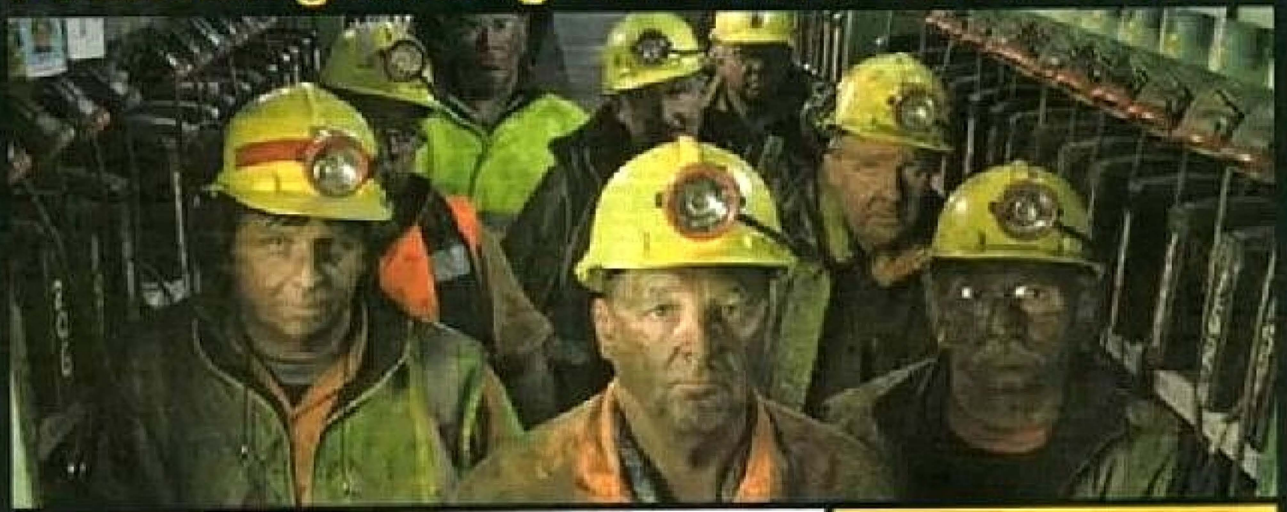


Full energy chain CO2 equivalent emissions by primary energy source.

Markandya, A., & Wilkinson, P. (2007). Electricity generation and health. *Lancet*, 370(9591), 979-990. doi:10.1016/S0140-6736(07)61253-7


Ignore the headlines. Here is a graph showing how much of Germany's energy consumption comes from solar panels
100
75
50
25
0
% of final energy consumption from solar
2004
2007
2010
2013
Data: Eurostat
Figure: @CountCarbon

Protecting Mining Jobs and Communities



A message from Australia's coal miners

Climate change is real and we need a Government that will tackle it.
Doing nothing is no longer an option.

Voters have a choice at the election:

Labor

- Support $1.5 billion investment in Clean Coal Technology
- No nuclear power station

Coalition

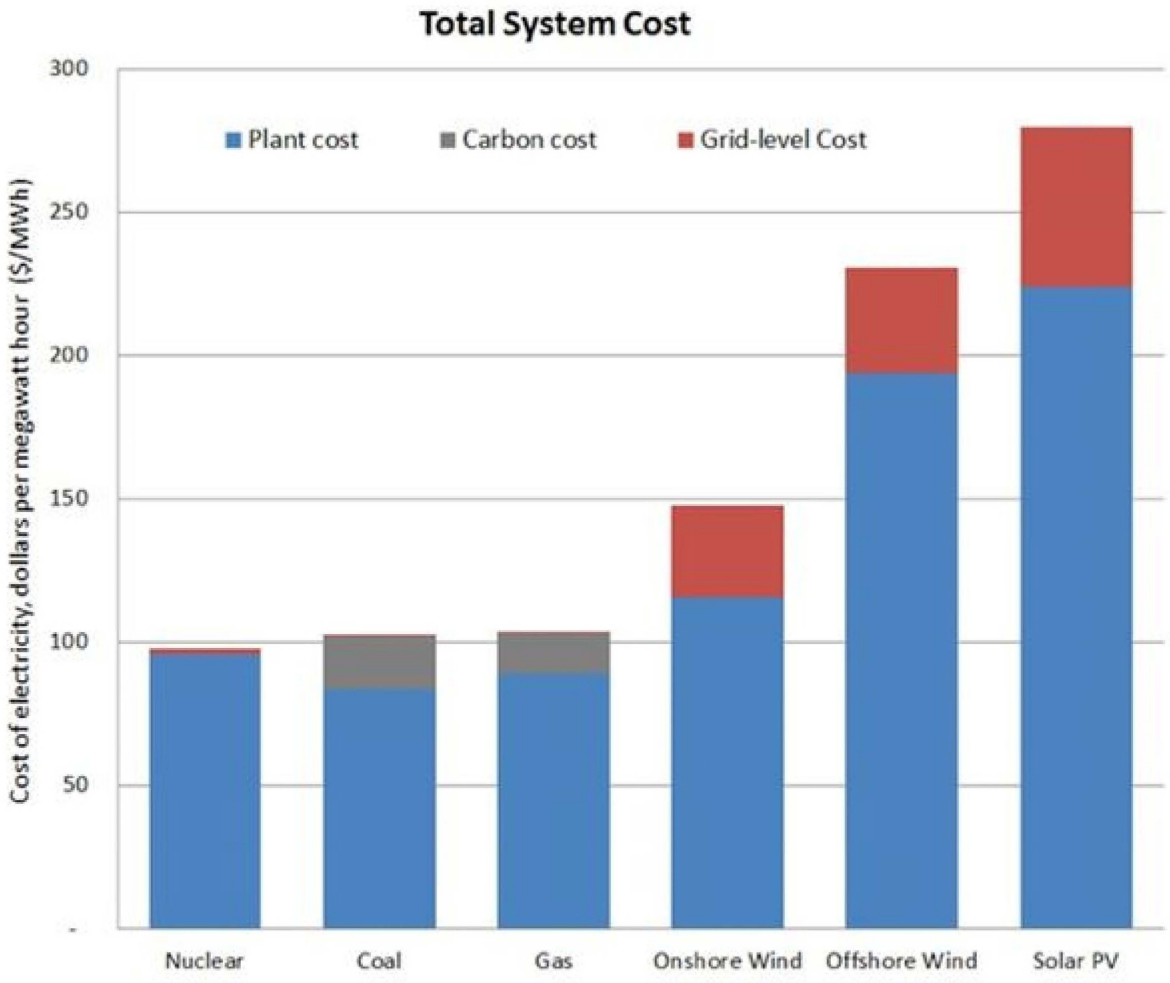
Continue to neglect Clean Coal Technology

Develop nuclear power stations that would replace the coal industry.

Nuclear Power Will Kill the Coal Industry

If you care about mining industry jobs and local communities don't support the Liberal and National parties' plans to introduce nuclear power stations.

Going nuclear is dangerous and will mean the end of our coal industry. Choose a party


Total System Cost
Plant cost
Carbon cost
Grid-level Cost
Cost of electricity, dollars per megawatt hour ($/MWh)
300
250
200
150
100
50
-
Nuclear
Coal
Gas
Onshore Wind
Offshore Wind
Solar PV

THINGS CHINA MAKES

21.8 GIGAWATTS
Solar Cell Production Capacity

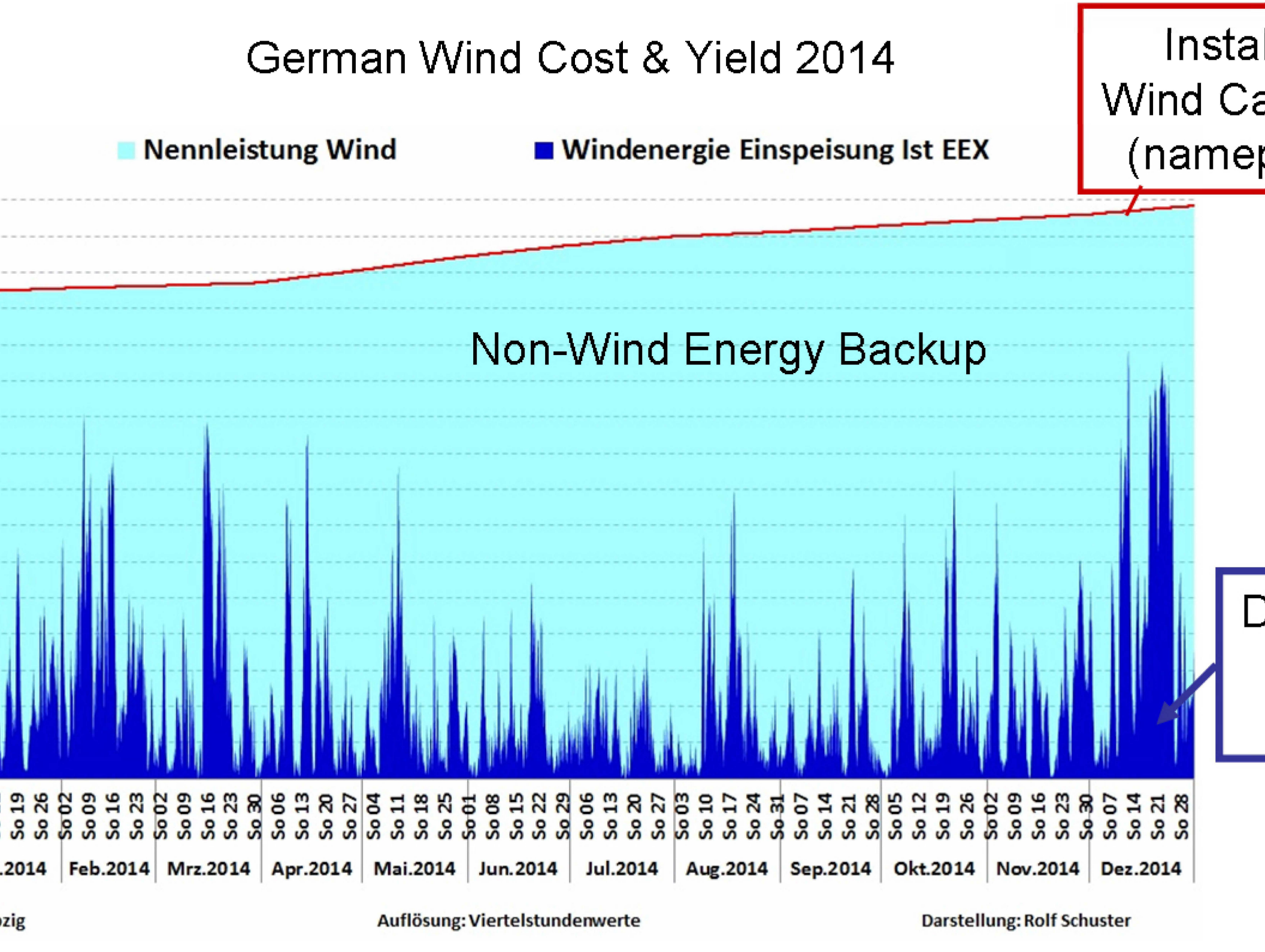
That's
74%
of global solar cell production capacity in 2011.

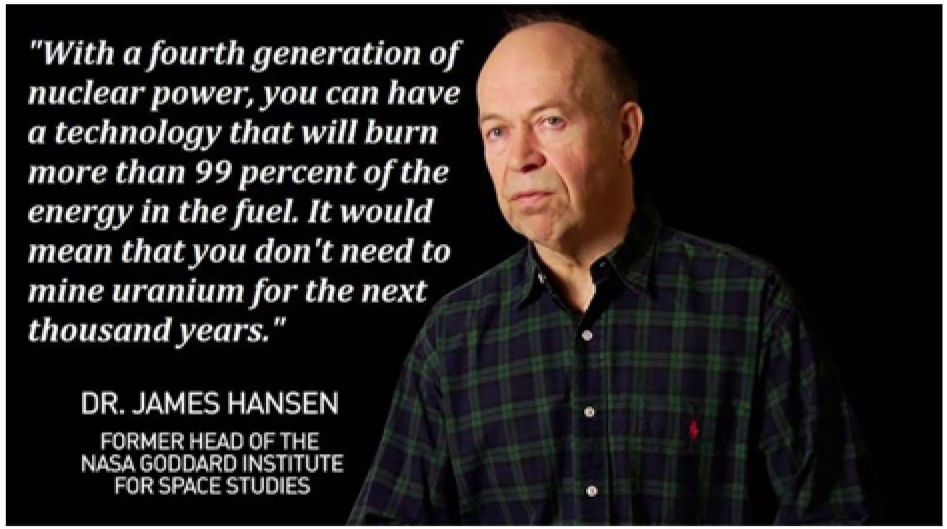
By Lisa Mahapatra
INTERNATIONAL BUSINESS TIMES

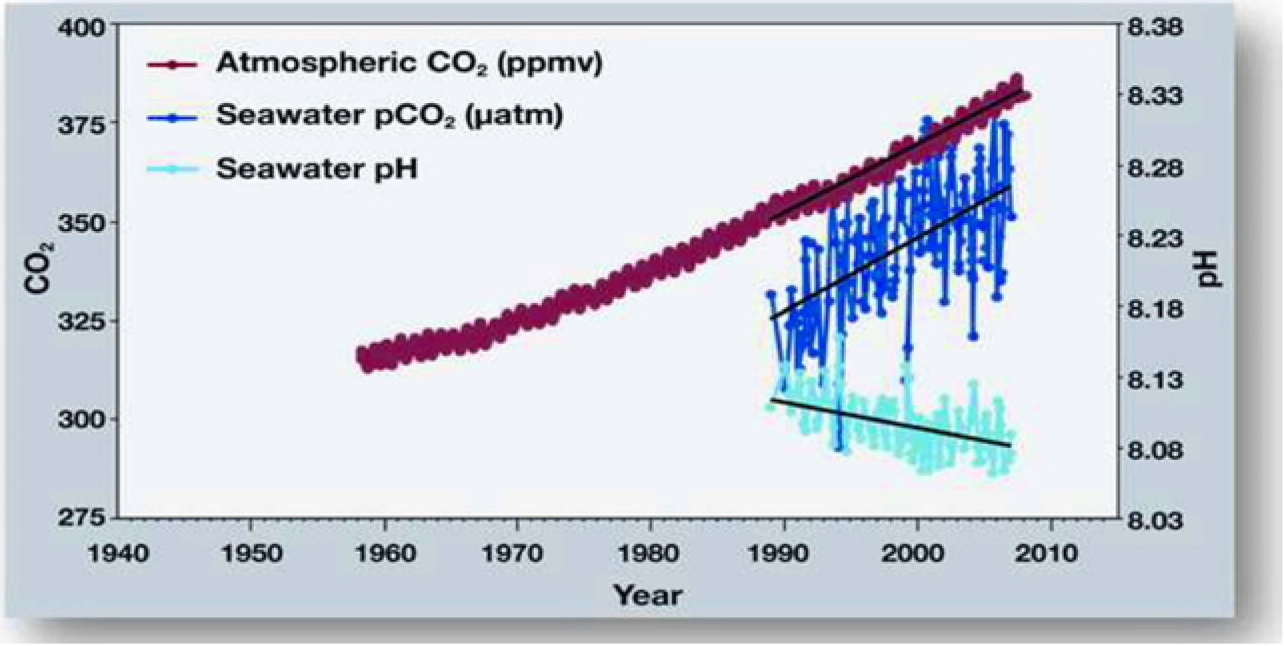
h report titled "Not So Trivial Facts" by David Ciu

Tens of thousands of tons of toxic waste from producing 2,000 kilos of Neodymium for the direct-drive permanent-magnet generator of every single large wind turbine – dumped in Baotou, China

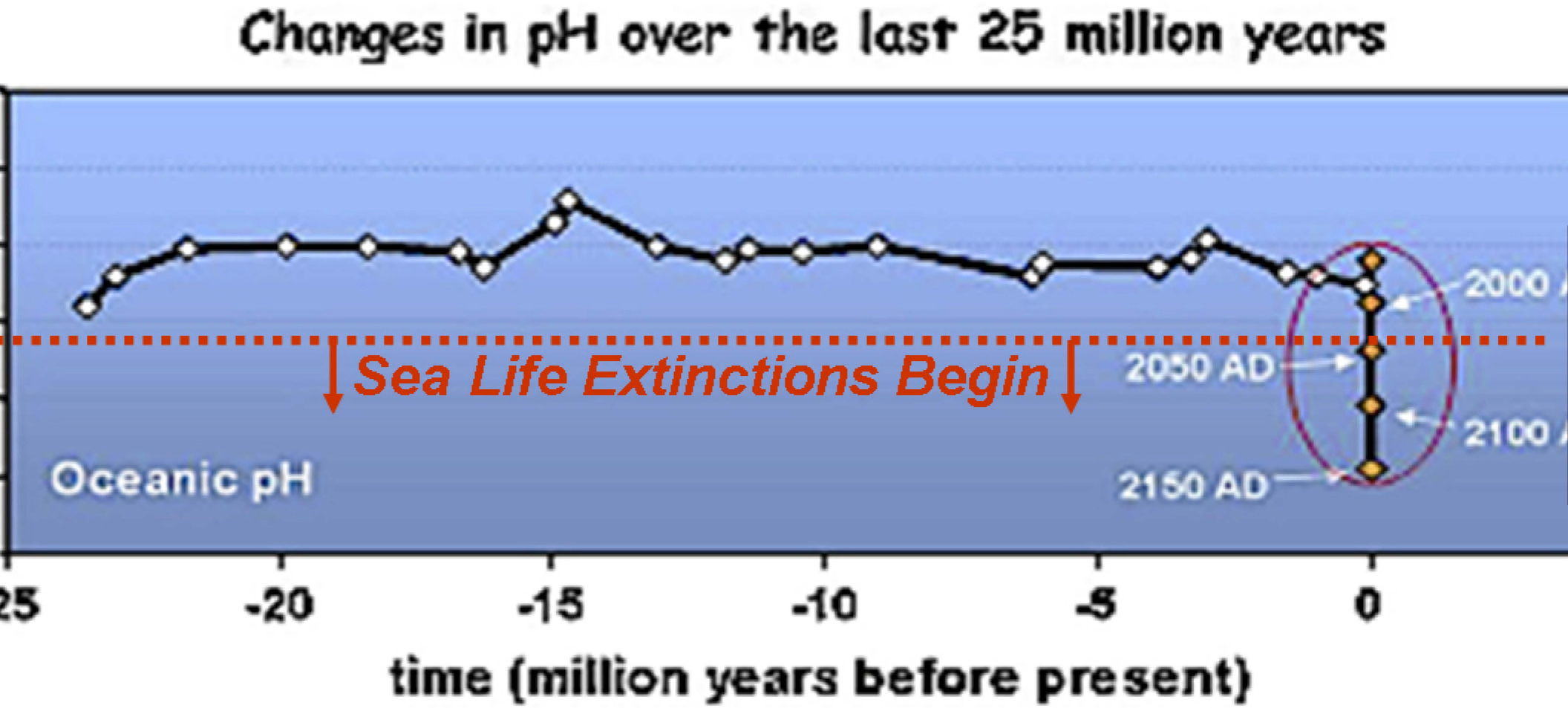
Six-mile wide lake of toxic waste at Baotou, China, used for dumping seven million tons a year of waste from rare earth metal processing plants, seen in the background. Jamie Choi, an expert on toxics for Greenpeace China, says villagers living near the lake face horrendous health risks from the carcinogenic and radioactive waste. Over 4,400lb (2,000kg) of neodymium-based material (Nd2Fe14B) go into the direct-drive permanent-magnet generator of every single large wind turbine.


German Wind Cost & Yield 2014
Nennleistung Wind
Windenergie Einspeisung Ist EEX
Insta
Wind Ca
(namep
Non-Wind Energy Backup
D
So 19 So 26 .2014
So 02 So 09 So 16 So 23 Feb.2014
So 02 So 09 So 16 So 23 So 30 Mrz.2014
So 06 So 13 So 20 So 27 Apr.2014
So 04 So 11 So 18 So 25 Mai.2014
So 01 So 08 So 15 So 22 So 29 Jun.2014
So 06 So 13 So 20 So 27 Jul.2014
So 03 So 10 So 17 So 24 So 31 Aug.2014
So 07 So 14 So 21 So 28 Sep.2014
So 05 So 12 So 19 So 26 Okt.2014
So 02 So 09 So 16 So 23 So 30 Nov.2014
So 07 So 14 So 21 So 28 Dez.2014
zig
Auflösung: Viertelstundenwerte
Darstellung: Rolf Schuster

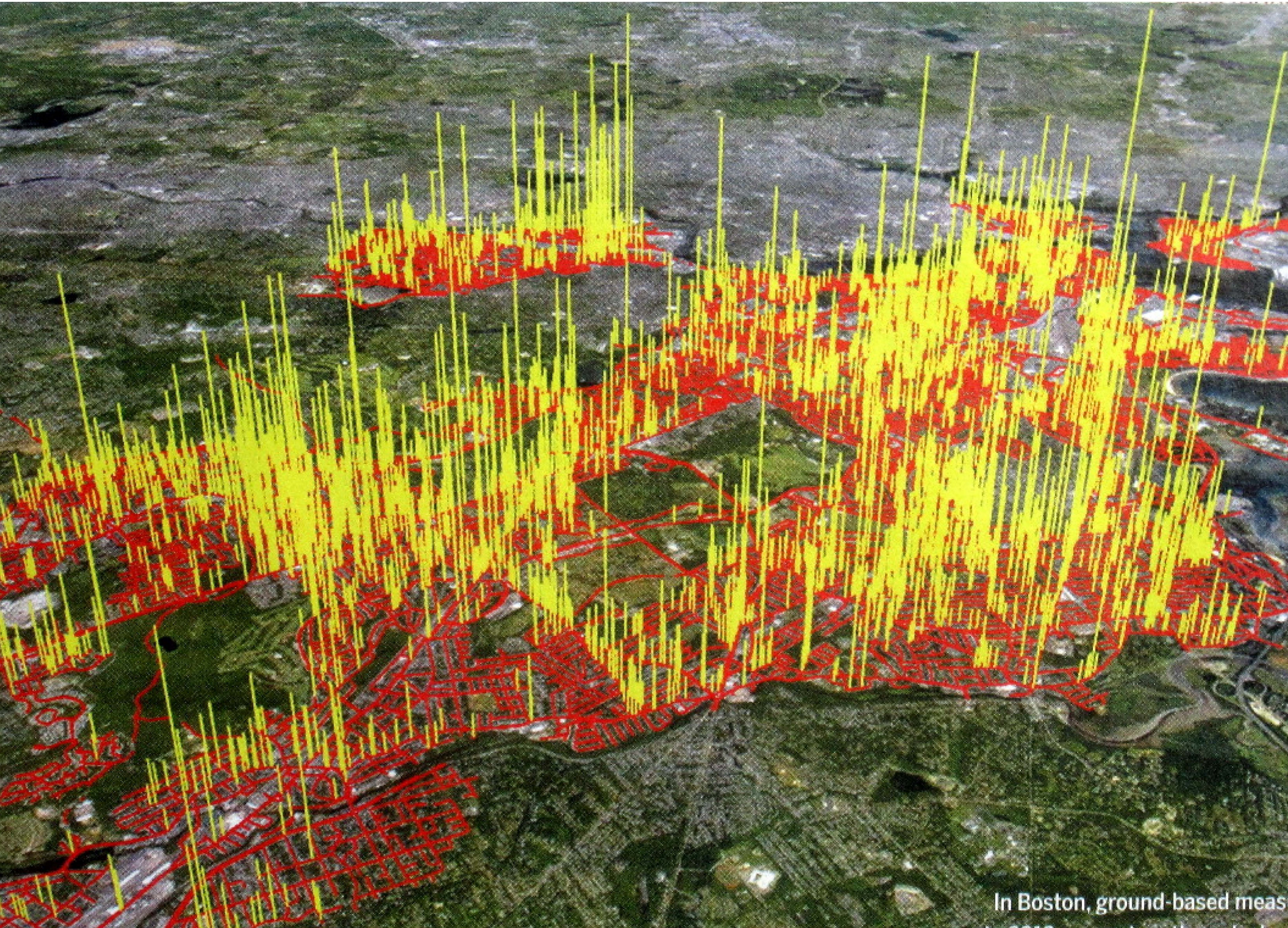

"With a fourth generation of nuclear power, you can have a technology that will burn more than 99 percent of the energy in the fuel. It would mean that you don't need to mine uranium for the next thousand years."
DR. JAMES HANSEN
FORMER HEAD OF THE NASA GODDARD INSTITUTE FOR SPACE STUDIES


Atmospheric CO_2 (ppmv)
Seawater pCO_2 (µatm)
Seawater pH
CO_2
pH
Year
400
375
350
325
300
275
8.38
8.33
8.28
8.23
8.18
8.13
8.08
8.03
1940
1950
1960
1970
1980
1990
2000
2010

s are Acidifying Fast .....



pening now, at a rate and to a level not experienced by marine organisms



In Boston, ground-based meas
in 2012 suggest methane leaks