

REPAP



Renewable Energy Policy Action Paving
the way towards 2020

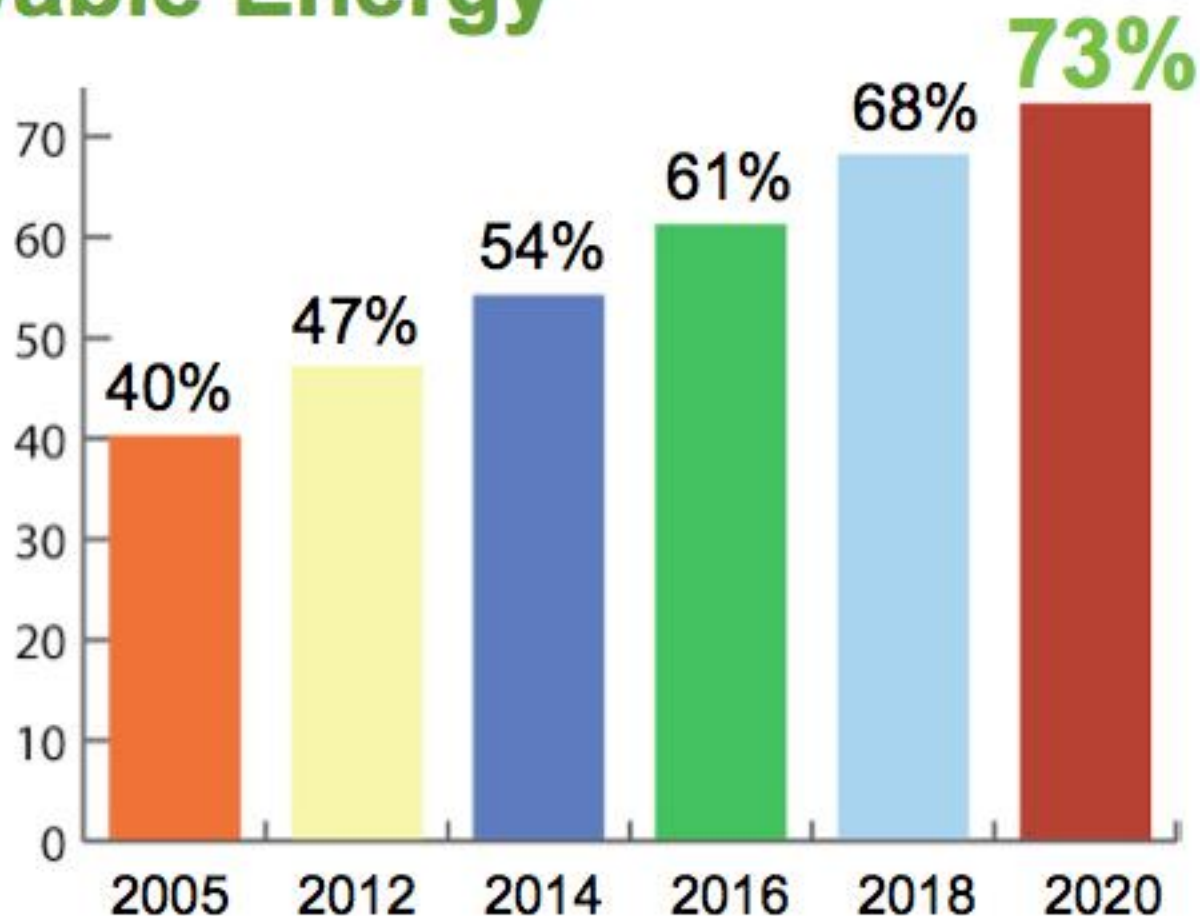


REPAP's tasks

- 1 Alternative action plan for renewable energy and energy efficiency
- 2 Support the government and relevant authorities regarding the action plan
- 3 Evaluating the Swedish action plan

Our target for 2020

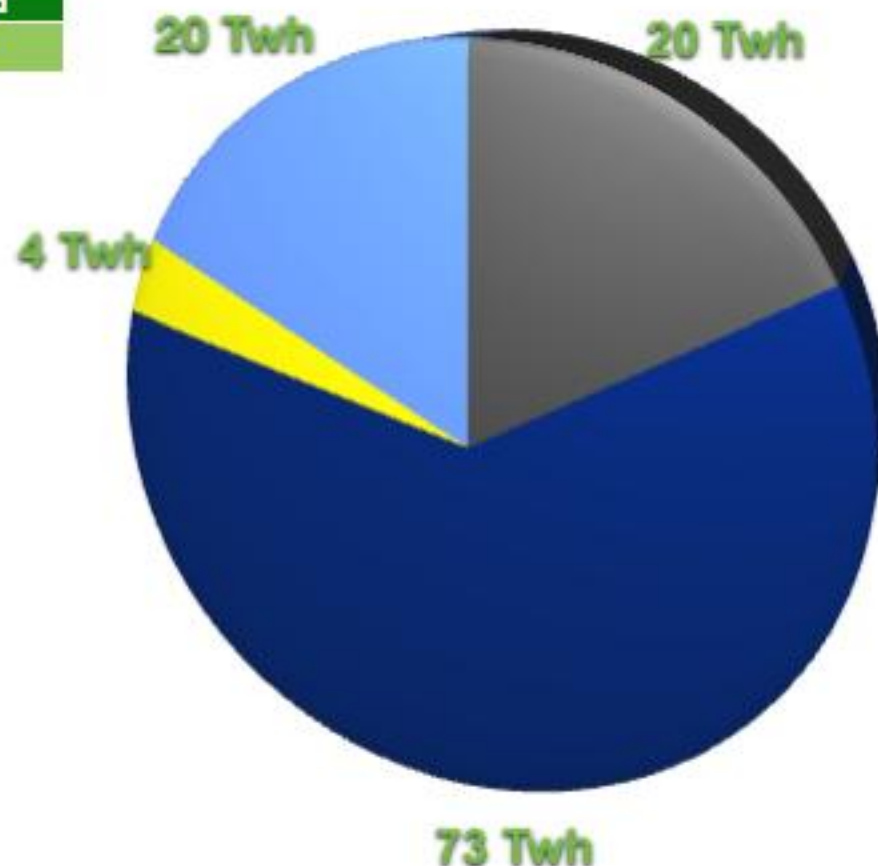
Renewable Energy



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Biomass	Hydro	Photovolt.	Wind
20	73	4	20

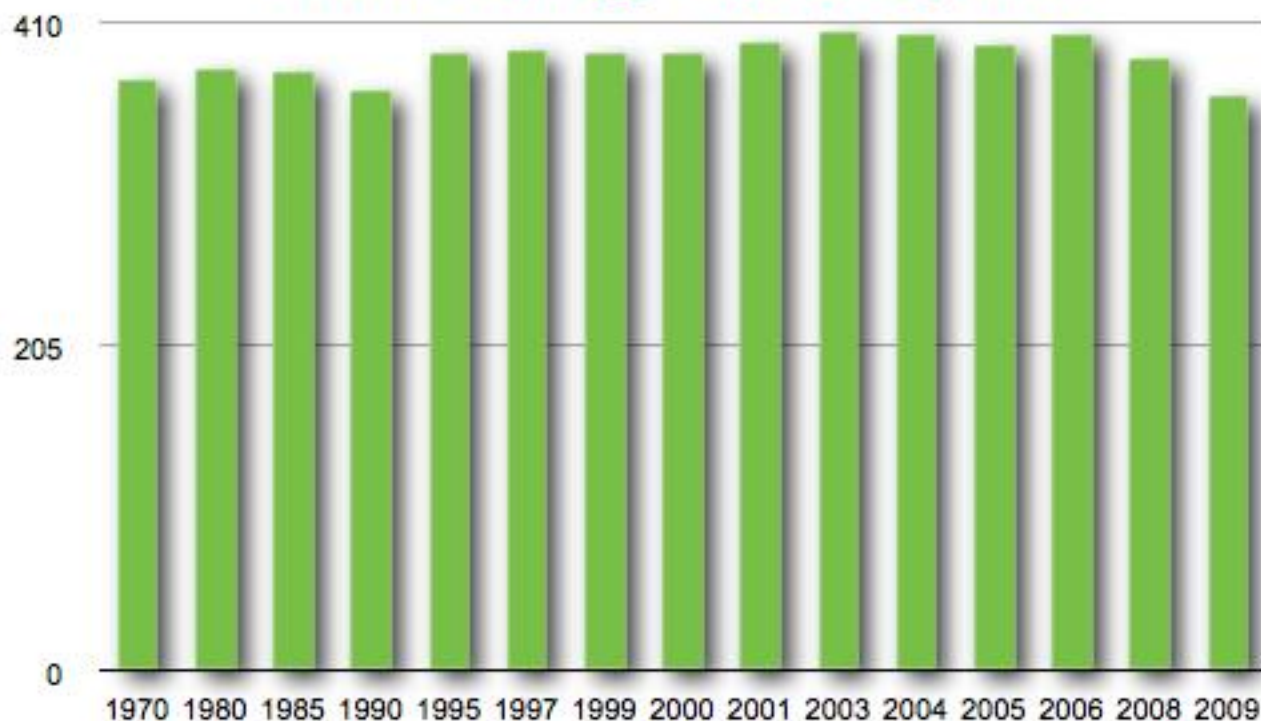
Contribution of RES to electricity consumption



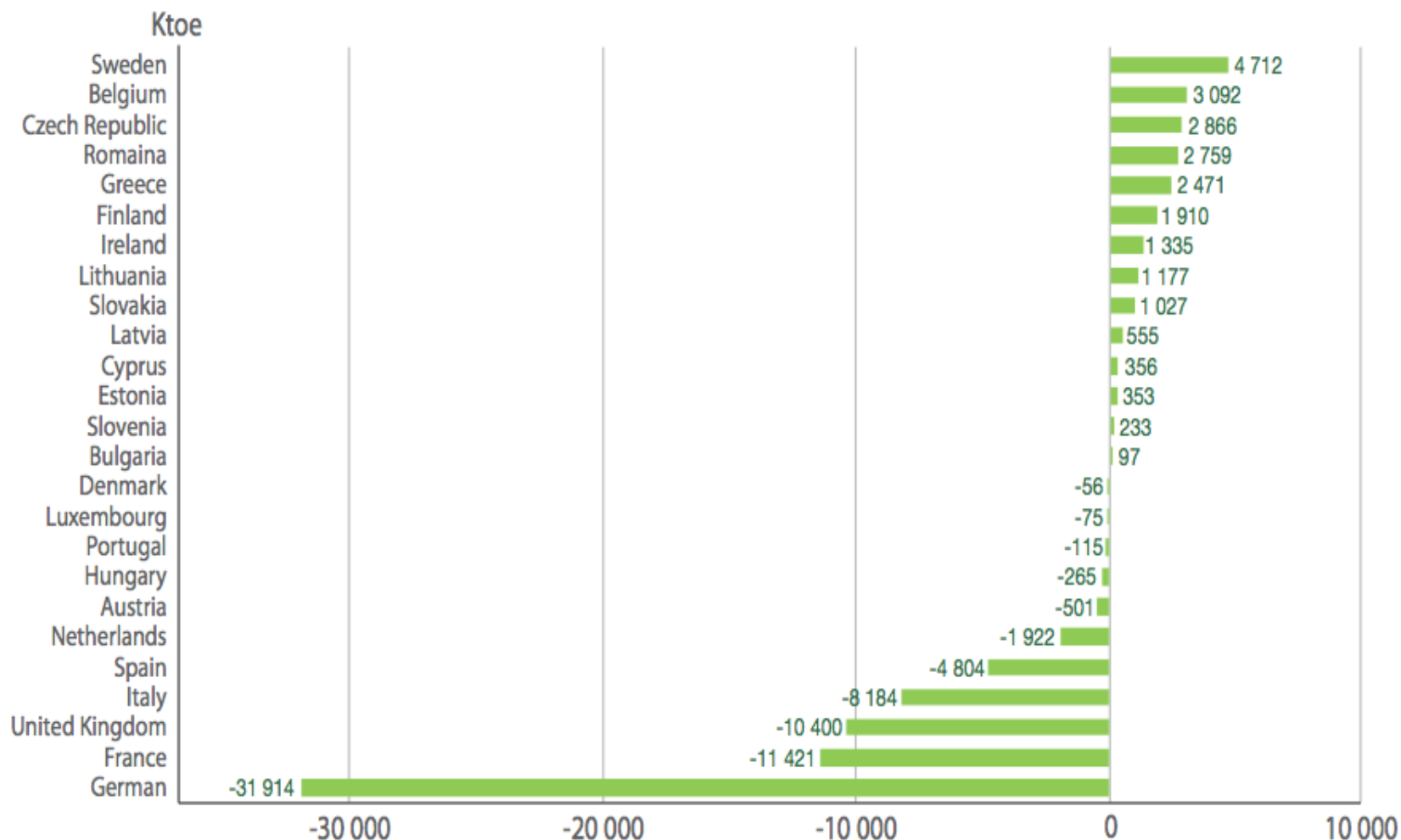
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Year	TWh
1970	375
1980	381
1985	379
1990	367
1995	391
1997	393
1999	392
2000	392
2001	398
2003	405
2004	404
2005	396
2006	403
2008	388
2009	364

Final energy consumption



Change in energy consumption between 2005 & 2020

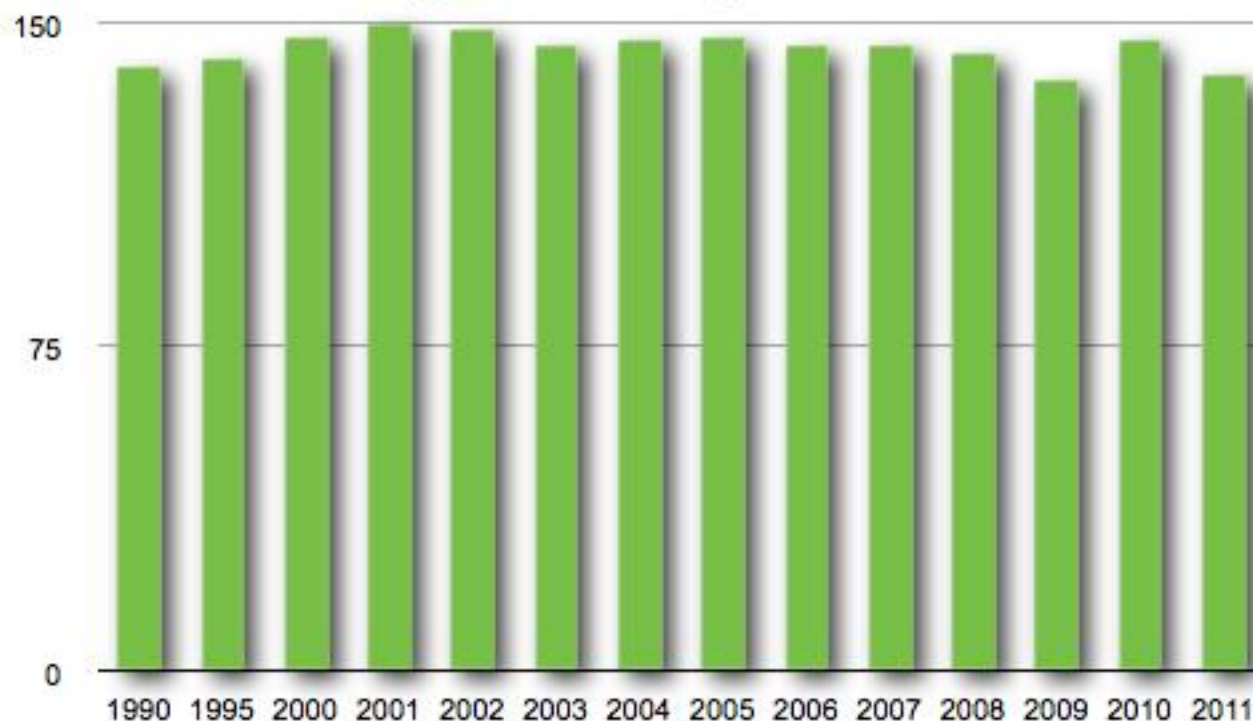


Source: Renewable Energy Projections as Published in the National Renewable Energy Action Plans of the European Member State DATABASE <http://www.ecn.nl/nreap> March 2011

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Year	TWh
1990	140
1995	142
2000	147
2001	150
2002	149
2003	145
2004	146
2005	147
2006	145
2007	145
2008	143
2009	137
2010	146
2011	138

Electricity consumption in Sweden



Power consumption:

**Sweden can
save one third**

savings:

ELECTRIC HEATING	10–15 TWh
INDUSTRY	15 TWh
LIGHTING	8 TWh
WHITE GOODS	5 TWh
OTHERS	5–10 TWh



Savings in the paper industry

Efficient mechanical pulping	3 TWh
• Efficient pumping	2,5 TWh
• Efficient fans	1 TWh
• Efficient motors	0,5 TWh
• Others	<u>>0,5 TWh</u>
Sum	>7,5 TWh/year

EU power efficiency

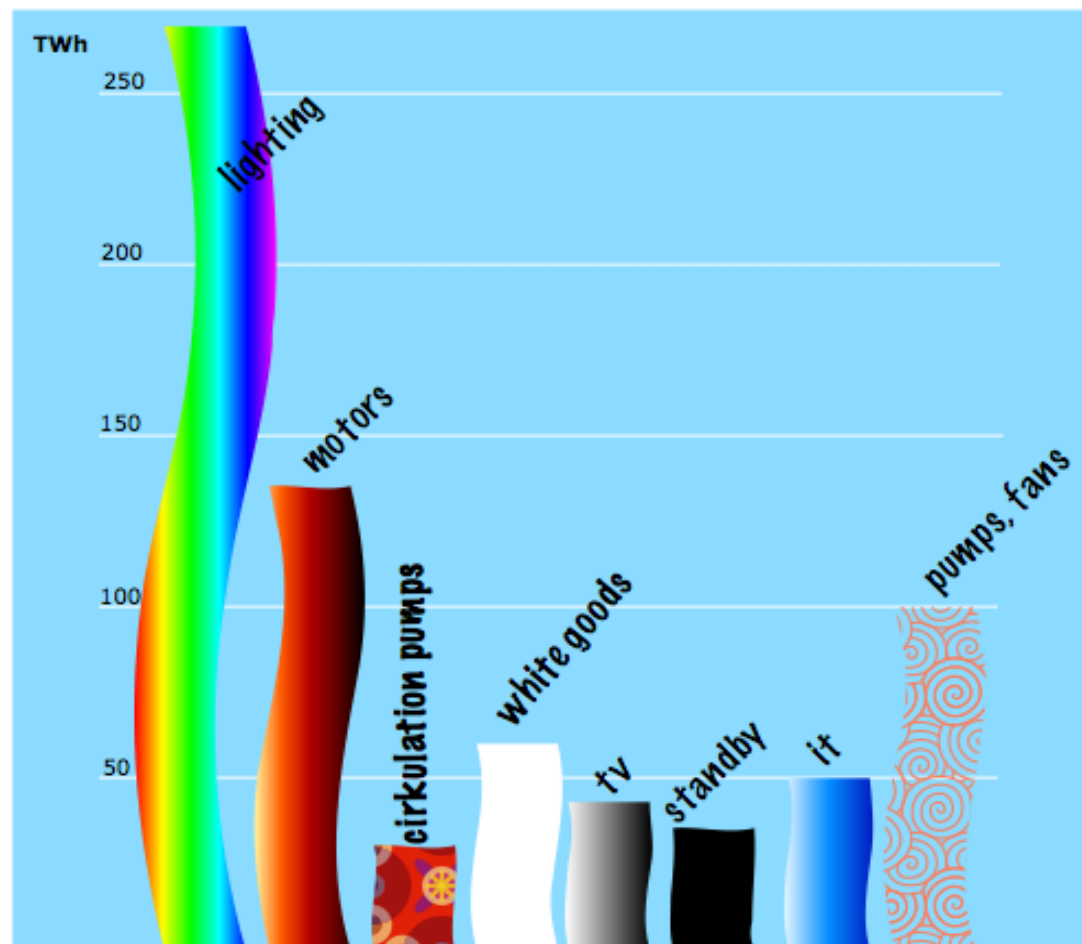
Ecodesign directive saves:

540 TWh
= **100** nuclear reactors

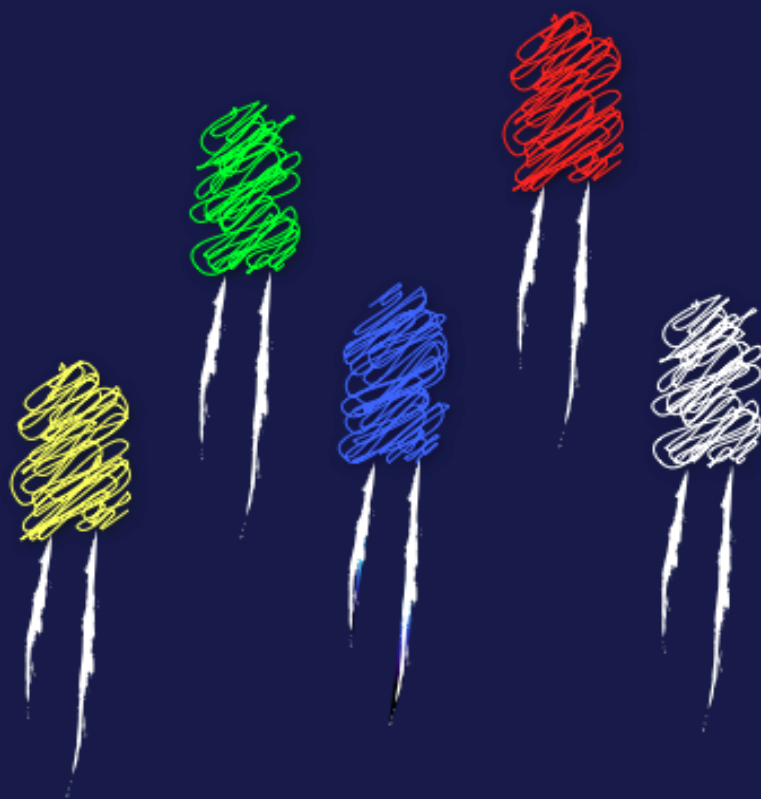
*according to ECOS –
European Environmental Citizens
Organisation for Standardisation*

BAT saves

725



Lighting



LED:

>200 lumen/W

CFL:

>50–60 lumen/W

*Presence,
timecontrol and
dimming savings also!*

POTENTIAL SAVINGS:

9 of Swedens **14** TWh

Global sun electricity

2000

1

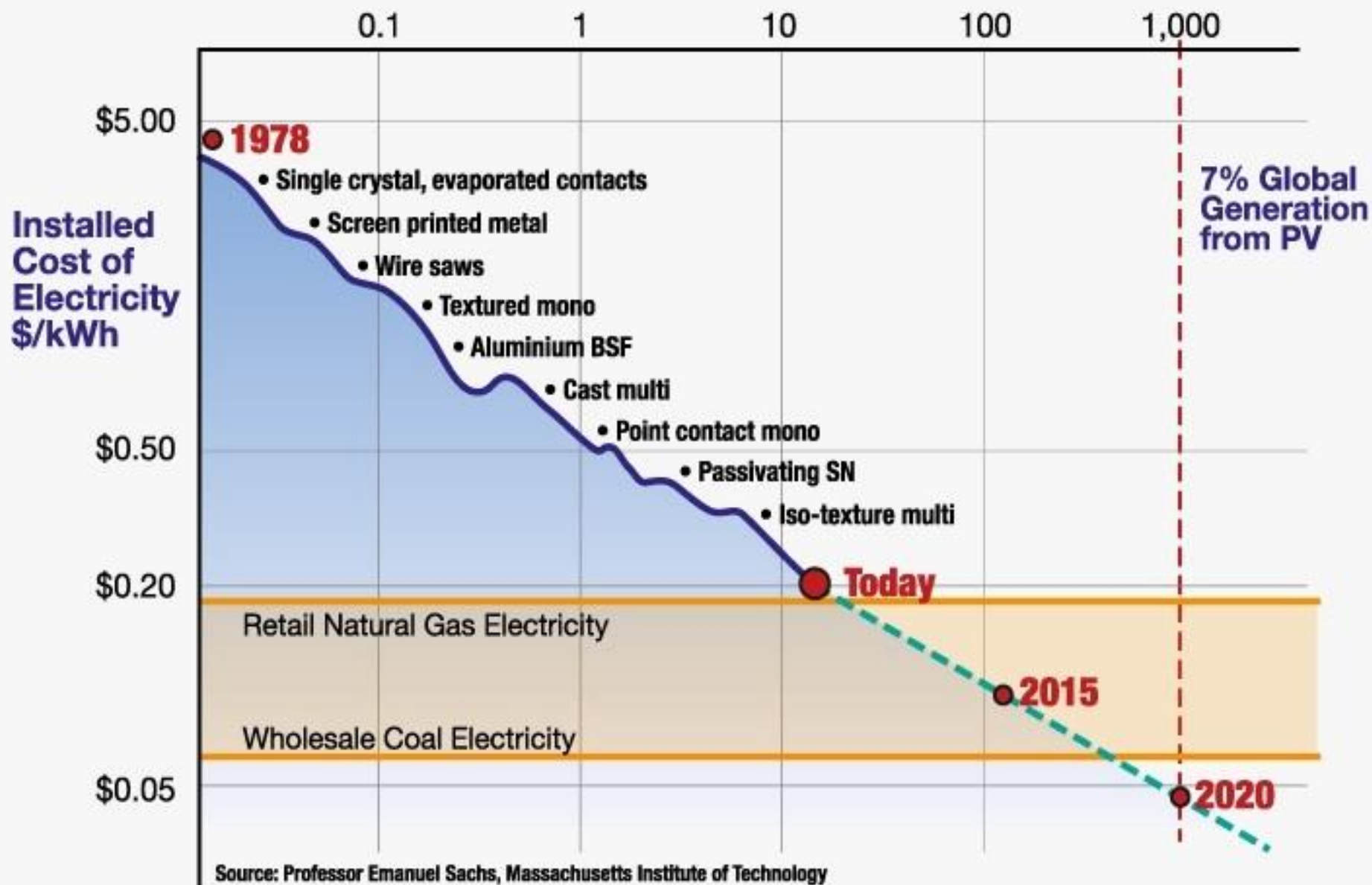
2010

40

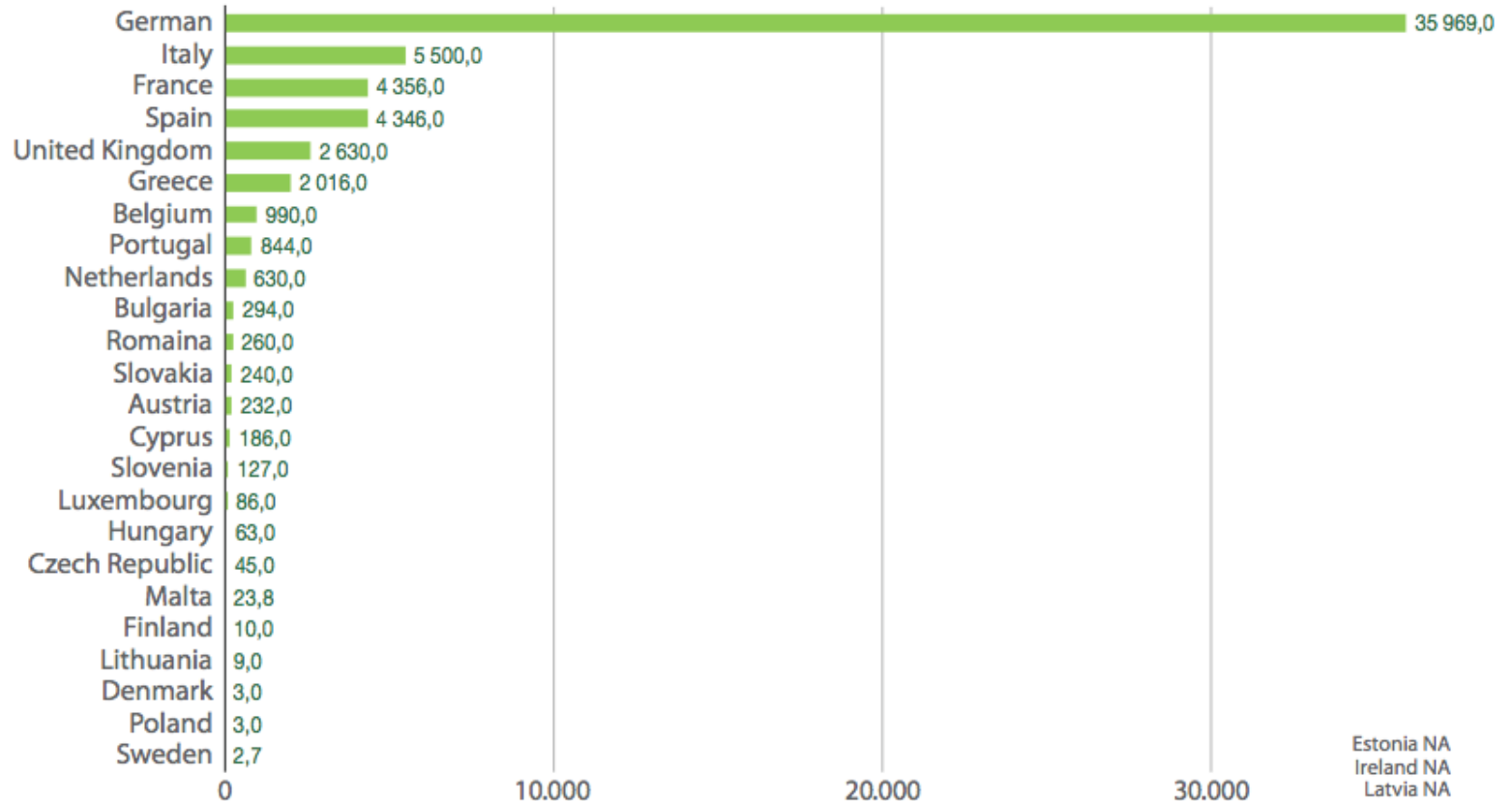
2020

1 000
GW

Cumulative production GigaWp

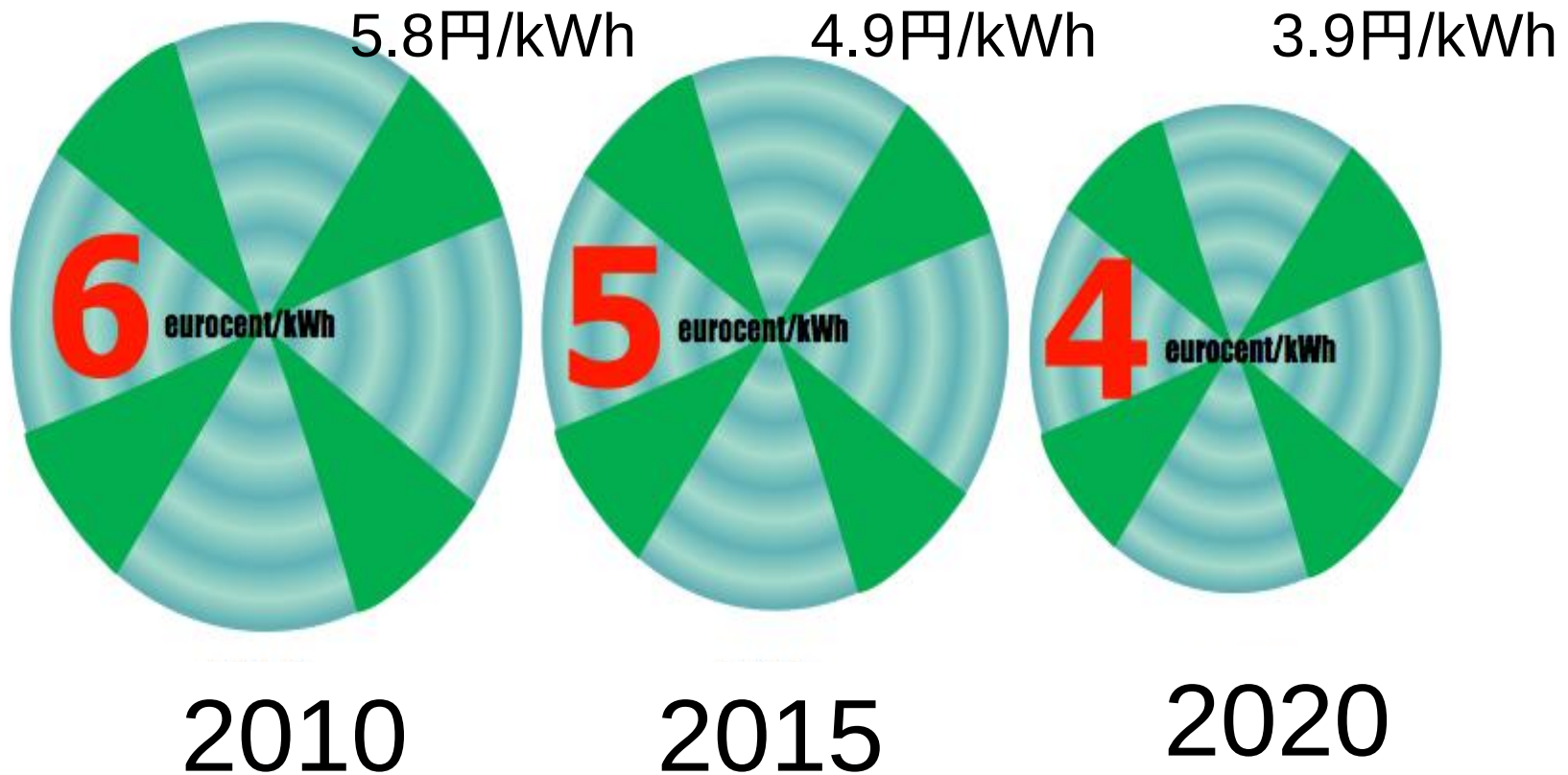


Photovoltaic, additional installed electricity capacity 2010-20 (MW)



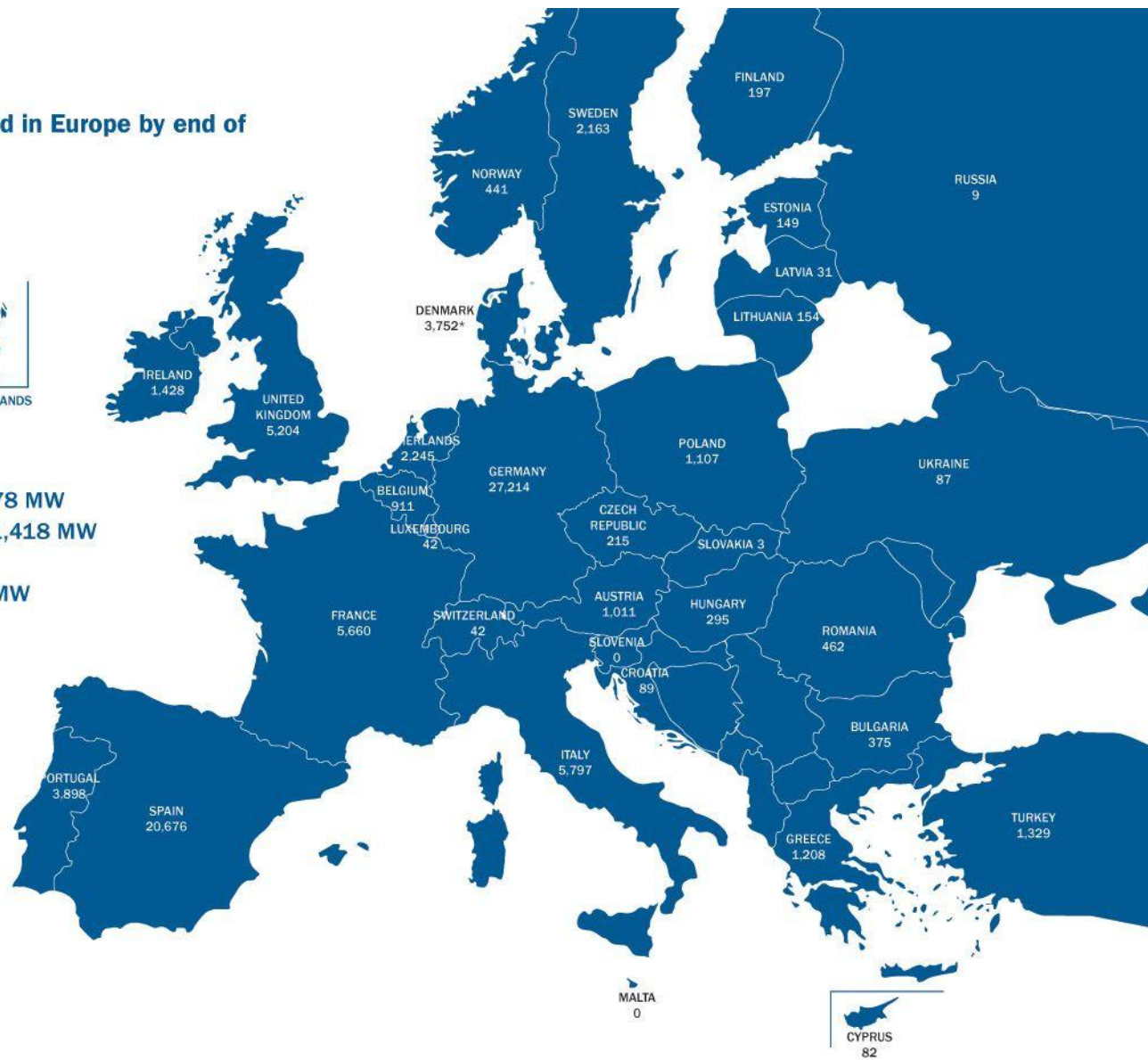
Source: Renewable Energy Projections as Published in the National Renewable Energy
Action Plans of the European Member States DATABASE March 2011

Windpower cheaper every year



Wind power installed in Europe by end of 2010 (cumulative)

European Union: 84,278 MW
Candidate Countries: 1,418 MW
EFTA: 483 MW
Total Europe: 86,279 MW



Swedish nuclear plants



Substitute

With



nuclear reactors



energy efficiency



wind power

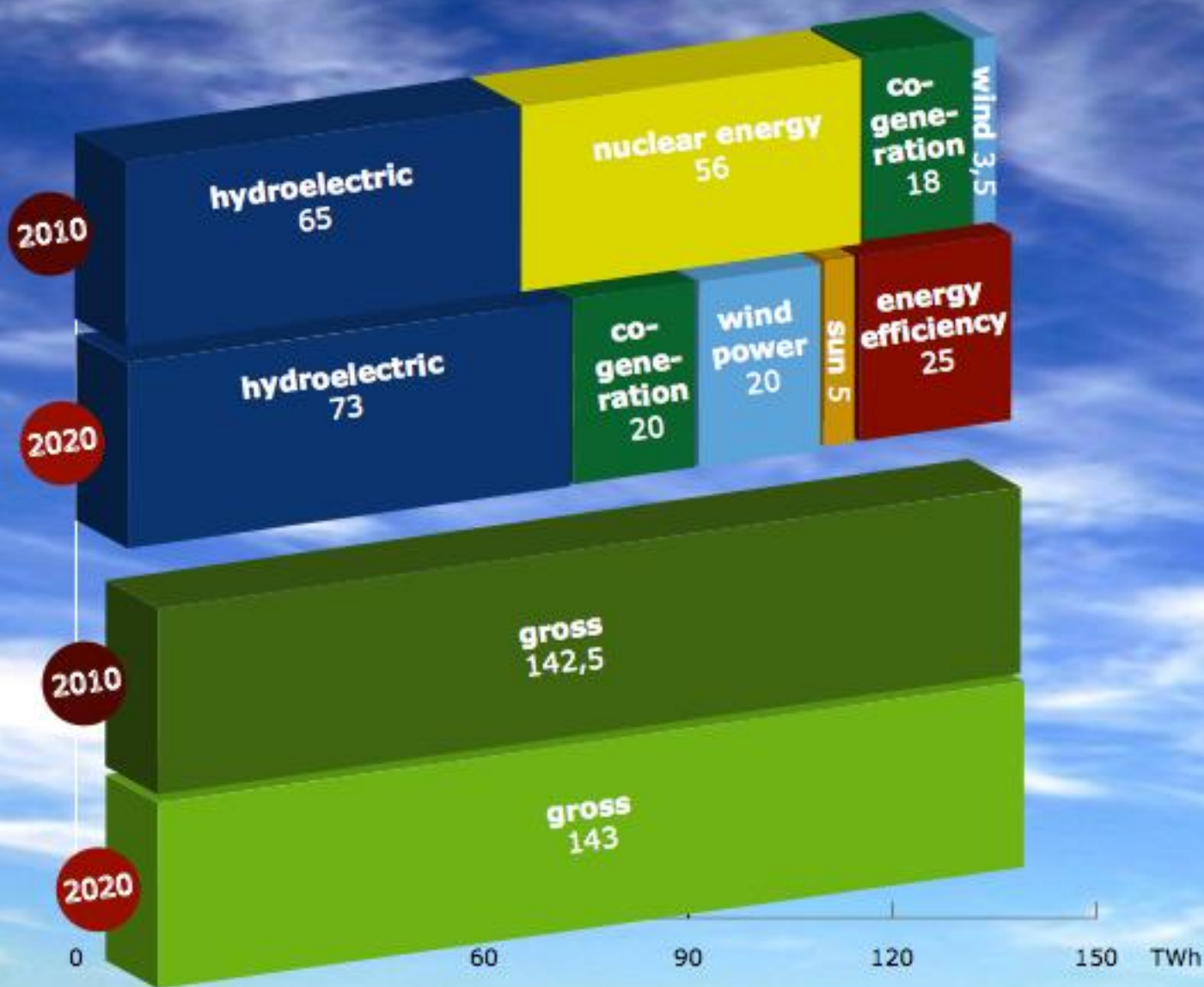


bio power



sun power

succeed with renewable



CO₂

emissions caused by power production

COAL-CCS

439

NUCLEAR

124

HYDRO

60

WAVE

52

SUN

39

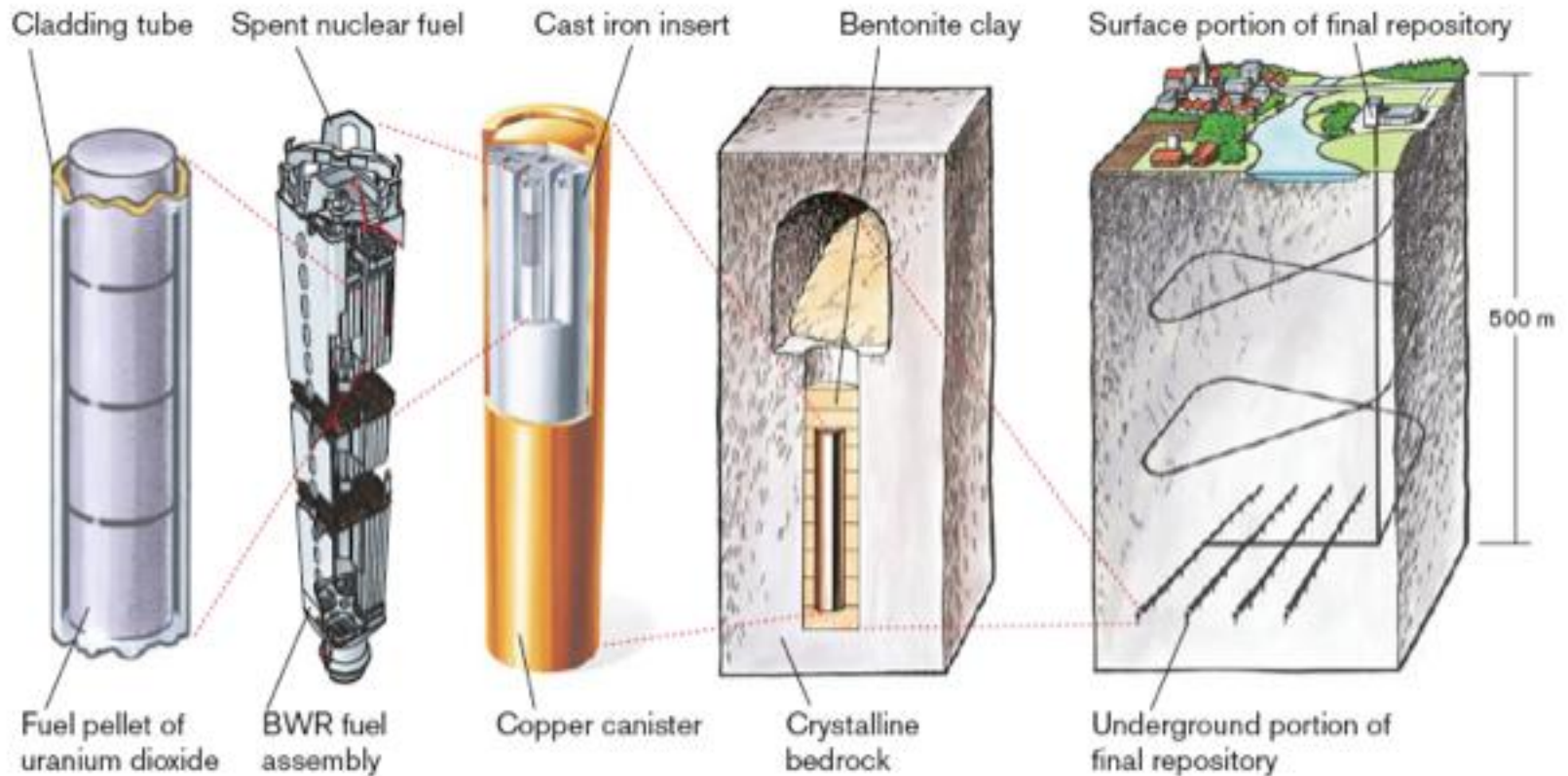
WIND

5

**CO₂
g/kWh**

Source: Average values, Stanford University 2008, prof. Jacobson

Final repository of spent nuclear fuel



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More information:

www.sero-repap.se