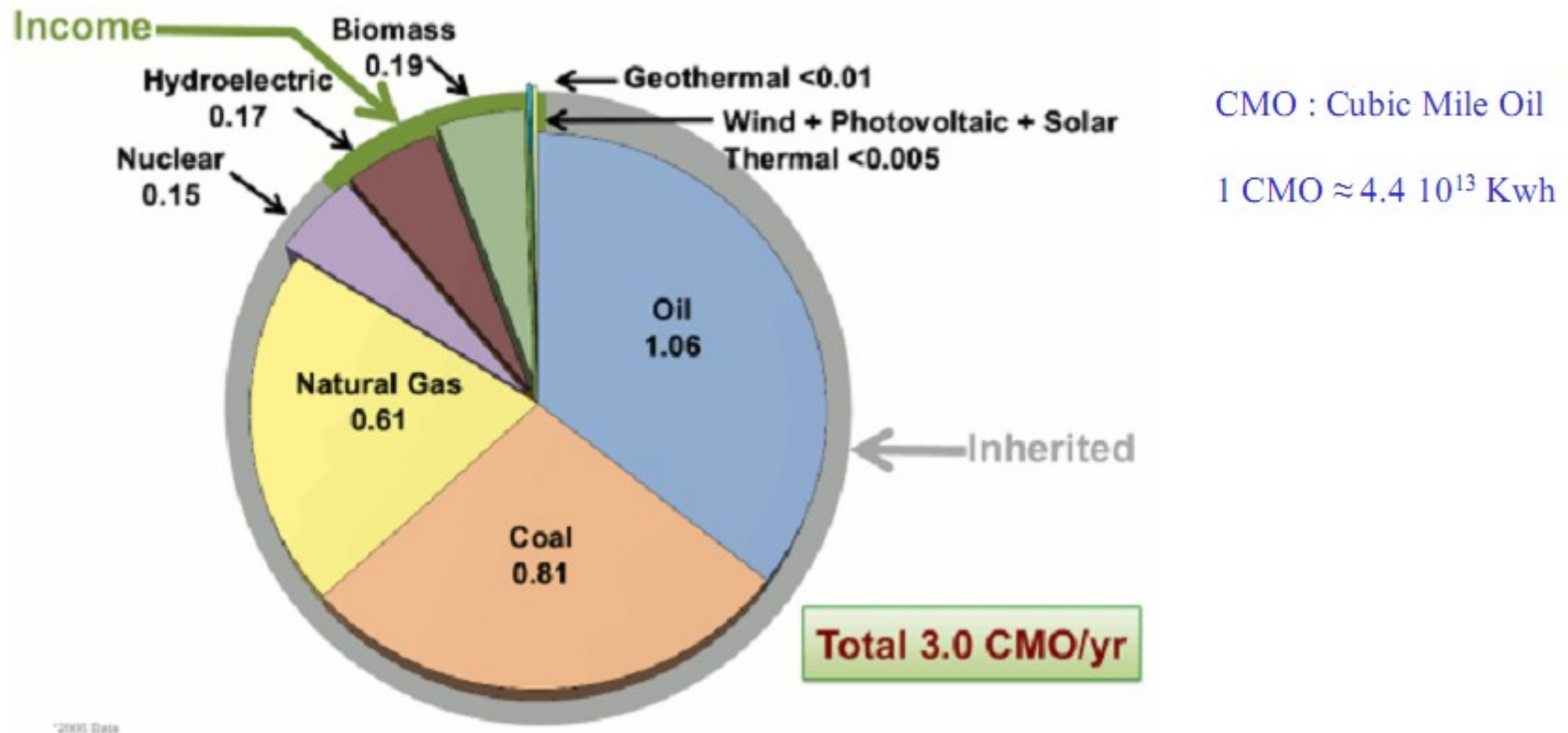


ENERGIE SOLAIRE PHOTOVOLTAIQUE (PHY 558B)

A recently used renewable energy source, but with exponentially growing applications.

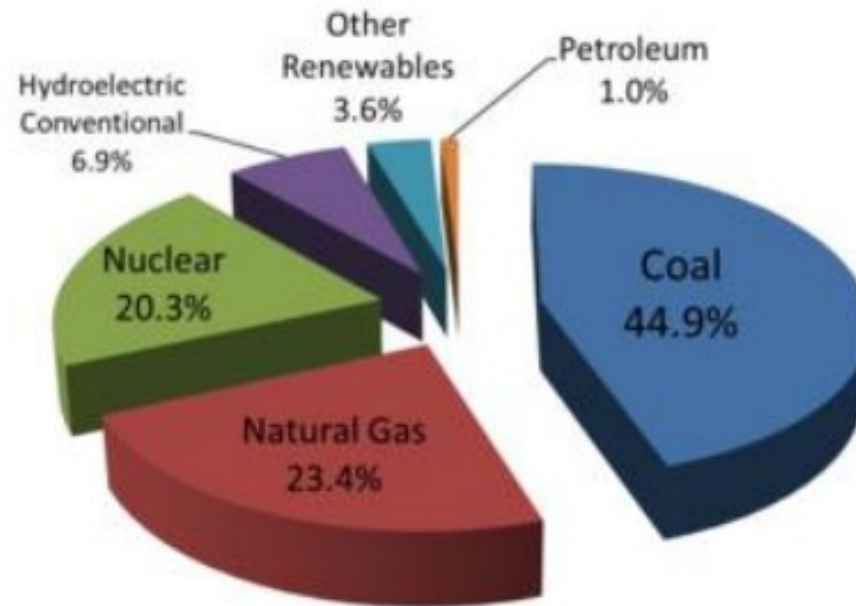


World Primary Energy Consumption (2004)



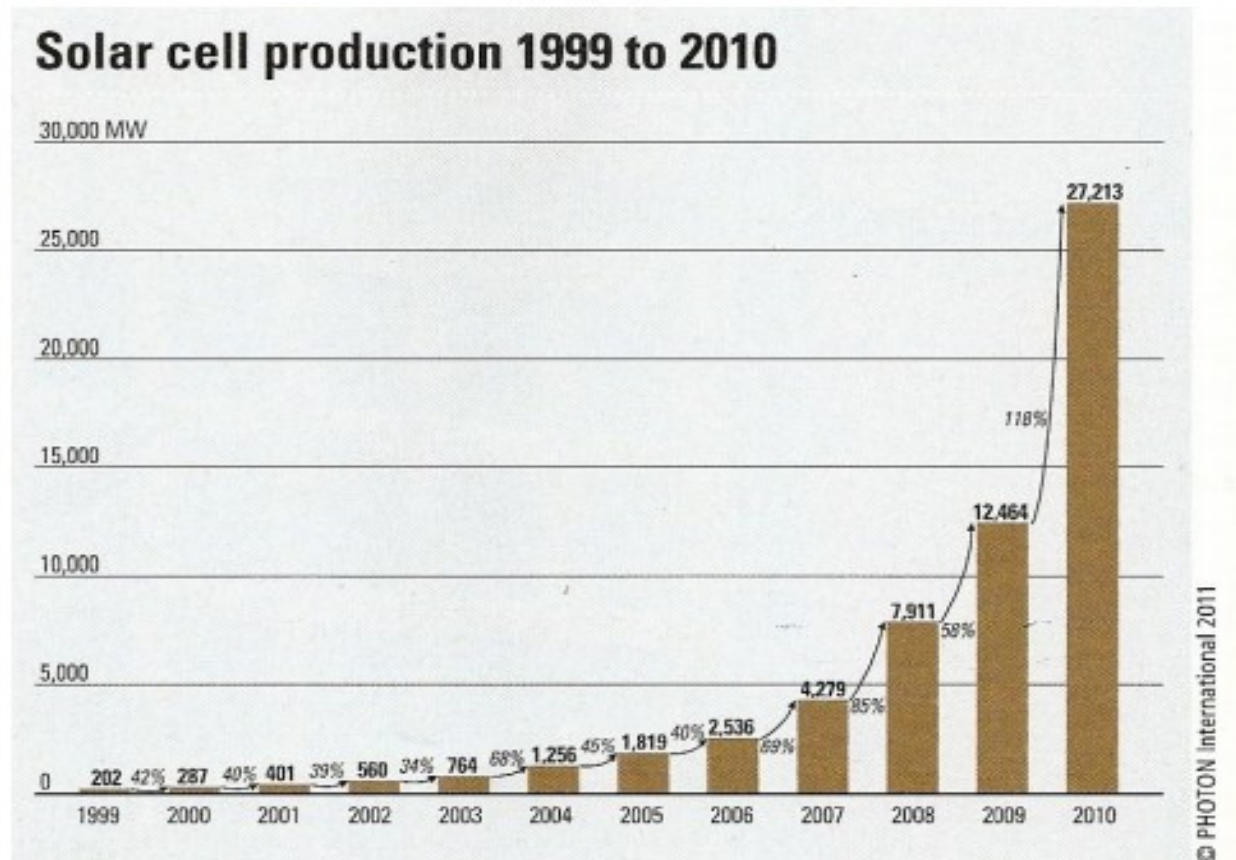
Fossil energy consumption > 80 %

2009 U.S. Electricity Generation by Source



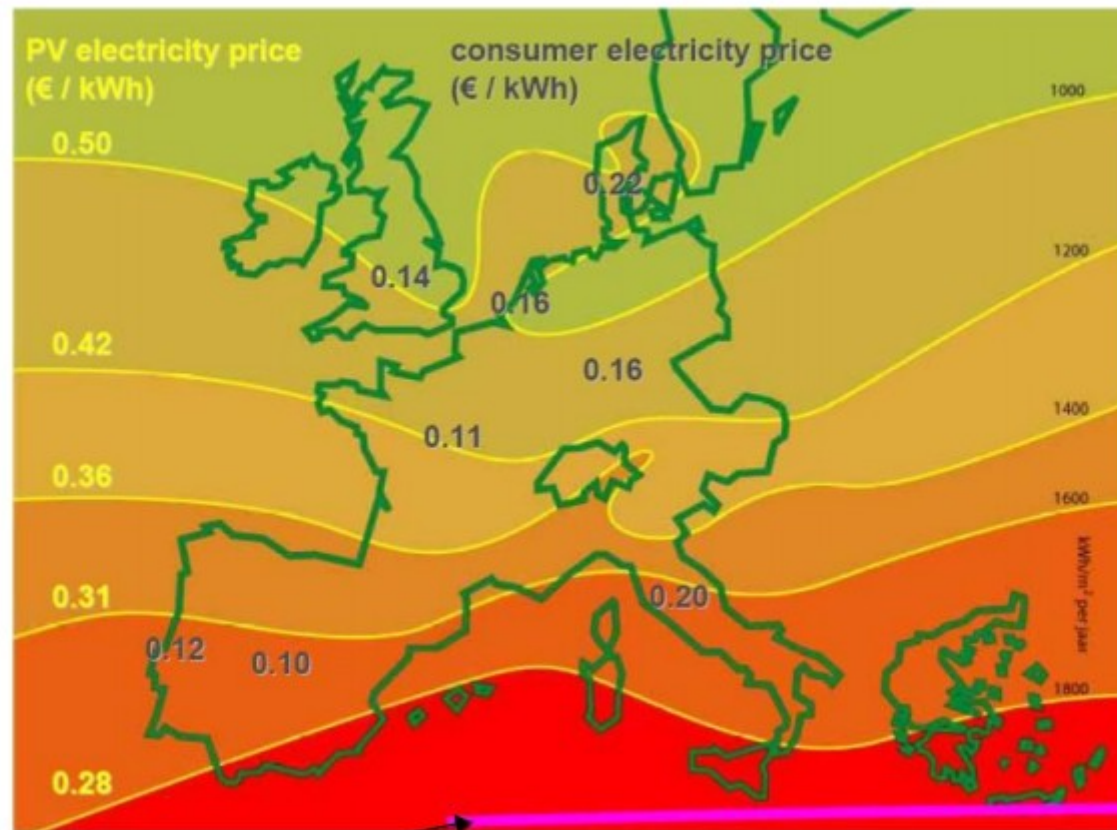
Coal : charbon
Renewables : renouvelables.
Oil : pétrole

Photovoltaics (PV) : an exponentially growing industry



▲ Record year: In 2010, cell manufacturing posted the strongest annual gains in the history of PHOTON International's survey, with a massive 118-percent expansion to 27.2 GW.

PV Energy Competitiveness

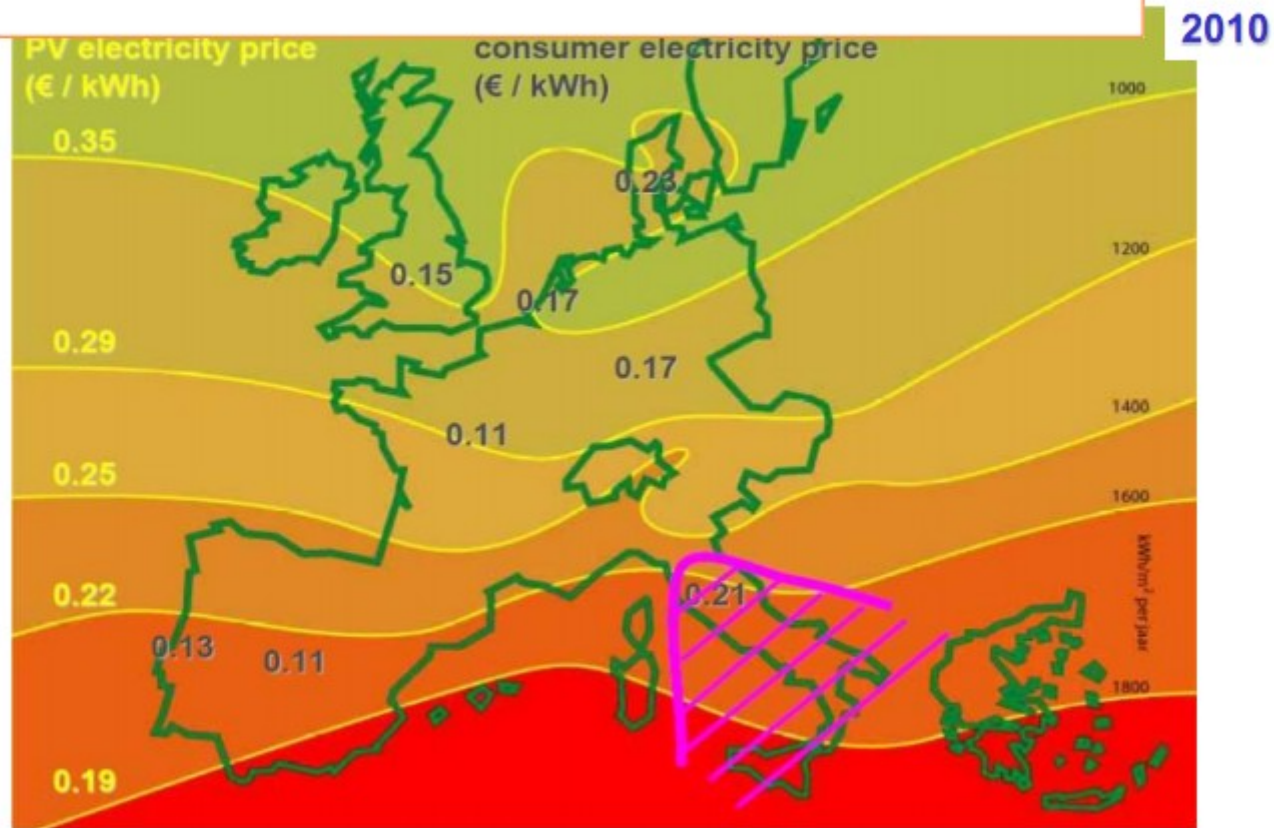


2005

Geographic area of PV competitiveness

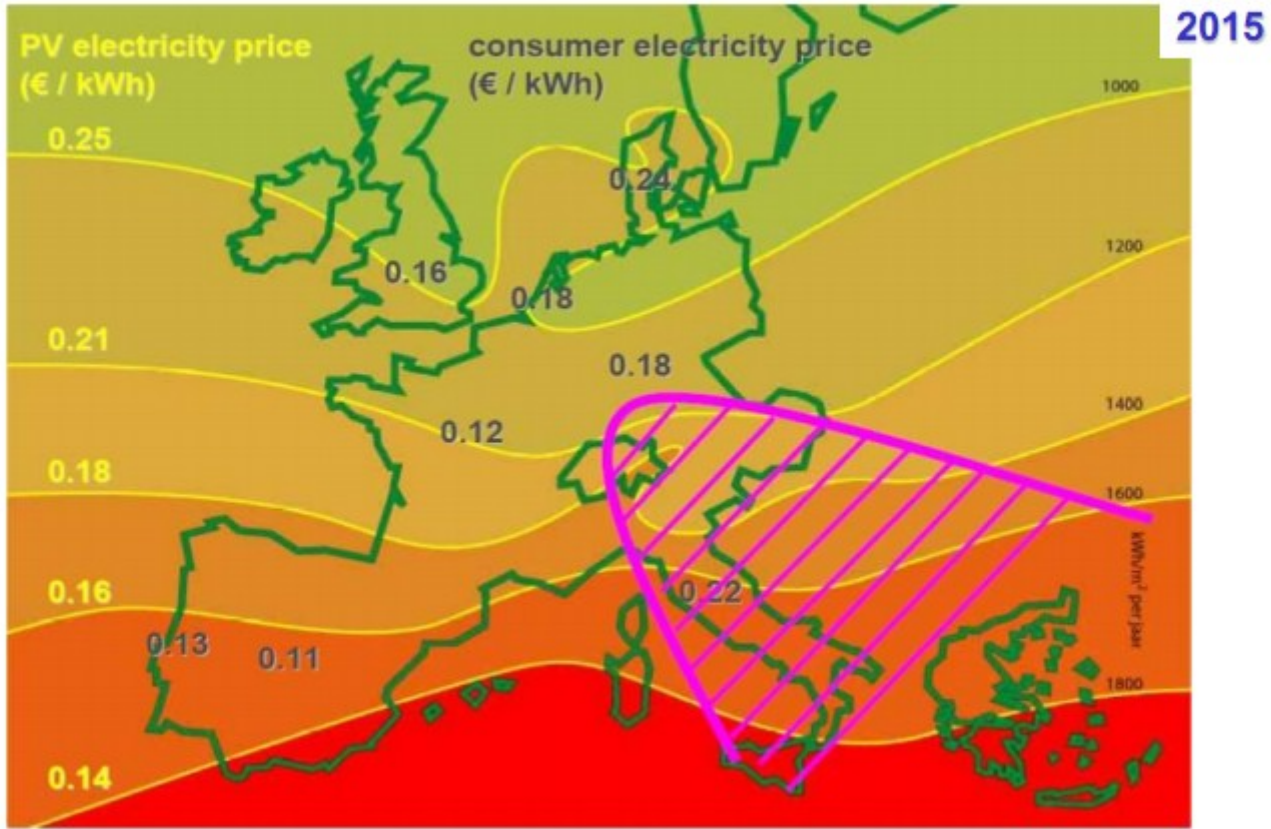
Source: SRA PV TRAC 2006

PV Energy Competitiveness



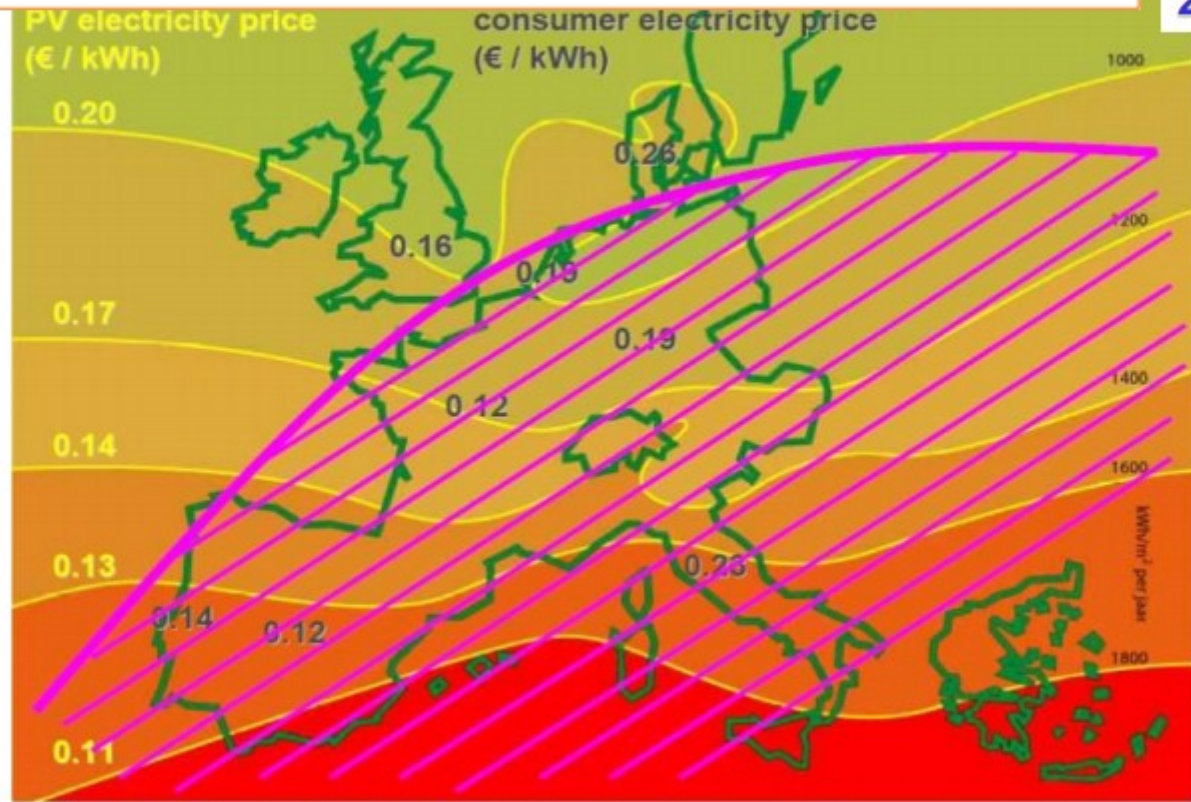
Source: SRA PV TRAC 2008

PV Energy Competitiveness



PV Energy Competitiveness

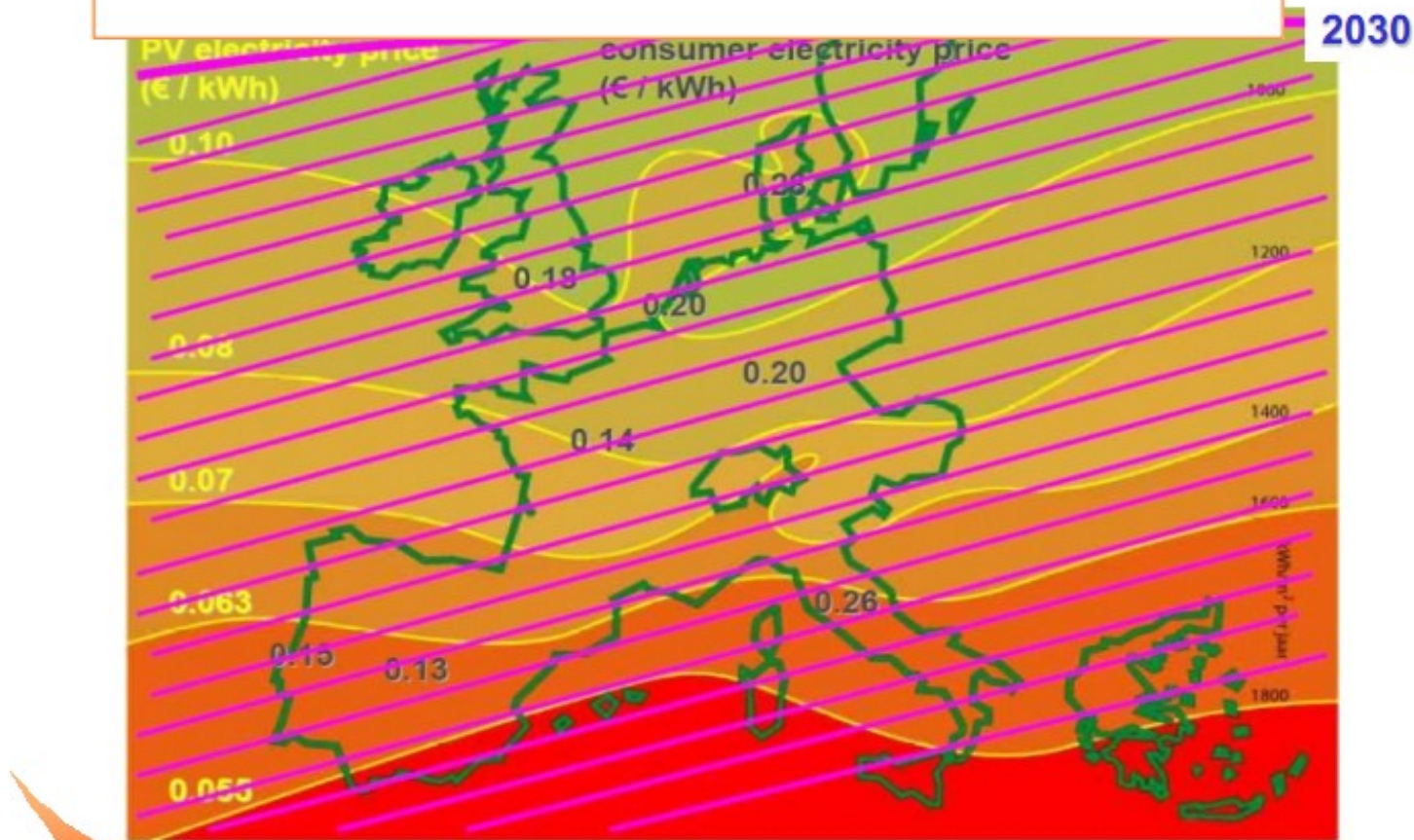
2020



PV competitiveness in France around 2020

Source: SRA PV TRAC 2006

PV Energy Competitiveness



PV competitiveness in Europe around 2030

Source: SRA PV TRAC 2008