

**THE SCIENCE IS CLEAR  
THE FUTURE IS NOT**

**BEFORE THE FLOOD**

**Wivey Action on Climate**

# Reasons to be a bit cheerful - part 1

- **California** – leader on clean energy and climate action, with pledge to cut carbon (from 1990 base) by 40% by 2030.
- **Iowa** – third of electricity from wind power last year and about to build US largest project with 1,000 turbines
- **Hawaii** – state target for 30% renewable electricity by 2020, 70% by 2040 and 100% by 2045.
- **New York** – no coal by 2020 & cut carbon by 40% by 2030.
- **Minnesota** – 21% renewable power (mostly wind) in 2015.
- **Oregon** – no coal by 2030 and 50% renewable by 2040.

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## Reasons to be a bit cheerful - part 2

- **China** – £293bn investment in renewables (15%) by 2020.
- **India** – By 2030, plans to cut carbon intensity of GDP by 35% and increase clean power to 40%. Big on wind & solar.
- **Sweden** – By 2020, cut carbon by 40% and phase out fossil fuel use in housing. By 2030, to have clean transport. 100% renewable power by 2040, carbon neutral by 2045.
- **UK** – In 2015, 22% renewable electricity, 6% renewable heat, 4% renewable energy for transport. Renewable generation: 27% from onshore wind, 22% biomass, 21% offshore wind, 9% solar PV. Climate Change Act 2008.

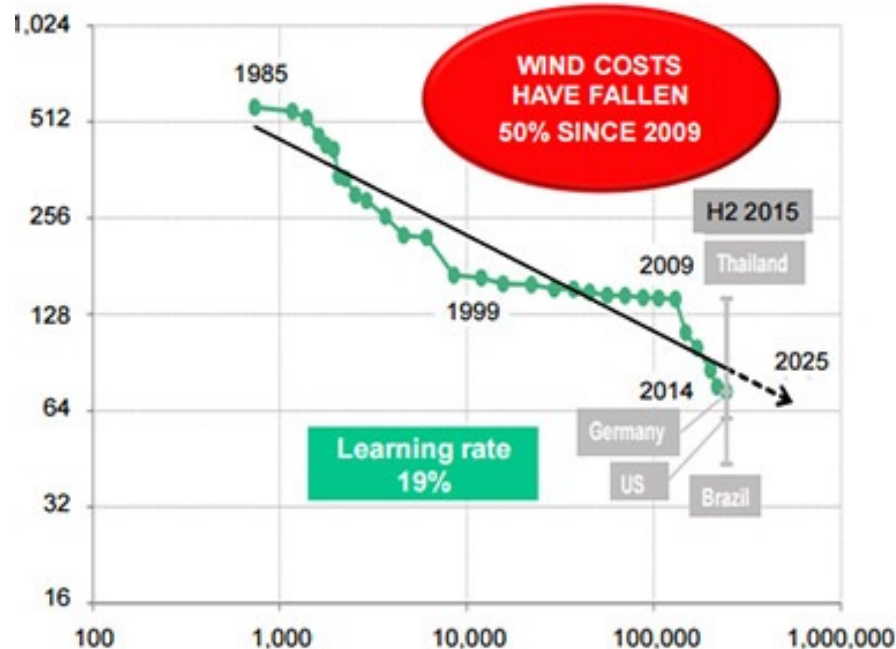
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# Reasons to be a bit cheerful - part 3

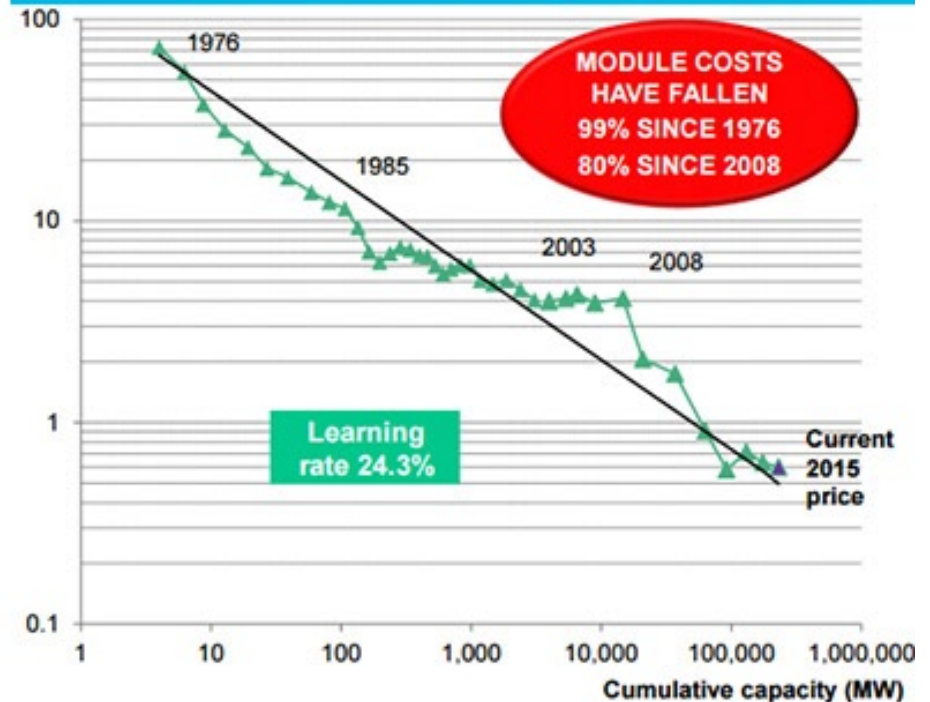
## WIND AND SOLAR EXPERIENCE CURVES

Bloomberg  
NEW ENERGY FINANCE

### ONSHORE WIND LEVELISED COST (\$/MWh)



### SOLAR PV MODULE COST (\$/W)



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