



Impulse Presentation

Dii Desert Energy Leadership Summit November 2021

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A Decade of Acceleration

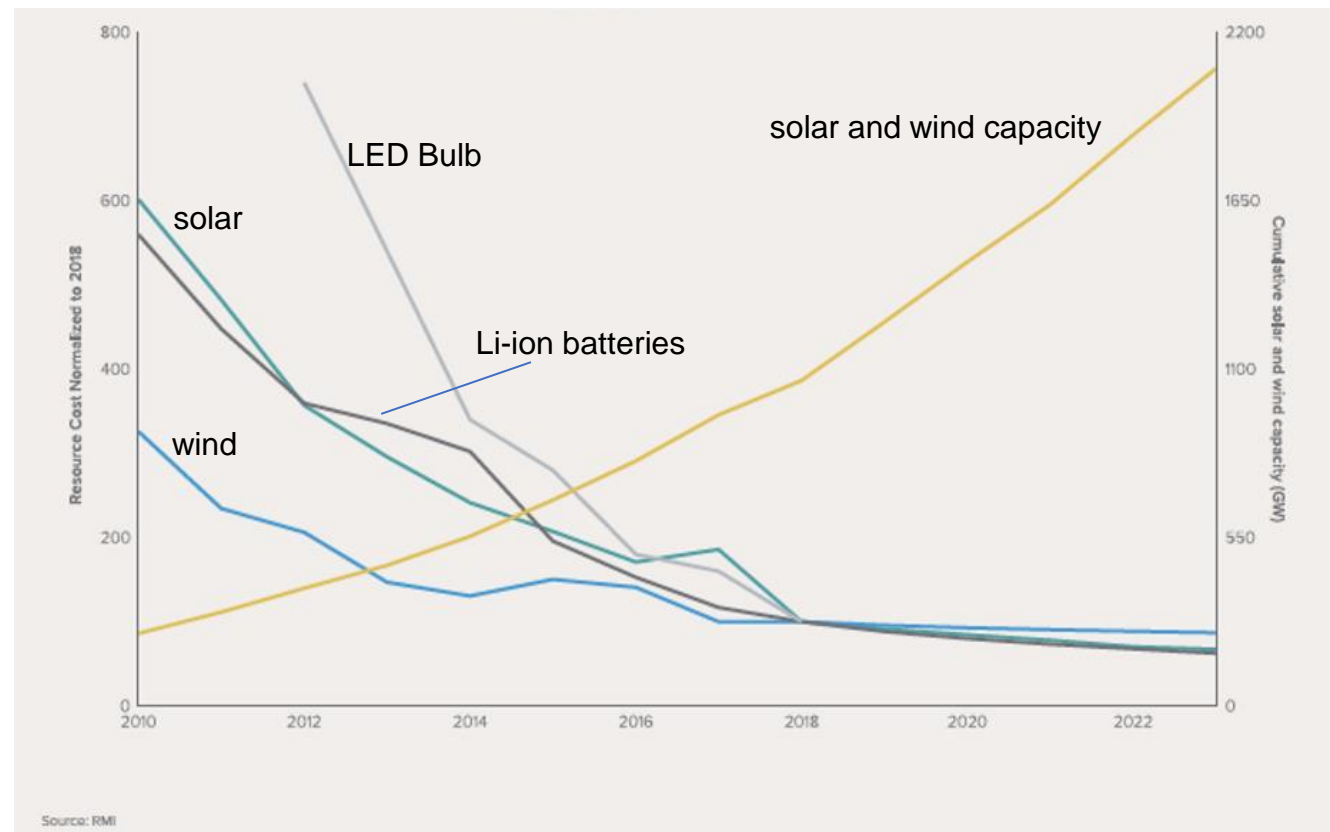
- Tipping Points
- Exponential Growth
- What's with 2050/2060/2070 and 2030?

Tipping points

- **Tipping points** occur when a new, disruptive technology reaches approximately **3%** of market share, resulting in a shift in capital away from incumbents:
 - The number of horses in use peaked in the US at the point that car ownership was 3%, gas lighting demand in the UK peaked with electric lighting was 2% of the market, and the use of landline phones in the US began to fall precipitously once mobile phones passed 5% of the market.
- In 2008, non-hydro renewable electricity passed 3% of electricity
- Currently 2.2% of all cars are electric vehicles (EVs and PHEVs)
- Green hydrogen will be 3-5% by 2025

Exponential Growth

Real cost decline for renewable technologies 2010 - 2023

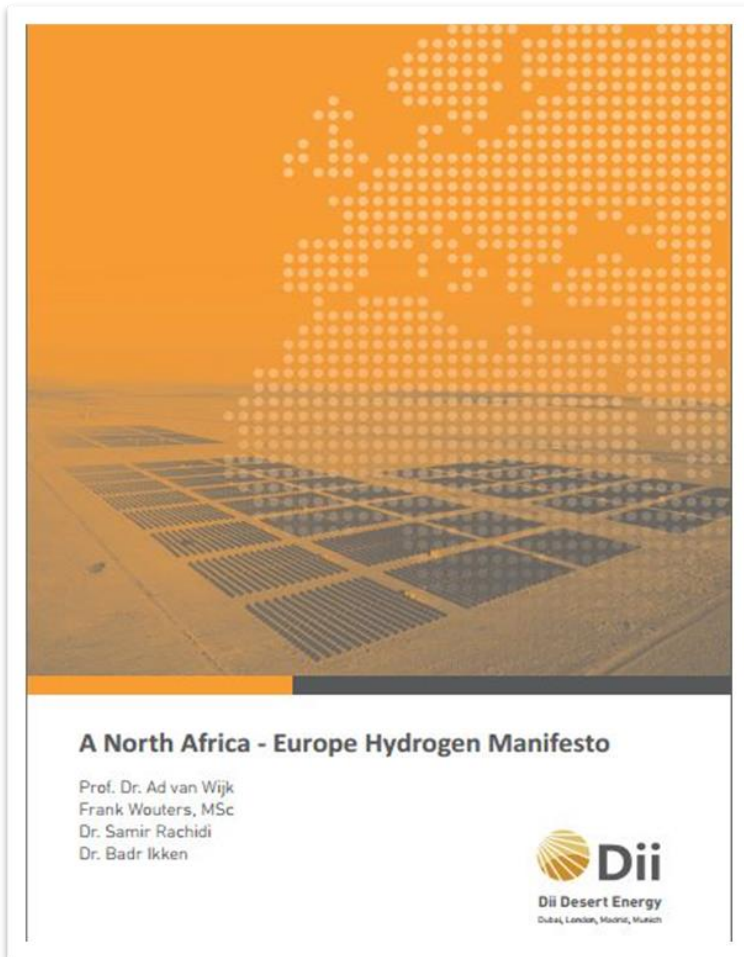


Exponential Growth

- Solar PV has grown exponentially, and I expect batteries, EVs and hydrogen to do the same
- Now imagine I give you a large piece of paper and ask you to fold it,
- then please fold it again,
- and again.
- A total of fifty times.
- How tall is the paper stack?


2050

2030

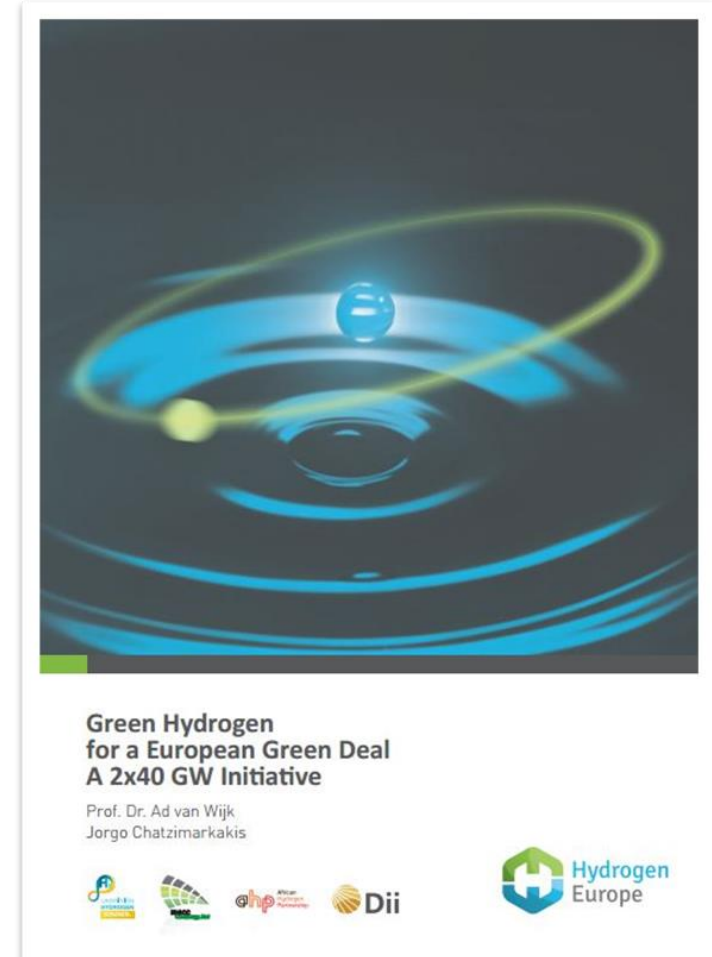
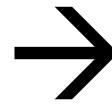


A North Africa - Europe Hydrogen Manifesto

Prof. Dr. Ad van Wijk
Frank Wouters, MSc
Dr. Samir Rachidi
Dr. Badr Ikken




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Dii Desert Energy
Dubai, London, Madrid, Munich



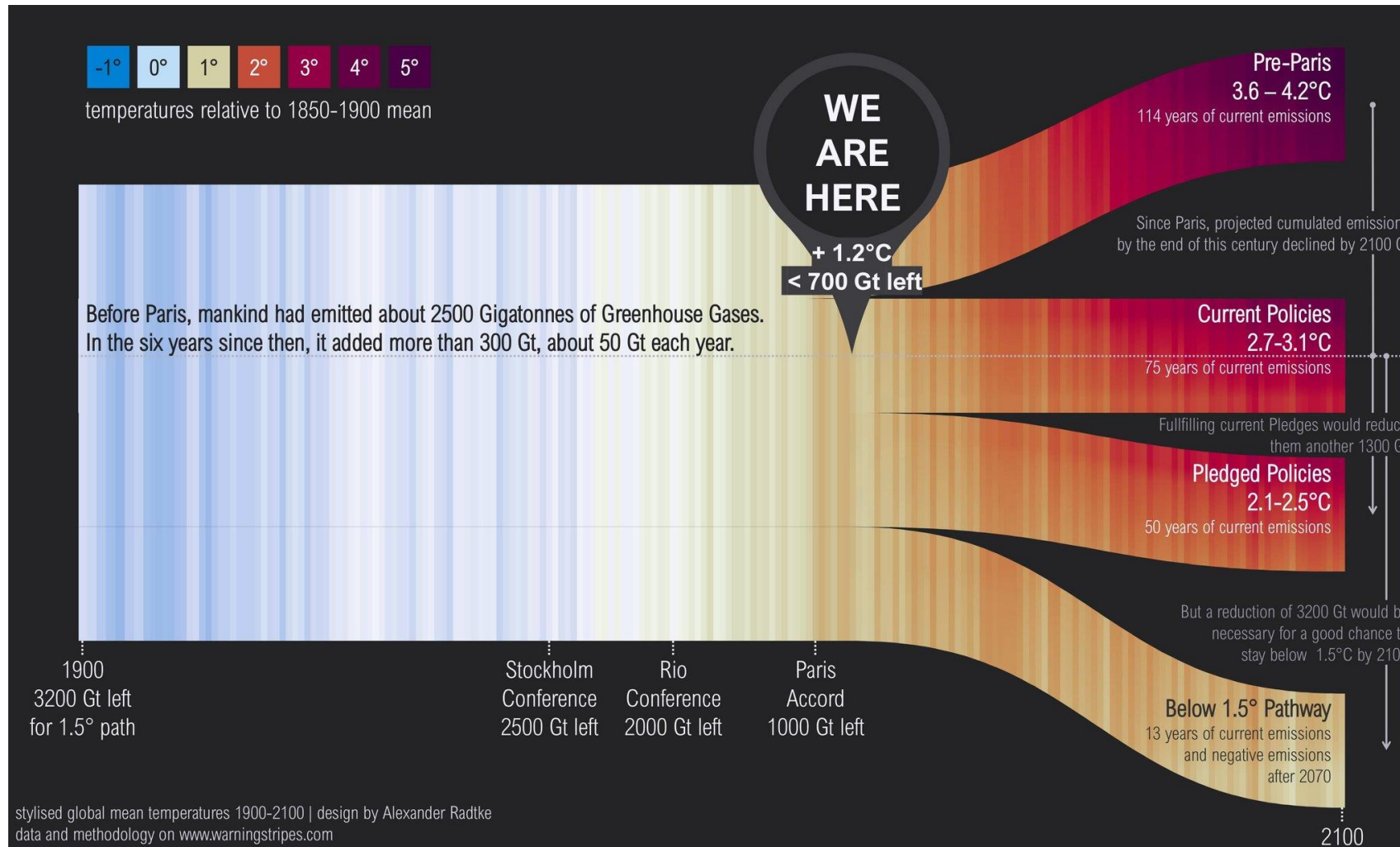
**Green Hydrogen
for a European Green Deal
A 2x40 GW Initiative**

Prof. Dr. Ad van Wijk
Jorgo Chatzimarkakis



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Hydrogen Europe

COP 26



Glass half full?

India as an example at COP 26:

- Net-zero energy by 2070
- Renewable energy share by 2030: from 40 to 50%





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Thank you for
your attention!

