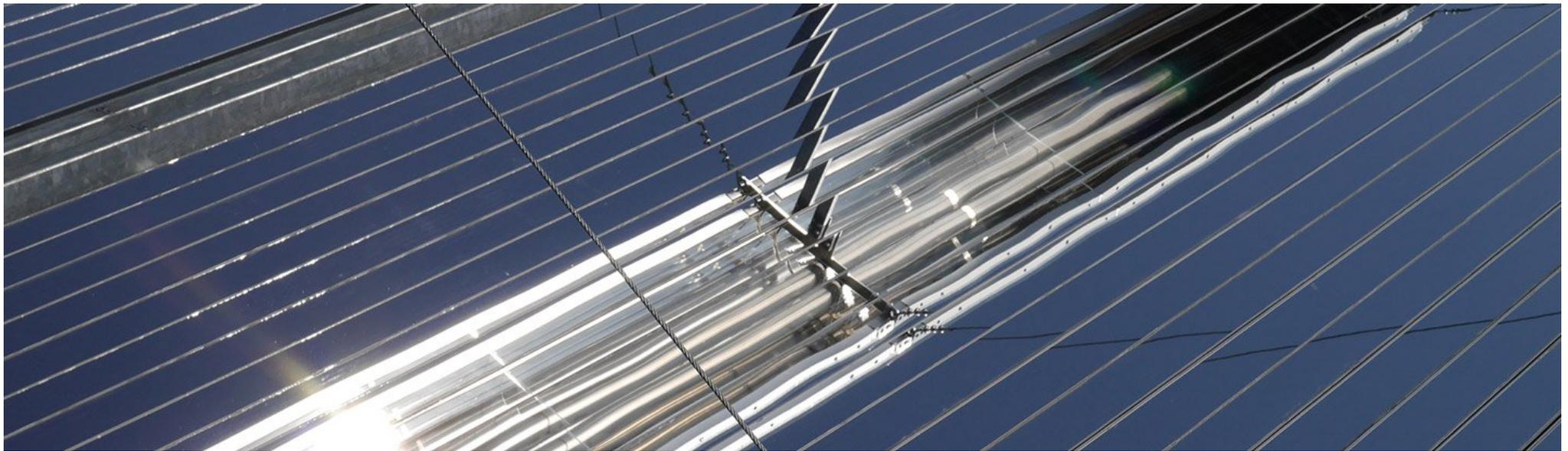




Solar Cooling for buildings and processes

Source: HyCool



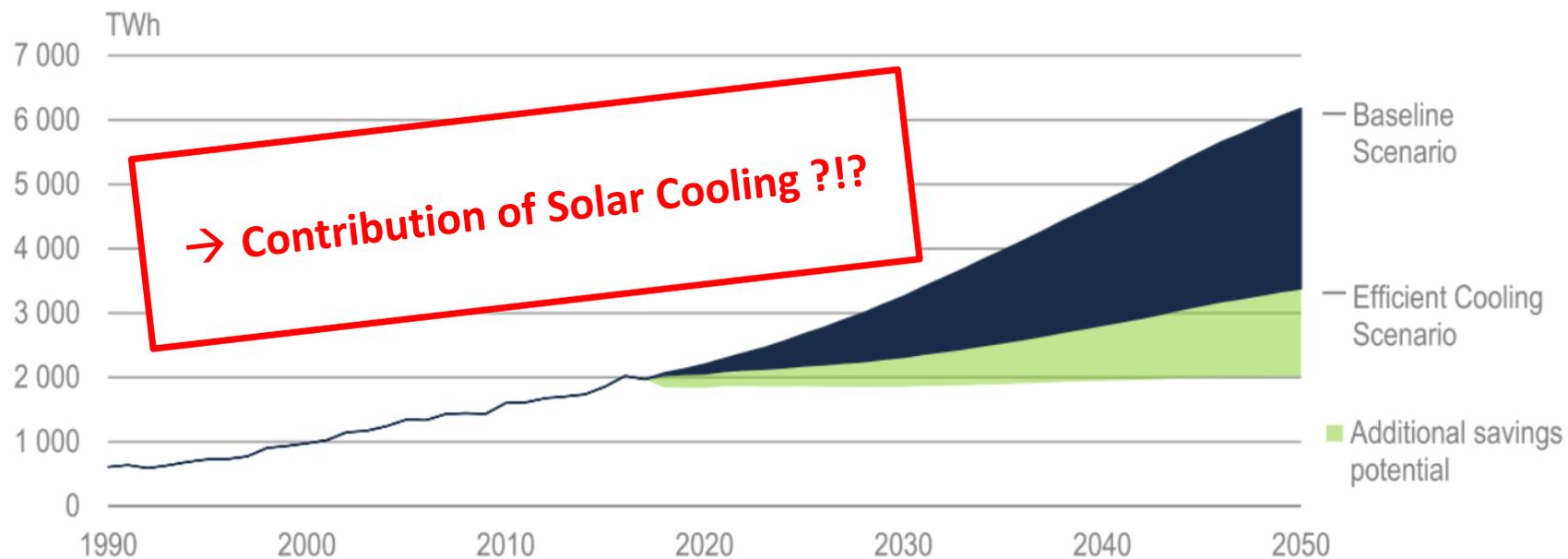
ISES SWC50 – Session 4: Transforming the Heating and Cooling Sector

Online, 04.12.2020

Prof. Dr. Uli Jakob
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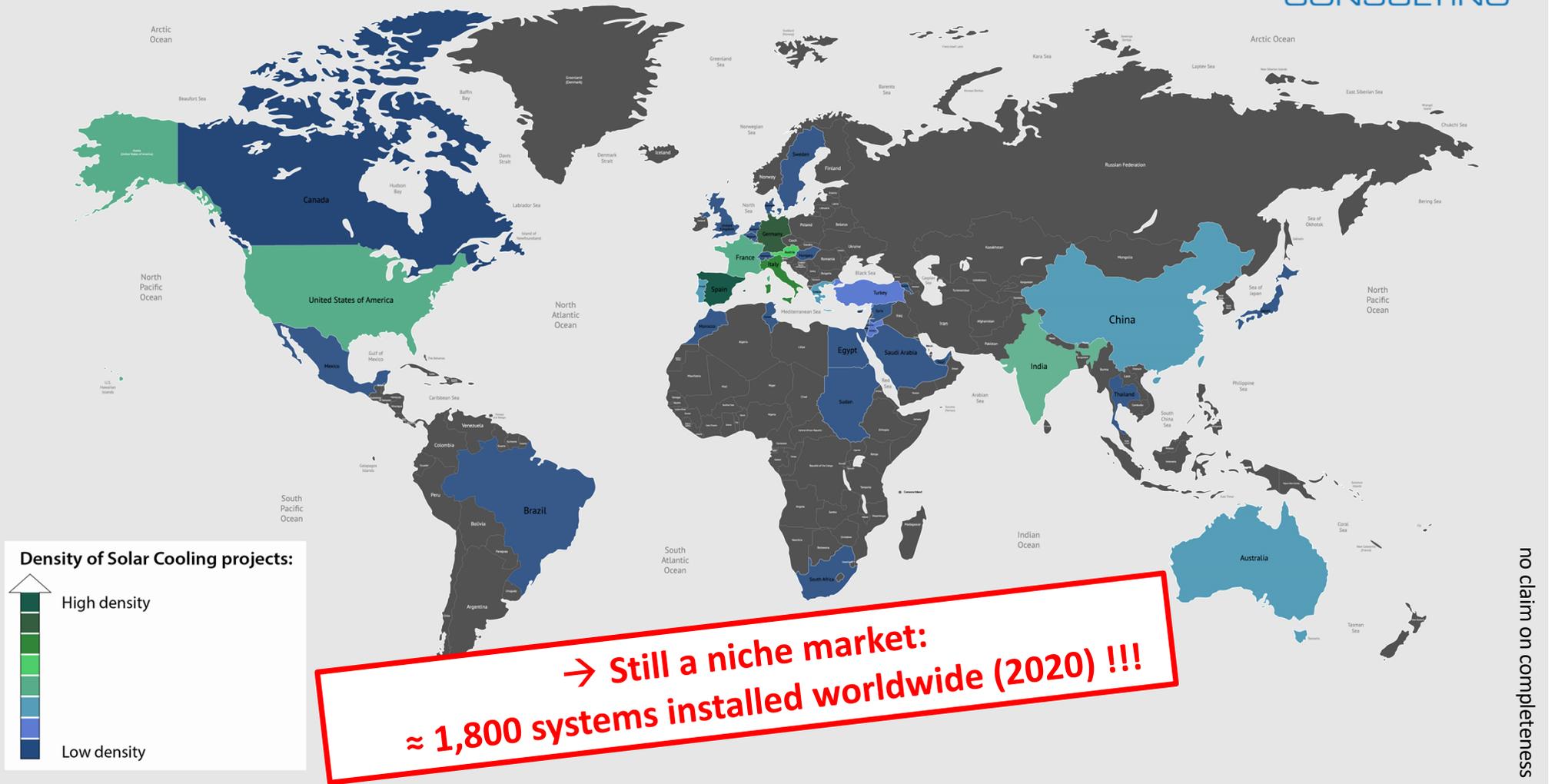
Future cooling demand

- On current trend, **energy needs for space cooling** – almost entirely in the form of electricity – will **more than triple between 2016 and 2050**, driven mainly by the residential sector (2,000 TWh => 6,000 TWh)
- Most of the **projected growth in energy use for cooling is set to come from India, China and other emerging economies**
- Space cooling is set to overtake appliances and plug loads **to become the single largest user of electricity in buildings** (2015: 10%; 2050: 30%)



Source: OECD/IEA (2018) The Future of Cooling

What have we achieved ?



Source: TECSOL / SOLEM Consulting

Outlook what next ?

Future growth of Solar Cooling markets could be stimulated by the following technical and economic aspects ... :

- Focus on innovations for **affordable, safe and reliable Solar Cooling systems**
- Focus on energy conservation and use of renewables
- Shortfalls in electricity supply and rising electricity costs
- European F-gas regulation (**natural refrigerants**)
- **Standards** for sorption chillers (e.g. DIN V 18599-7, VDMA 24247-9)

... but much more on trust and political issues:

- Best practice **online database to build trust** in the technology
- **Policy advice** to provide relevant information **for energy policy decision-makers** including the current state of the art
- **Roadmaps** including policy measures to promote Solar Cooling



Open for discussion ...



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