



Sustainable Space Cooling: how ready are we?

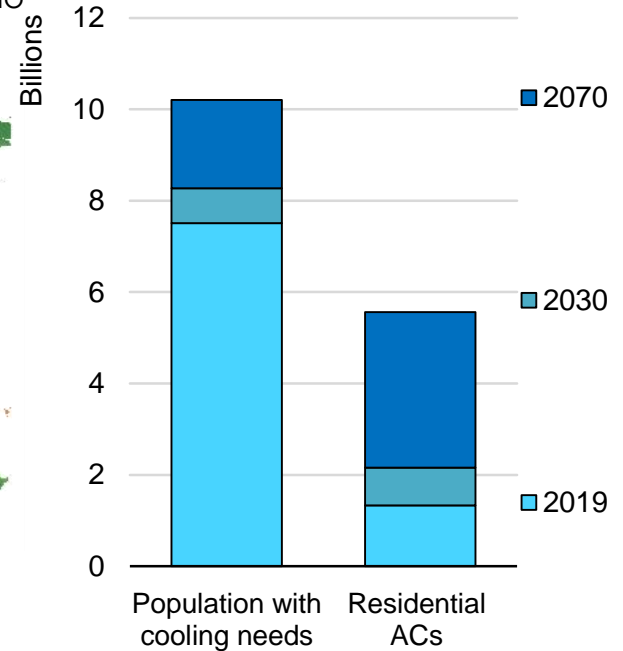
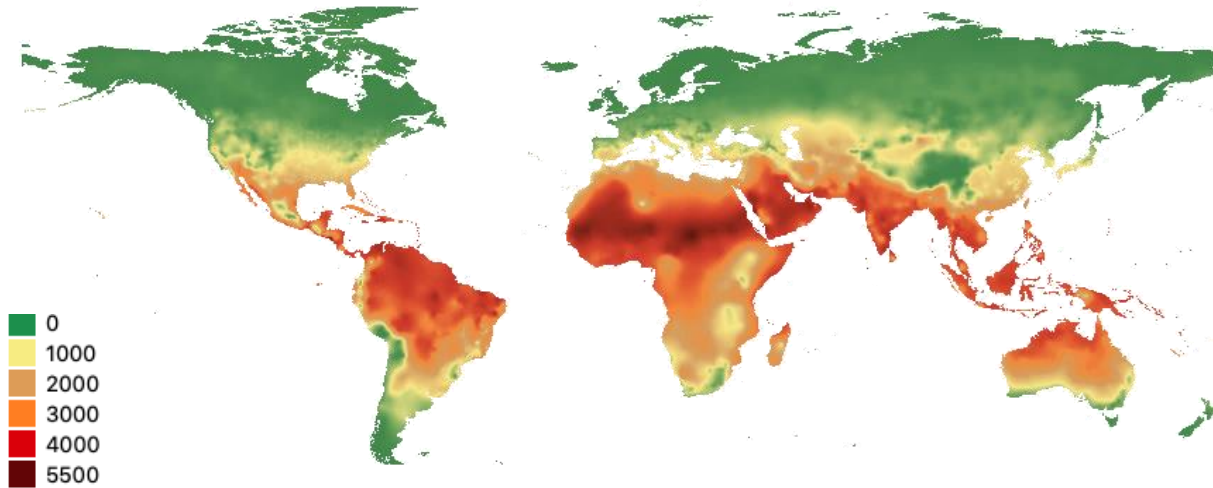
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The Earth is heating up

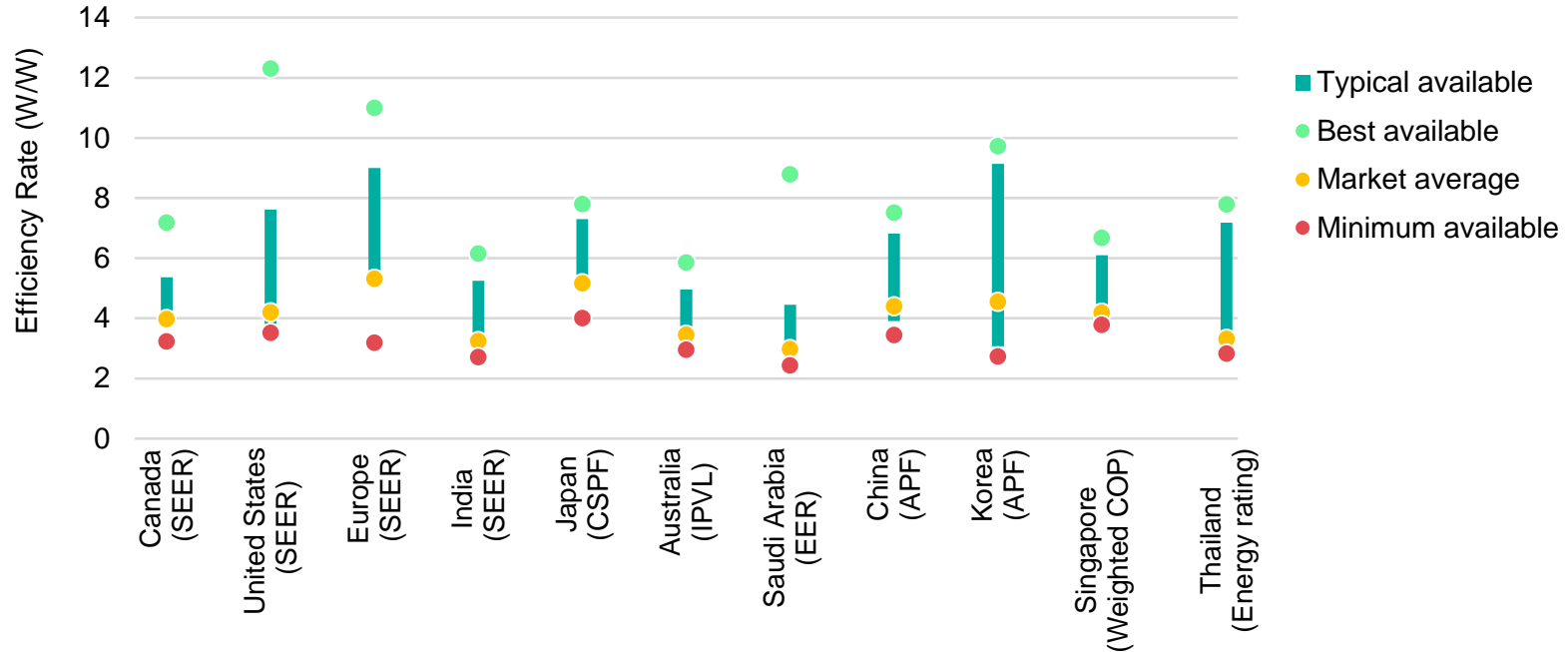
Annual cooling degree days around the world, 2070 , Stated Policies Scenario



By 2070, almost 3/4 of the world's households could have at least one air conditioner. China, India and Indonesia will together account for half of the total number.

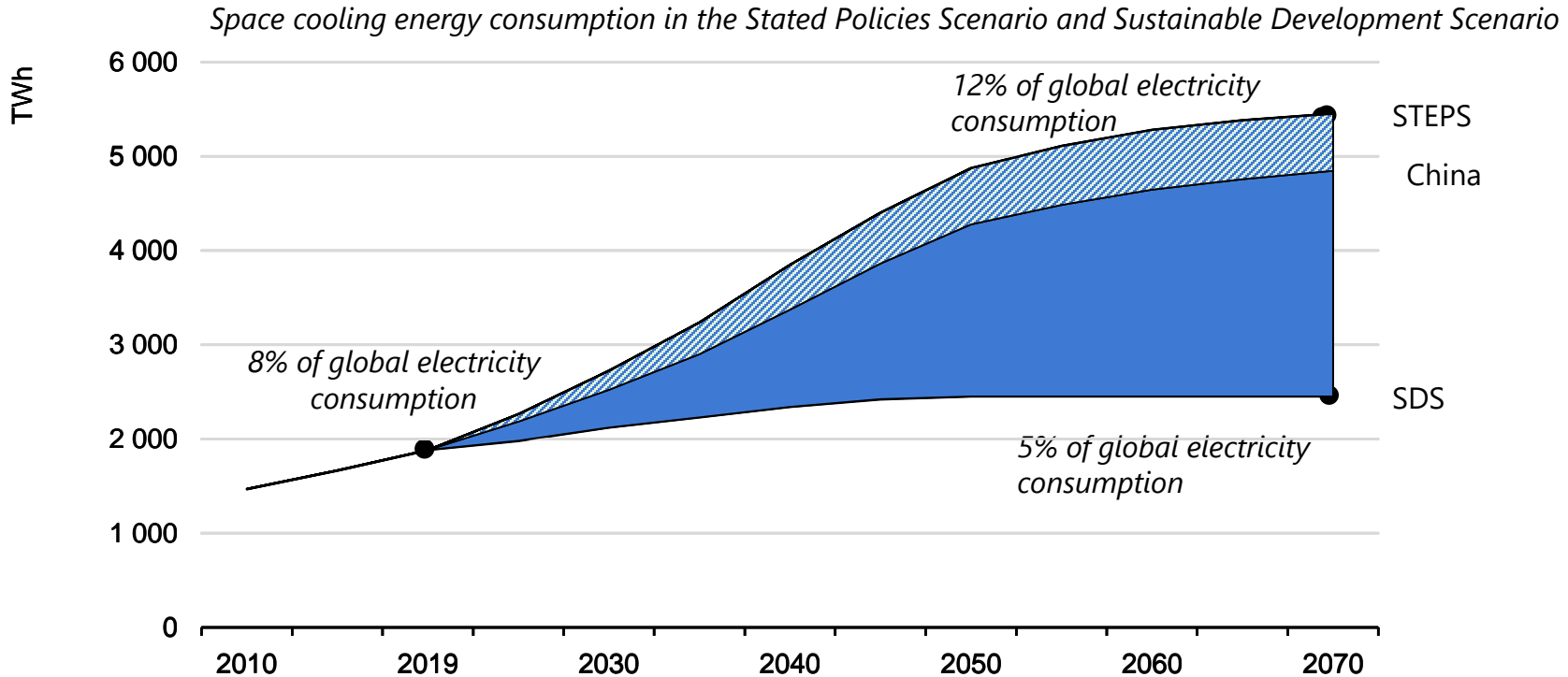
Markets are not keeping up with energy efficiency potential

Energy performance of air conditioners already available in markets today



The average efficiency of air conditioners sold today is less than half of what is typically available on shelves – and one third of best available technology.

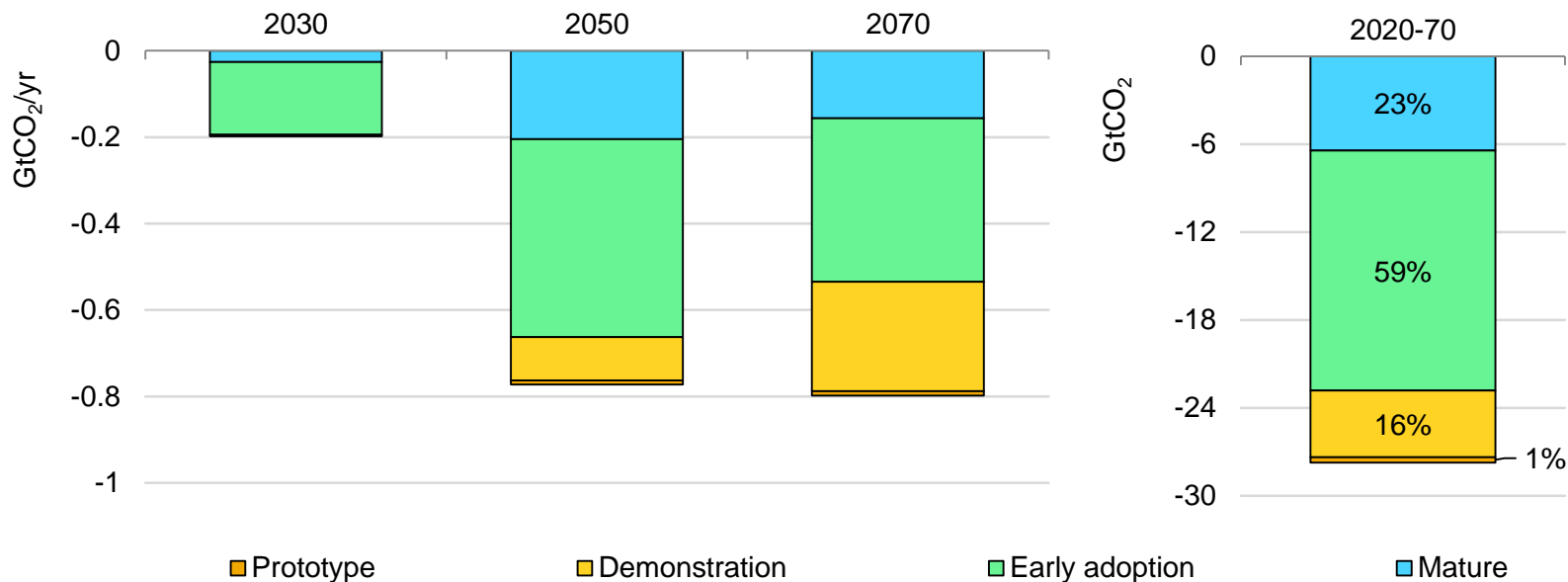
Space cooling is the fastest growing energy use in buildings



Without further action to address equipment and buildings performance, energy consumption for space cooling will almost triple by 2070

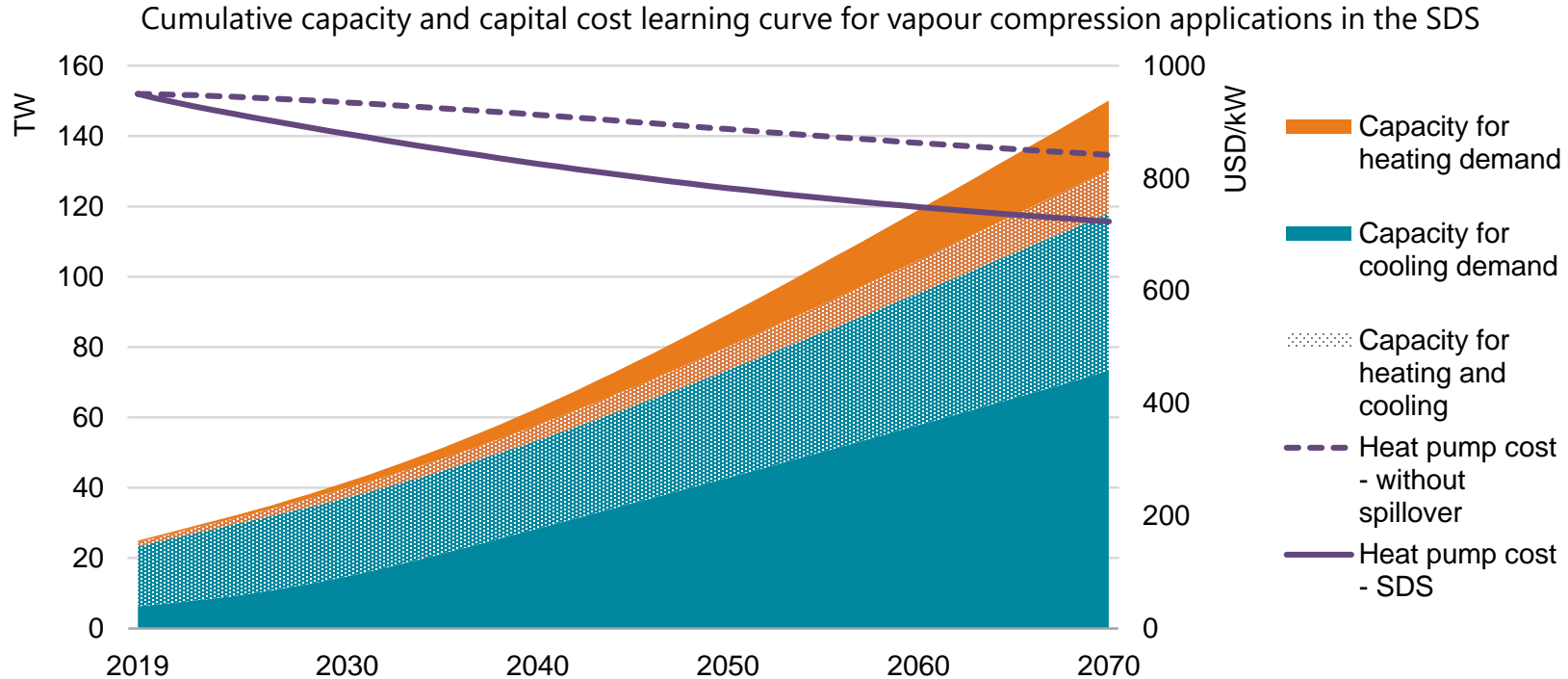
Further innovation in cooling equipment can bring additional gains

Global CO₂ emissions reductions in space cooling, Sustainable Development Scenario relative to the Stated Policies Scenarios



More than 80% of what is needed to decarbonize space cooling is achieved by mature and early adoption technologies

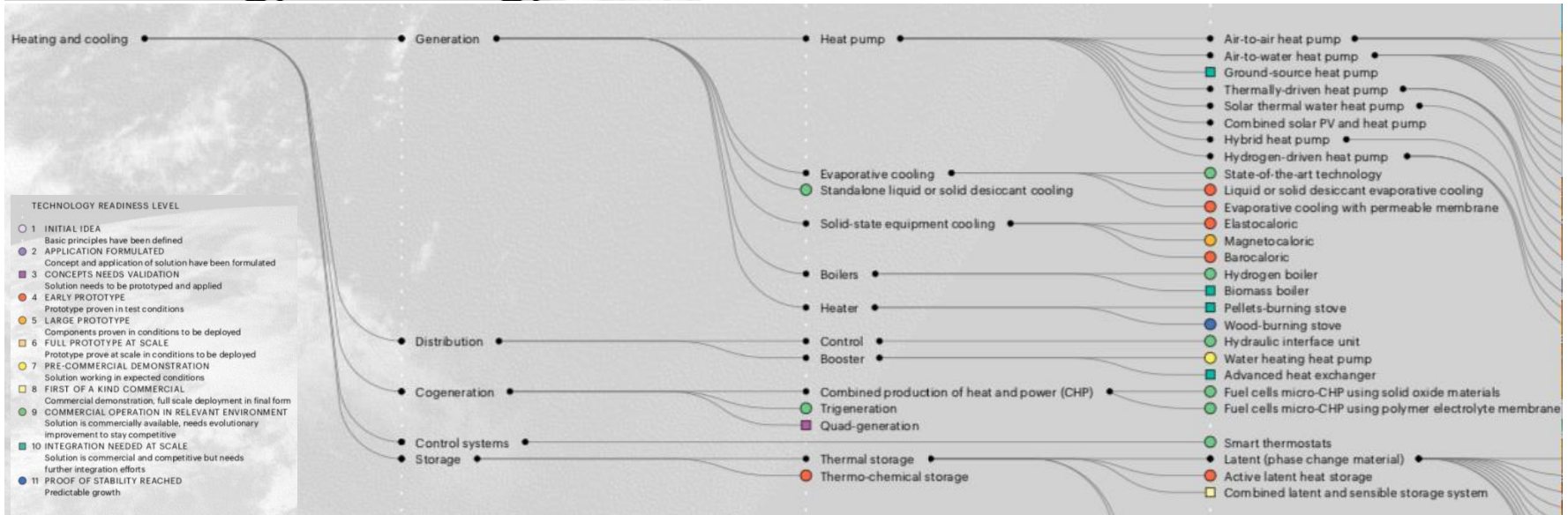
Spillovers between air conditioners and heat pumps



Synergies between heating and cooling results in around 15% lower cost for heating equipment

A clean energy technology guide for net-zero emissions

Energy Technology Perspectives Clean Energy Technology Guide



Over 400 individual technologies designs and components that contribute to achieving the goal of net-zero emissions

It is possible to meet cooling needs efficiently and sustainably

- Technology efficiency is an area where policy action can deliver substantial energy savings quickly.
- The widespread availability of high efficient products is great short term opportunity to limit the impact on the energy system of the growth of AC stock.
- But we see, especially in the longer term, that technologies not yet in mass market plays an increasingly important role, as well as technology innovation.
- For this, we will need to bring down costs and accelerate deployment, but also we will need changes in regulation, consumer behaviour and in the information available to the users, designers and all the actors in the industry.
- Knowledge accumulated in one technology area can be of great relevance and value in related technologies. "Spillovers" between cooling and heating market are key for the heating industry.

Thank you for your attention



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Learn more about IEA work on space cooling:

<https://www.iea.org/reports/cooling>

<https://www.iea.org/articles/etp-clean-energy-technology-guide>