

Solar thermal energy for climate neutral built environment

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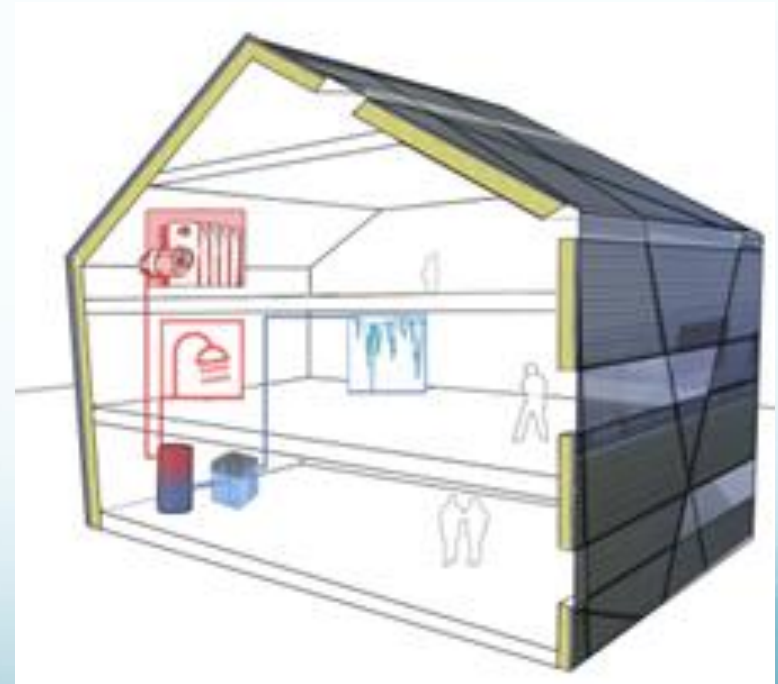
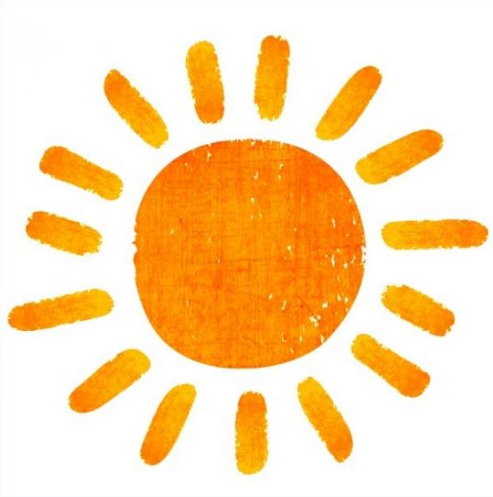
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IEA Solar Heating & Cooling Programme
Workshop Re-defining Climate Ambition
Paris, June 20th 2016

Contribution of Solar Thermal

- In a renovated solar building
- Solar district heating
- Solar domestic hot water in emerging markets
- Solar heat for industry

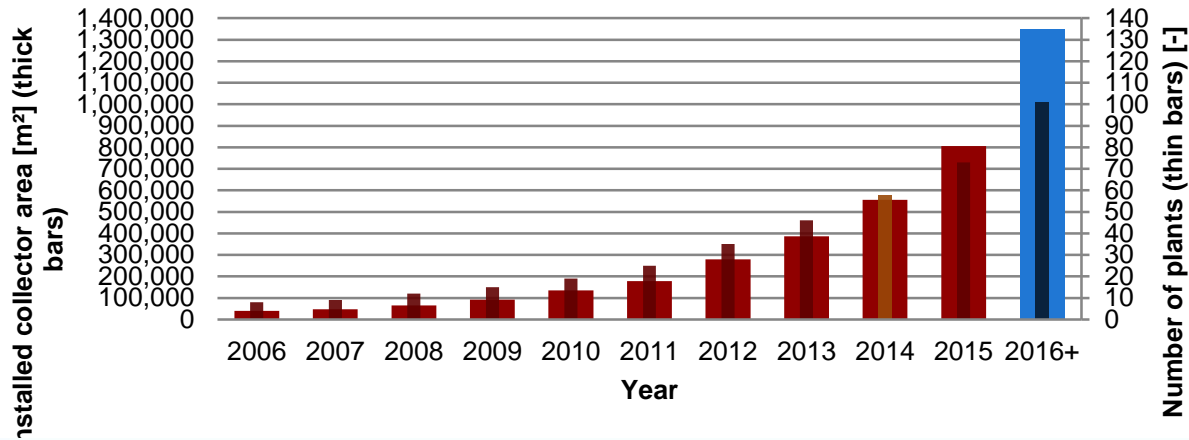
The issue:



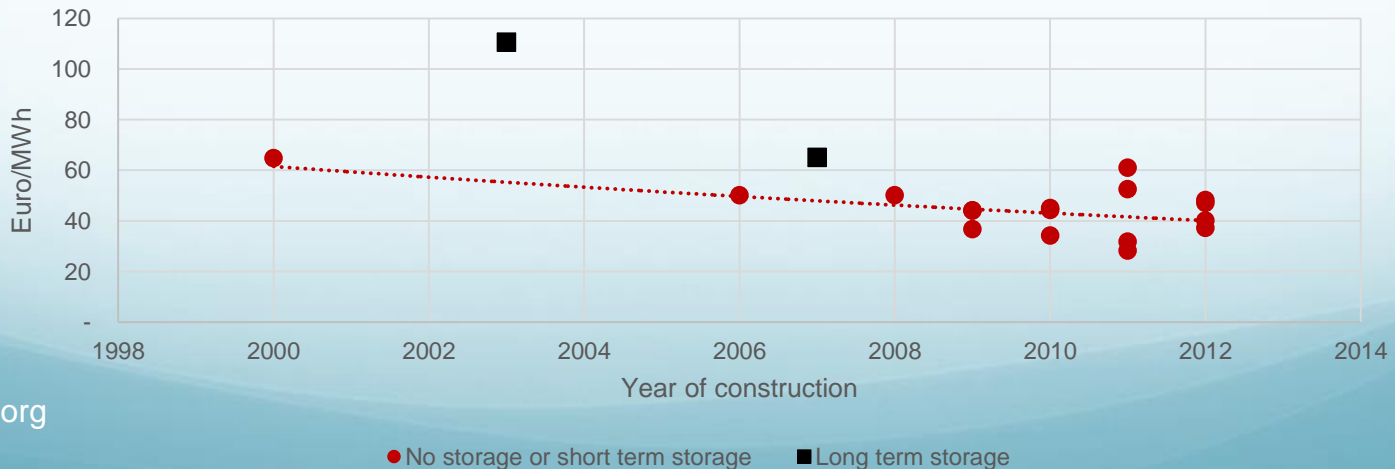
- The challenge is existing buildings
- Use all technologies:
 - Solar Thermal and daylight
 - PV
 - Storage
 - Biomass
 - Smart grids
 - Which grid is remaining?
 - Heat pumps

Solar district heating

Solar District Heating in Denmark
Sum of collector area and the number of **operating** and **upcoming** plants

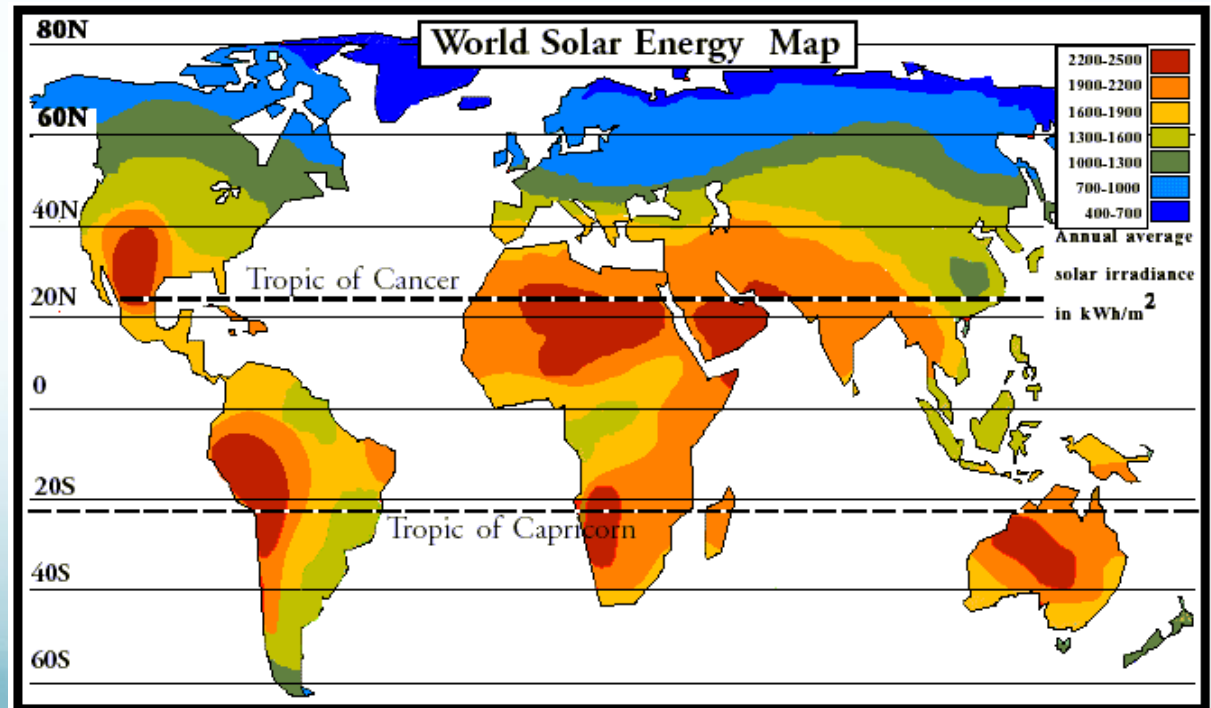


Heat price versus year of construction
solvarmedata.dk



Emerging markets

- Most emerging market have a high insolation
- 50 % electricity for hot water
- Direct replacement of coal plants
- Growing cooling demand



Storage



Tesla power Wall 6,4 kwh
A hype?



A solar tank of 100 l is 8 kwh
Low cost
Proven technology

Conclusion

- We will need all technologies
- The challenge is immense
- The technologies are available
- Solar thermal can make a large contribution for the < 2°C scenario's
- We need new policies for the transition