

Geological Service for Europe as a foundation to the Green Deal

From the Geothermal Perspective

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Europe climate neutral by 2050

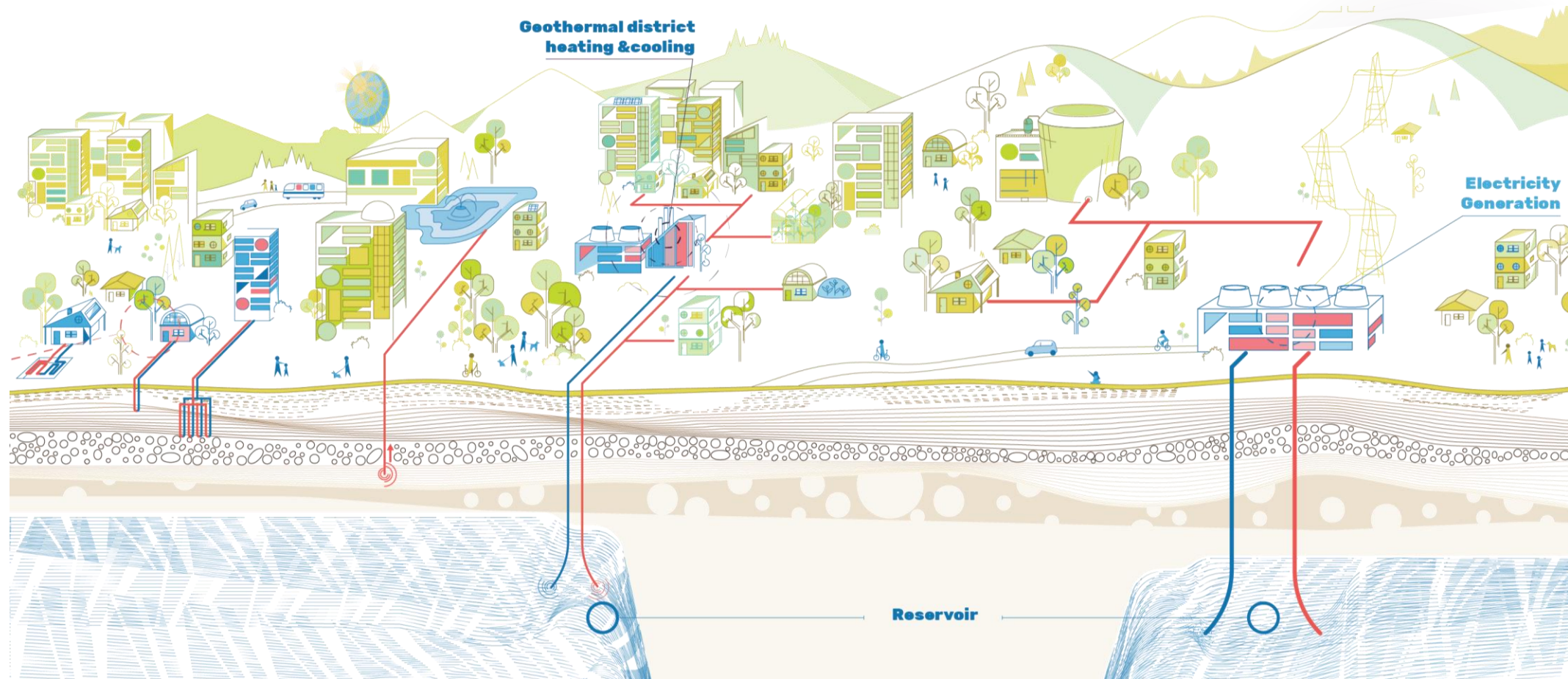
European Green Deal :

- ▶ ensuring a **secure and affordable** EU energy supply
- ▶ developing a **fully integrated, interconnected and digitalised** EU energy market
- ▶ prioritising **energy efficiency**, improving the **energy performance** of our buildings and developing a power sector based largely on **renewable sources**
- ▶ EC's Strategic Energy Technology Plan (SET-Plan) is a key stepping stone to boost the transition
 - ▶ Deep Geothermal Implementation Working Group one of 13 IWGs within SET Plan



Berlaymont building, headquarters of the European Commission

Geothermal will contribute



Graphic courtesy EGEN

Deep GEOTHERMAL IWG

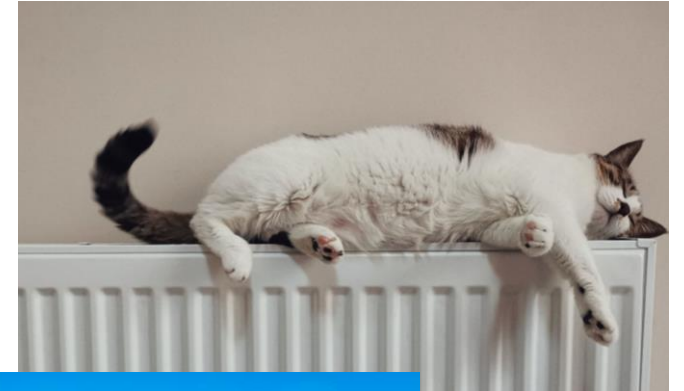
Power production

- ▶ Cost-effective baseload/dispatchable electricity production
- ▶ Innovation and bold thinking can boost the potential for Europe
 - ▶ Super hot – Super critical
 - ▶ Magma Energy
 - ▶ Offshore Geothermal
 - ▶ New technologies / new materials
- ▶ 10% **baseload** power demand in 2050



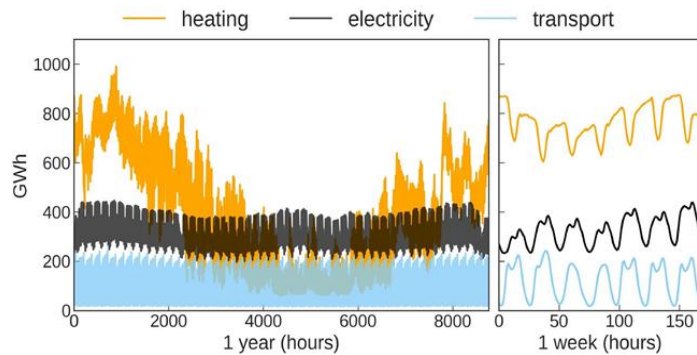
Heating and cooling

- ▶ Indigenous dispatchable source, main use of geothermal in West/Central Europe
- ▶ 25% of European cities are located in regions suitable for direct use
- ▶ Expecting increased momentum!
- ▶ Heating and cooling transition
- ▶ Innovation - for geothermal in a wider range of geological settings

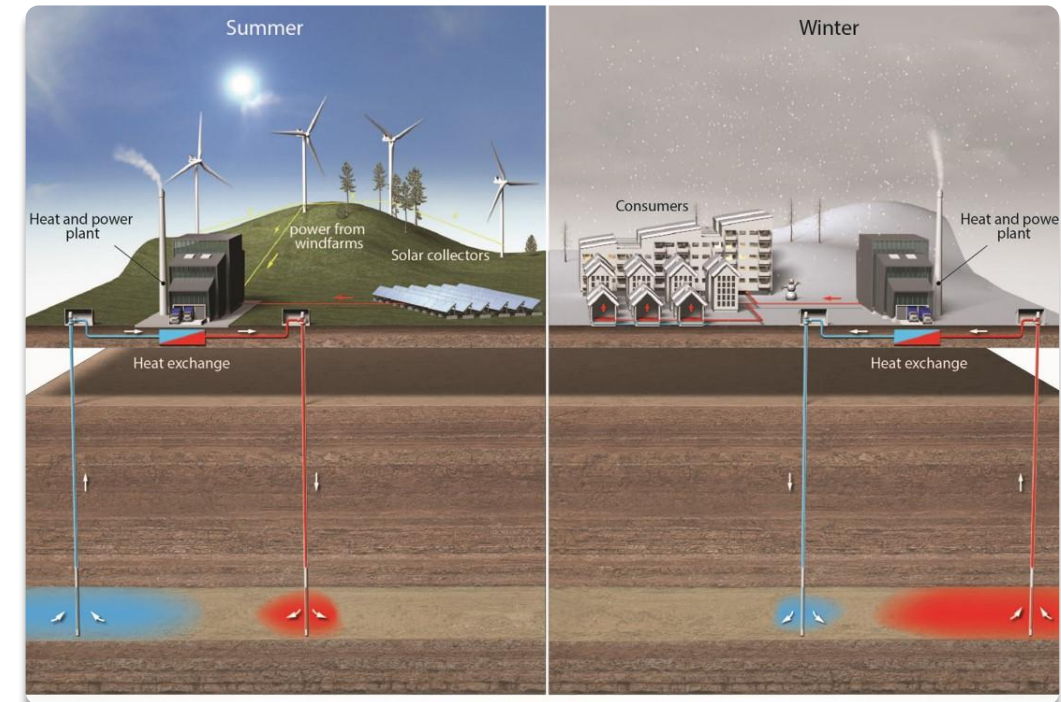


Storage

- ▶ 50% of the European energy demand is for heating
- ▶ Bridging the winter peak is essential
- ▶ Scale of subsurface needed
- ▶ Similar but not the same!

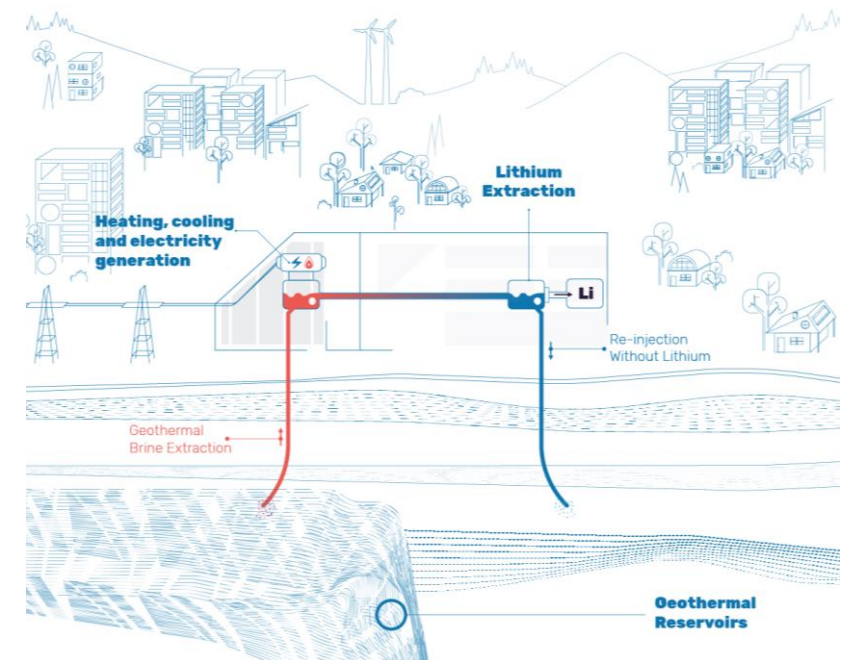



Source: M. Victoria, K. Zhu, et al, Energy Conversion and Management 201 (2019) 111977



Graphics courtesy HEATSTORE www.heatstore.eu

Geothermal minerals





Geothermal will never
deliver its full potential
without understanding
the subsurface
throughout Europe

GEOHERMAL WILL NEVER
DELIVER ITS FULL POTENTIAL
WITHOUT DEDICATED
POLICIES AND INNOVATION