

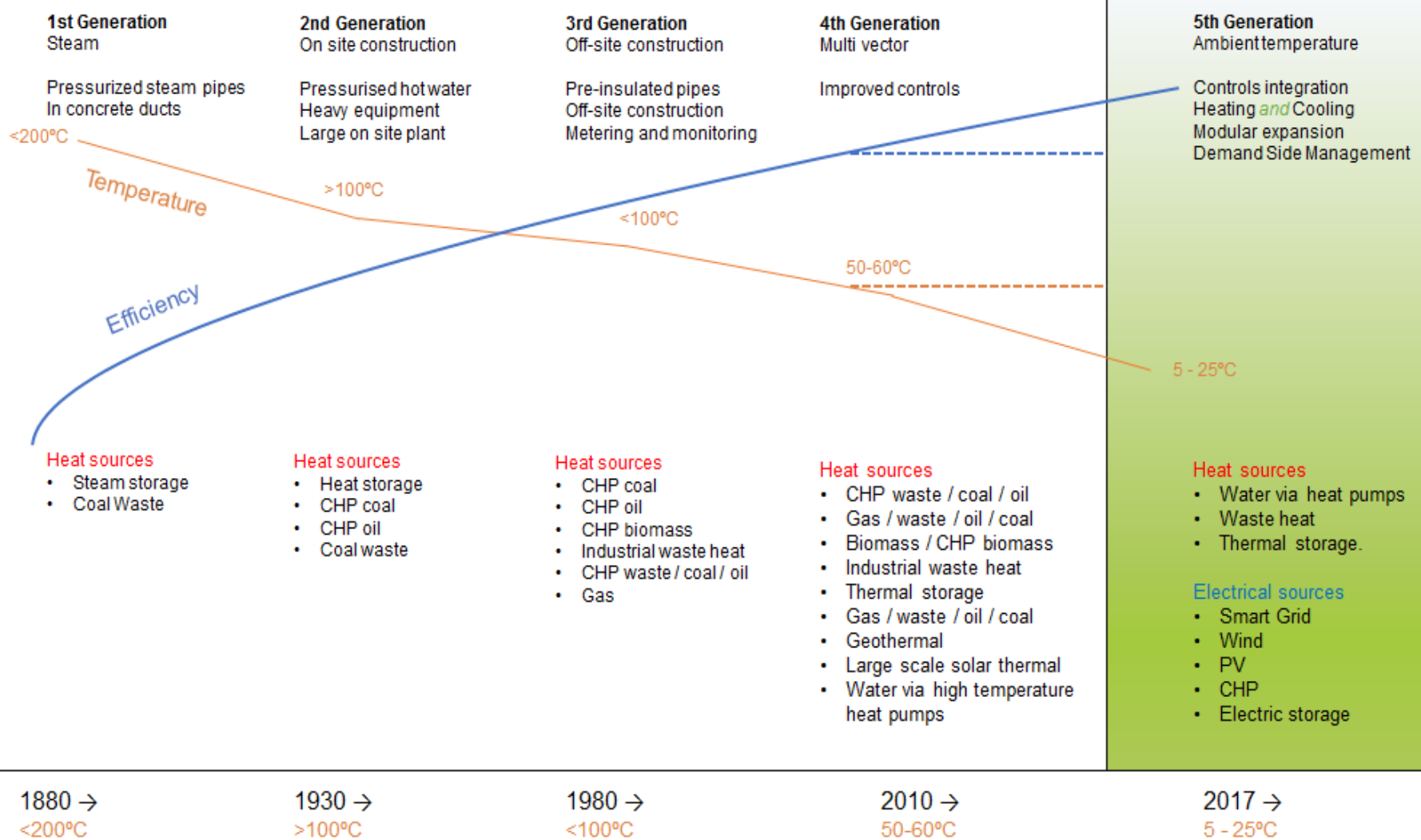


Interreg
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HeatNet NWE
European Regional Development Fund

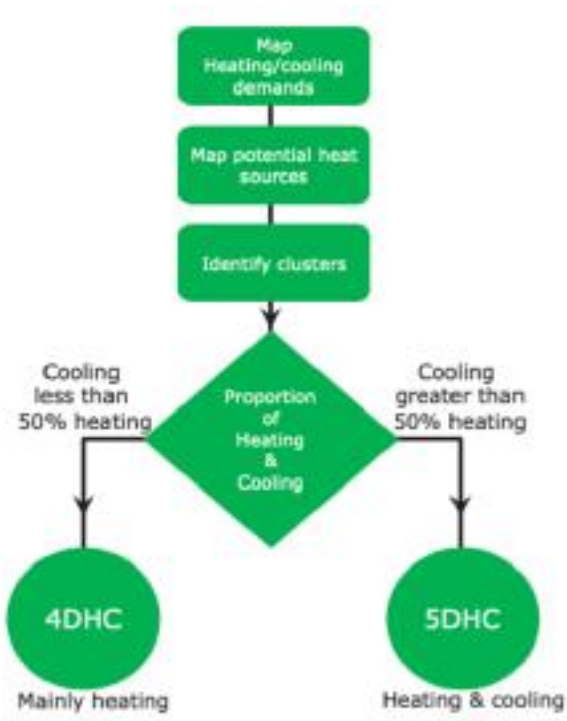


Developing 5th Generation Grid in Plymouth, UK

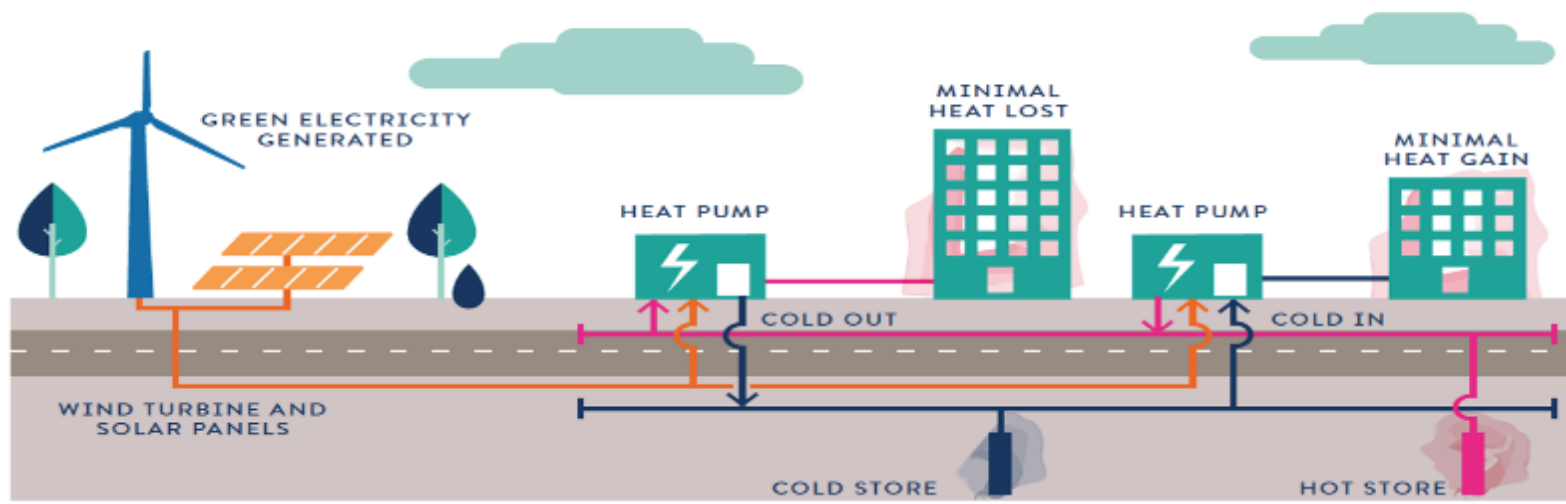
4th or 5th Generation District Energy?



Heat network trends to lower distribution temperatures and higher efficiency




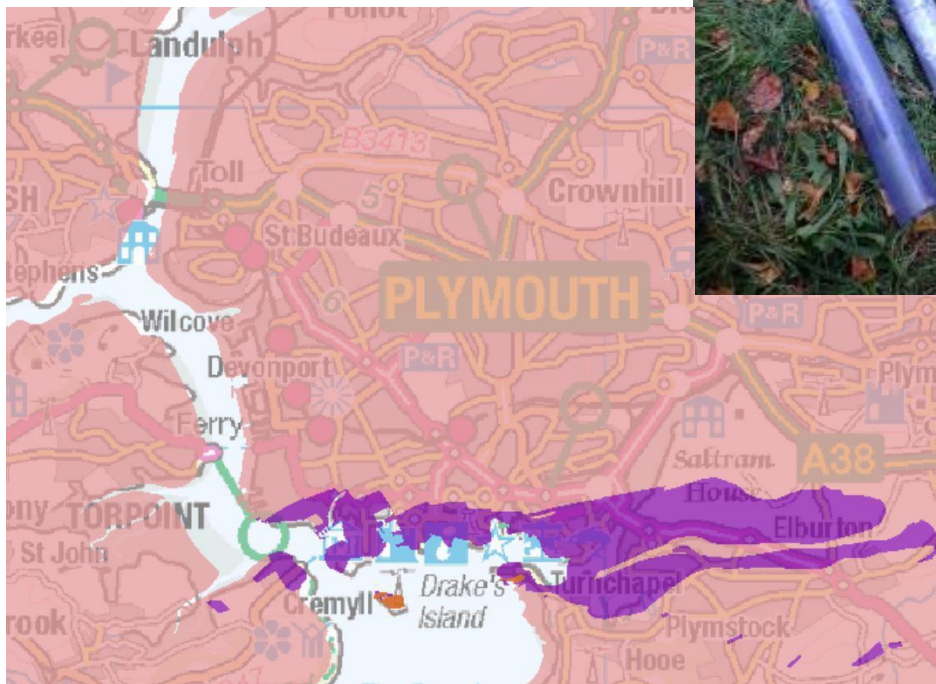
4th or 5th Generation District Energy?



Groundsource

Aquifer Bedrock

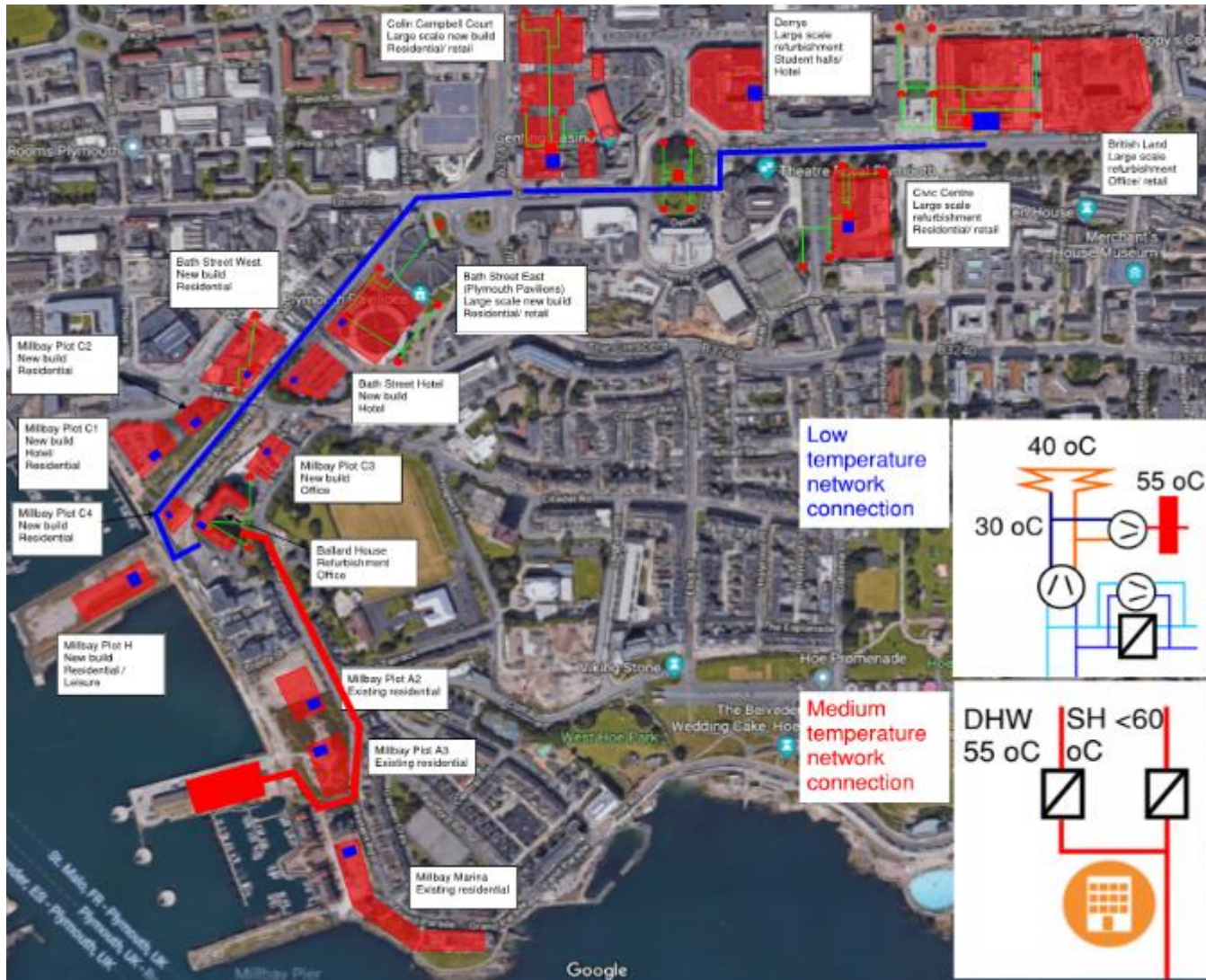
-  Principal
-  Secondary A
-  Secondary B
-  Secondary (undifferentiated)



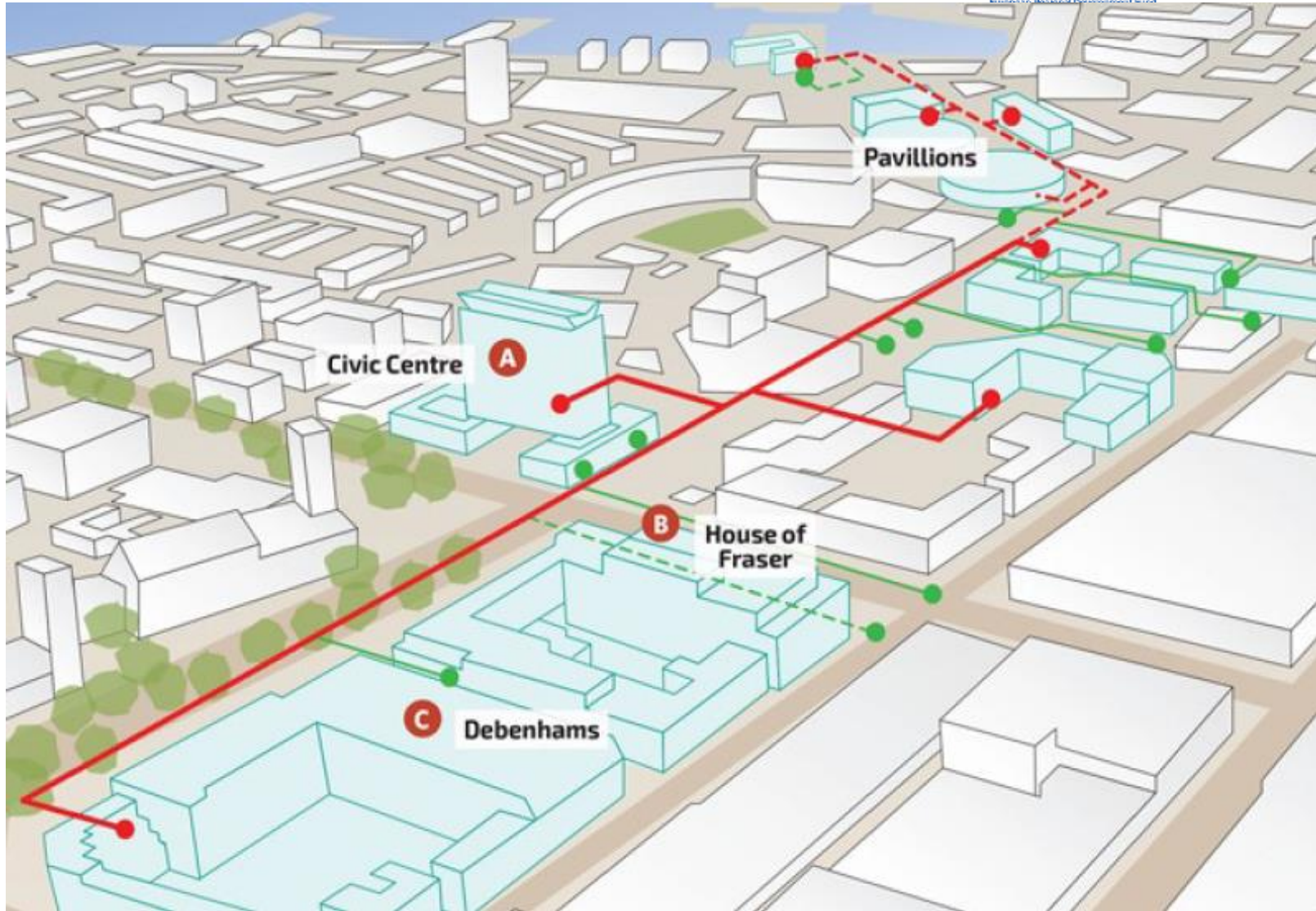
Marine source



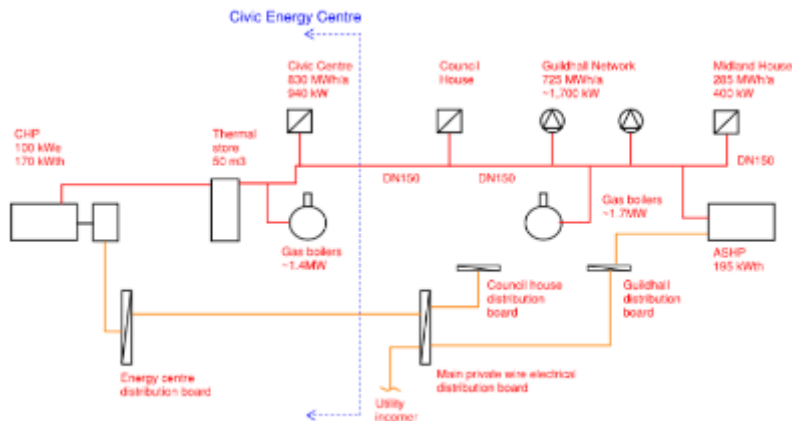
Overview of scheme



Overview of scheme



Using ASHP with private wire



Q&A



Any questions?

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EUROPEAN UNION
North-West Europe
HeatNet NWE

European Regional Development Fund

Thank you!

Lessons Learned



Lots!!

- Scope to use a number of sources of heat, including waste heat, ground, marine and air source
- Challenges with ground source in delivery, but can offer storage opportunity with cooling
- Economics can be challenging with high electricity compared to gas in UK
- Need to find creative solutions to add value through solar, storage, CHP or grid services