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Decarbonising energy with higher levels of customer service

Andrew Haslett FREng, Chief Engineer

ETI10 | TEN YEARS
OF INNOVATION
2007—2017

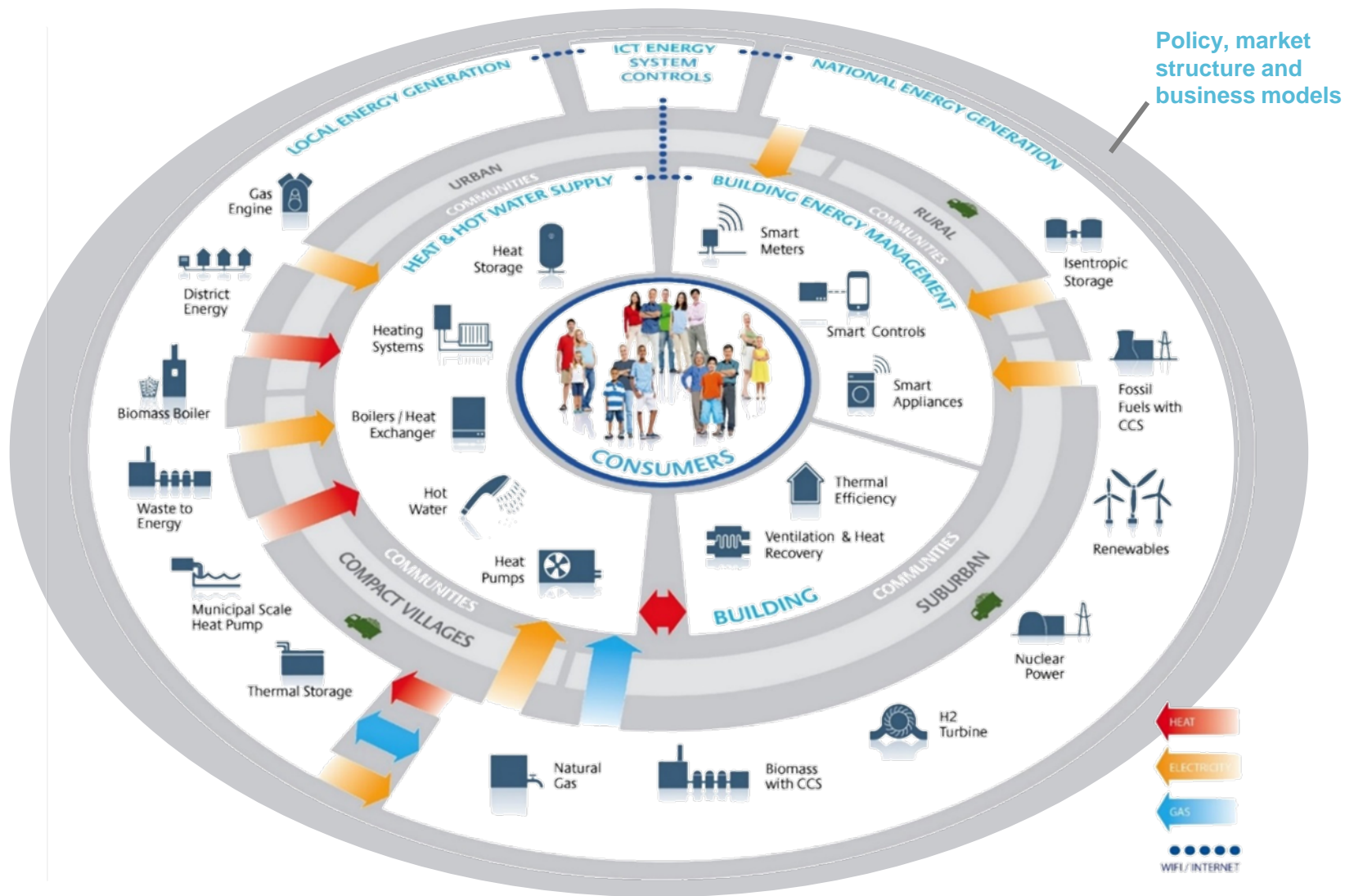
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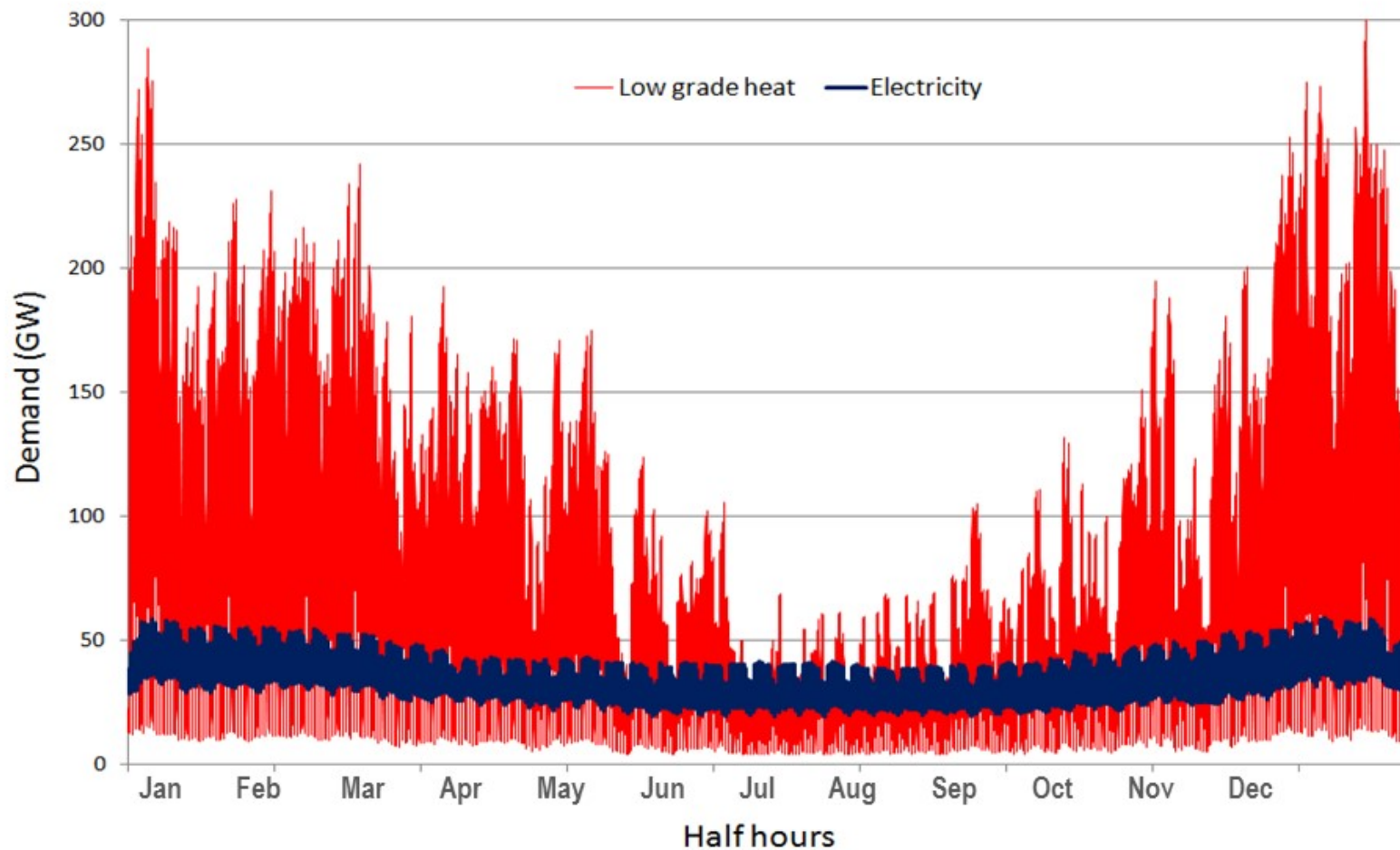


Services to domestic, commercial and industrial users





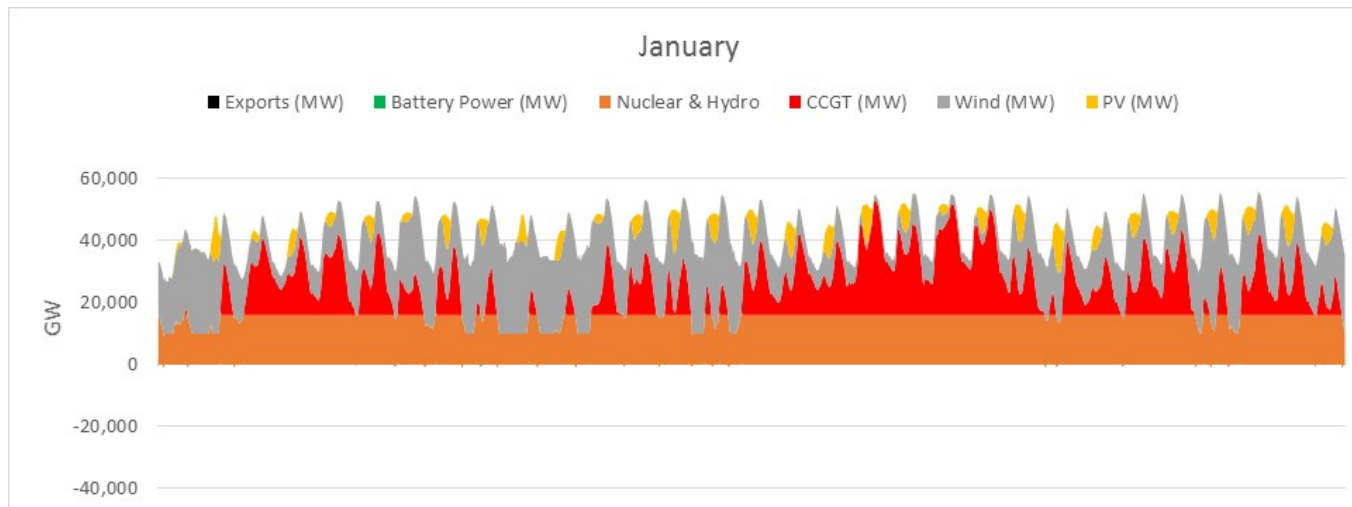
Heat demand is highly variable (2010)



Robert Sansom, ICL, by kind permission of UKERC

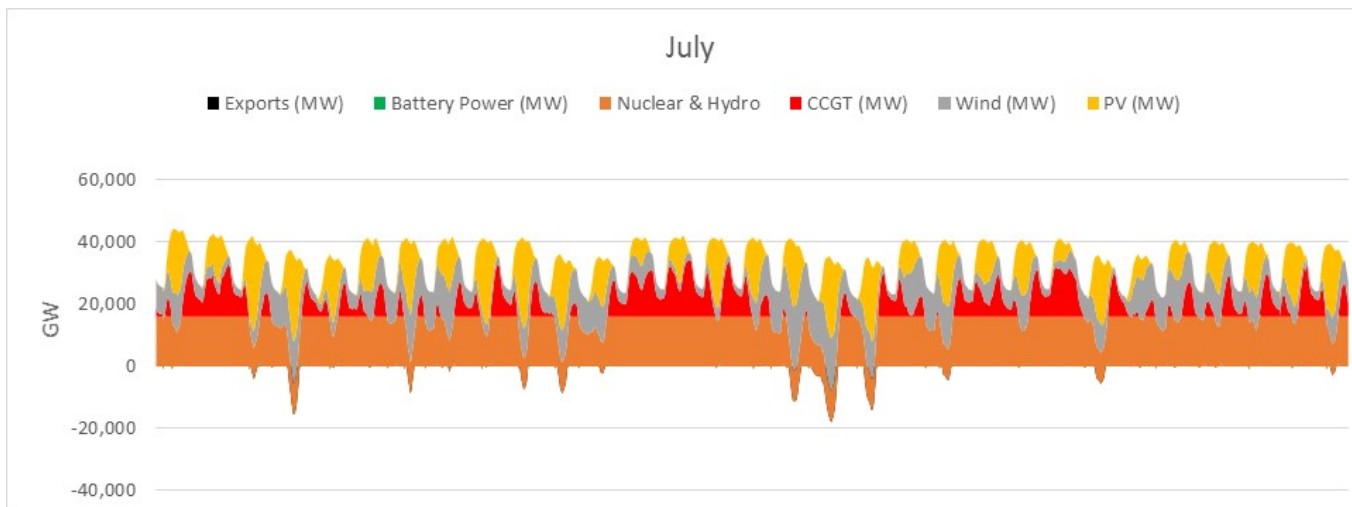


2030 generating mix?



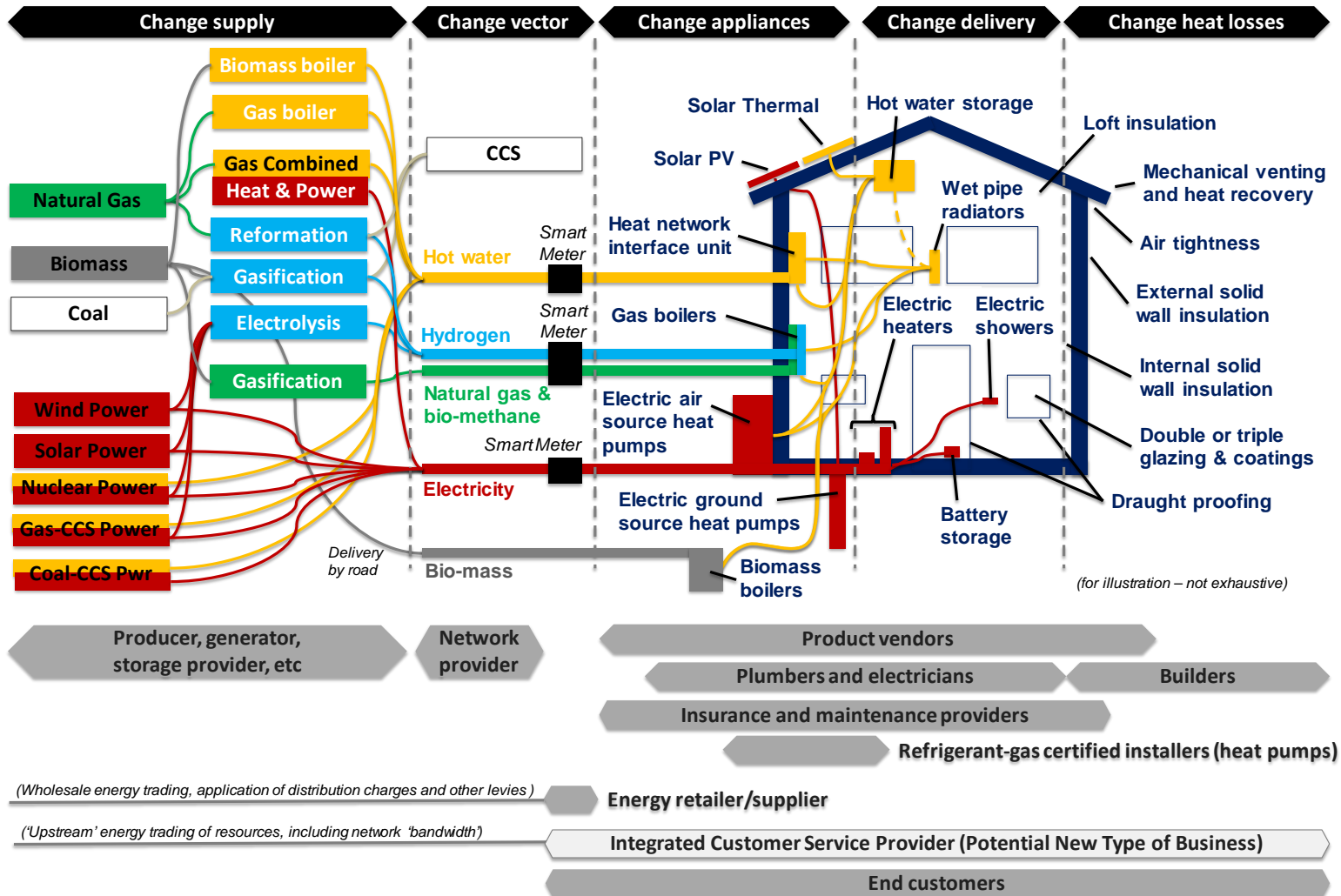
- 13GW nuclear
- 3GW hydro
- 39GW PV
- 31GW wind
- 38GW CCGT
- 1GW batteries @ 2C

105g/kWh CO₂





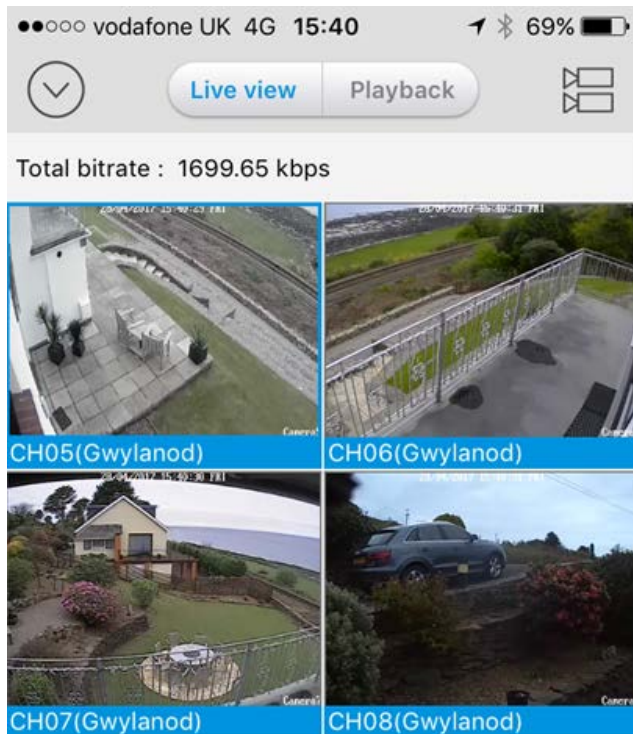
Multiple competing options





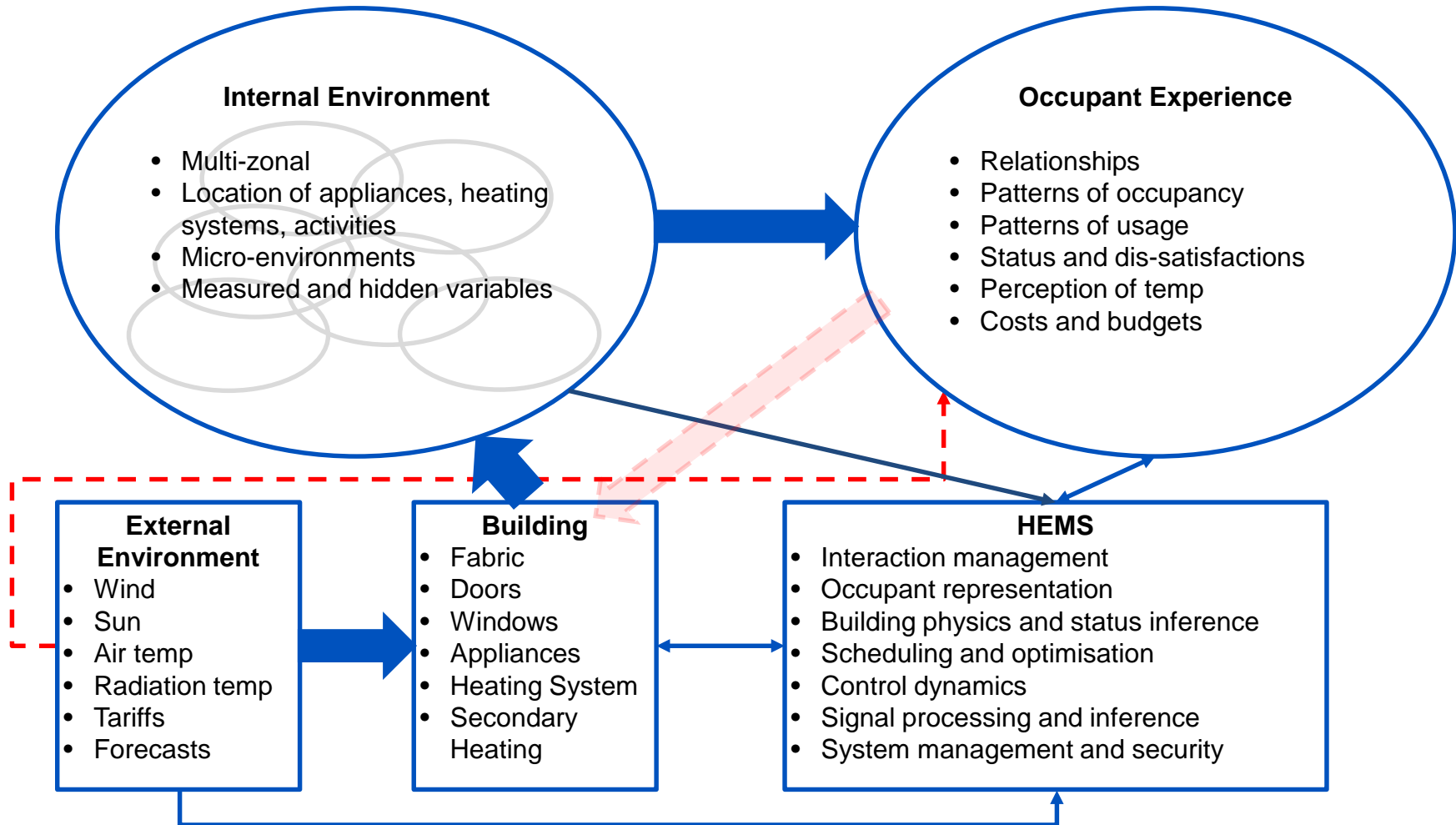
Intertwined opportunities

- Better consumer experiences – domestic “Engine Management System”
- Decarbonisation of heating – “Plug & Play” heating system



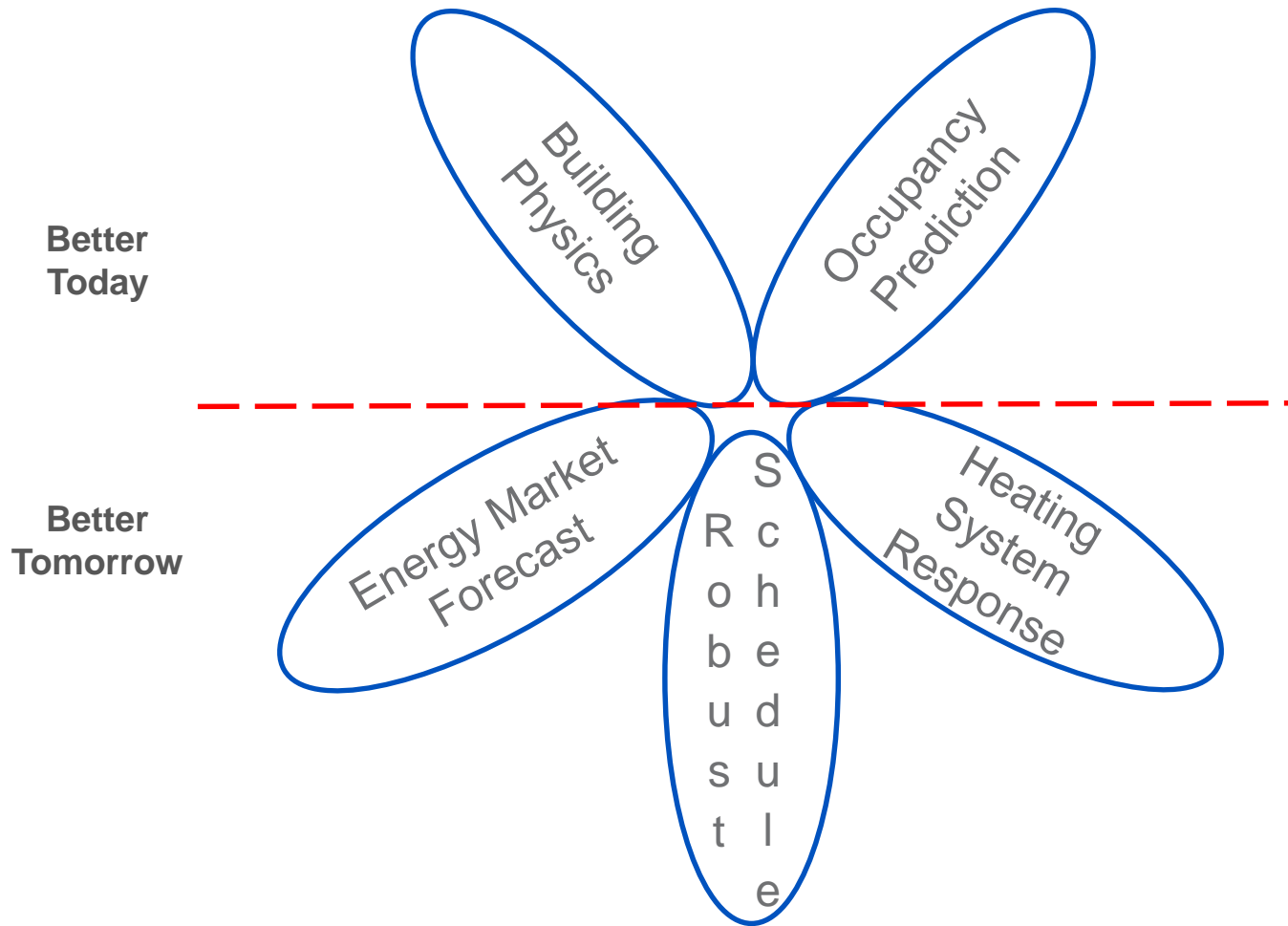


Complex socio-technical system





Consumer satisfaction - machine learning





Registered Office
Energy Technologies Institute
Holywell Building
Holywell Park
Loughborough
LE11 3UZ



For all general enquiries
telephone the ETI on
01509 202020



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