



Energy for  
generations

# Decarbonising Ireland's Industrial Sector

## The role of Industrial Heat Pumps

# The Enterprise Sector

**€238 billion annual turnover**

**250,000 employed**

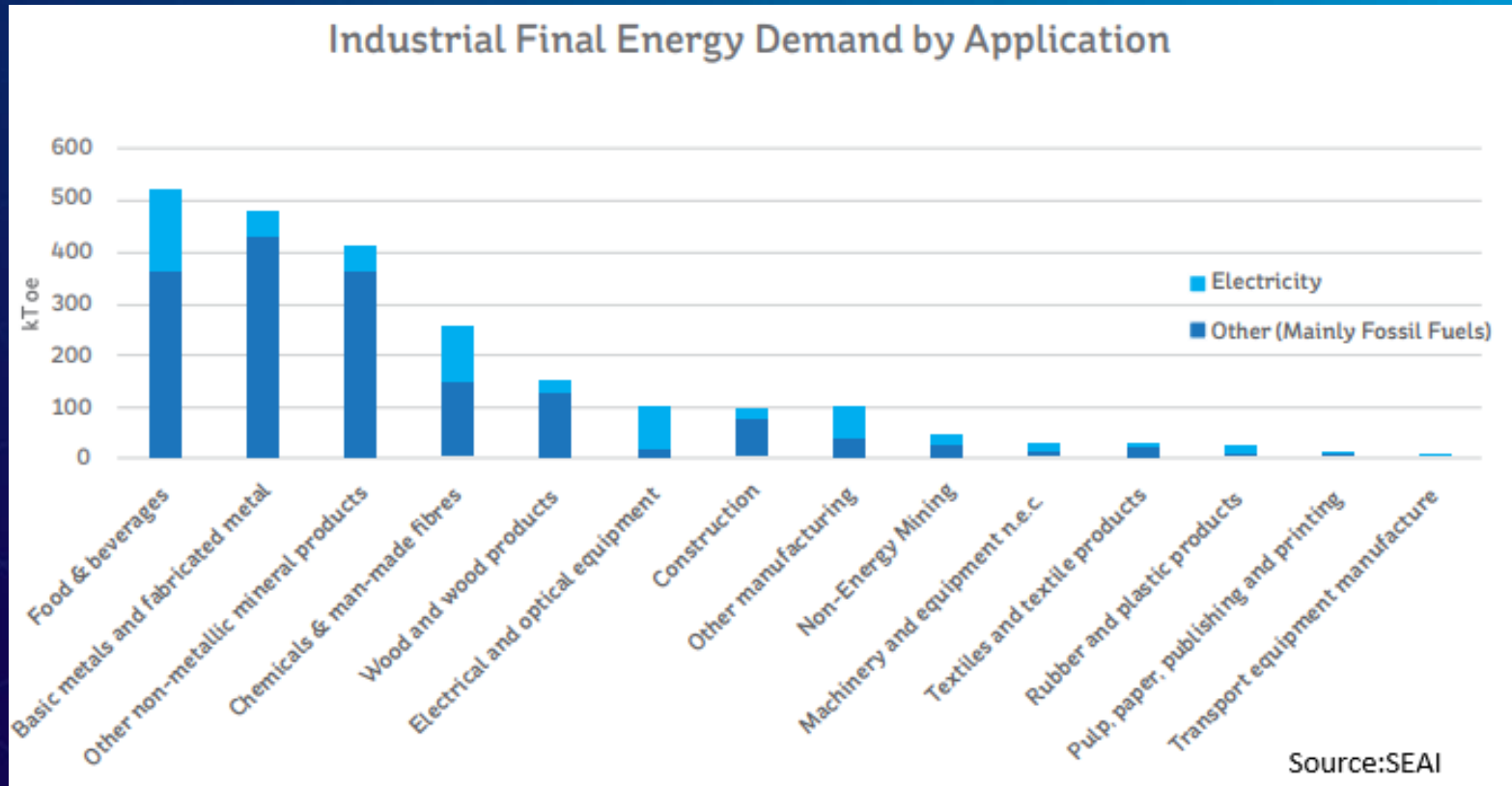
**20% of energy consumption &  
13% of Ireland's total  
greenhouse gas (GHG)**

**Highly dependent on fossil  
fuels**



Glanbia's Food Ingredients plant in Ballyragget, Co Kilkenny, Ireland

# Enterprise Sector – a breakdown of energy demand



# Electrification in Industry

Multiple electrification solutions are available now e.g. electrical resistance heating, immersion heaters, electric arc furnaces and electric boilers

- We have focused on Heat Pump Technology
  - Coefficient of Performance (COP) of 3 - 6
  - Use of waste heat and the circular economy
  - Challenges – high upfront costs, plant configuration



GEA RedAstrum Heat Pump, up to 2.9 MW, up to 80 c

# Expert Opinion on Industrial Heat Pumps



# Mapping heat pumps to local applications

Identified Industrial applications in Ireland suitable for Heat Pump technology

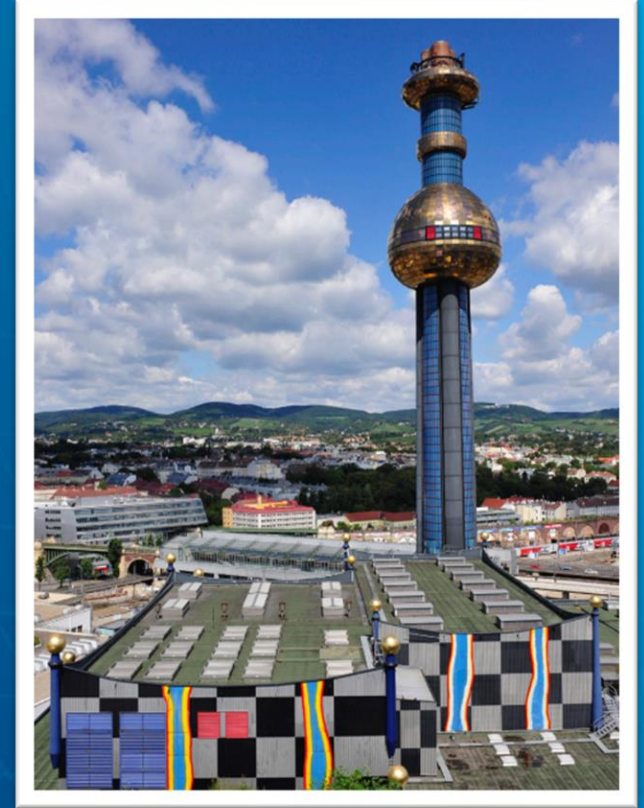
Some examples...

- Milk Pasteurisation
- Waste heat from data centres for District heating
- Hot water for milking parlour
- Timber drying
- Heating Greenhouses



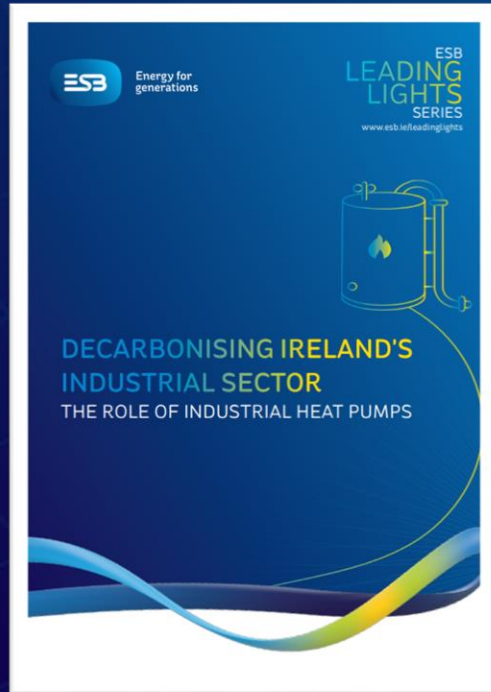
# Conclusions

- **Industrial Heat Pumps can play a significant role in the decarbonisation of industrial heat in Ireland**
- **Heat pump technology is developing all the time**
- **Heat pump technology using waste heat and providing heating and cooling is very efficient**
- **Policy supports will be required to achieve the potential of Industrial Heat Pumps**



Vienna district heating

# Thanks for your attention!



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