

6th International Conference on Smart Energy Systems

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#SESAAU2020



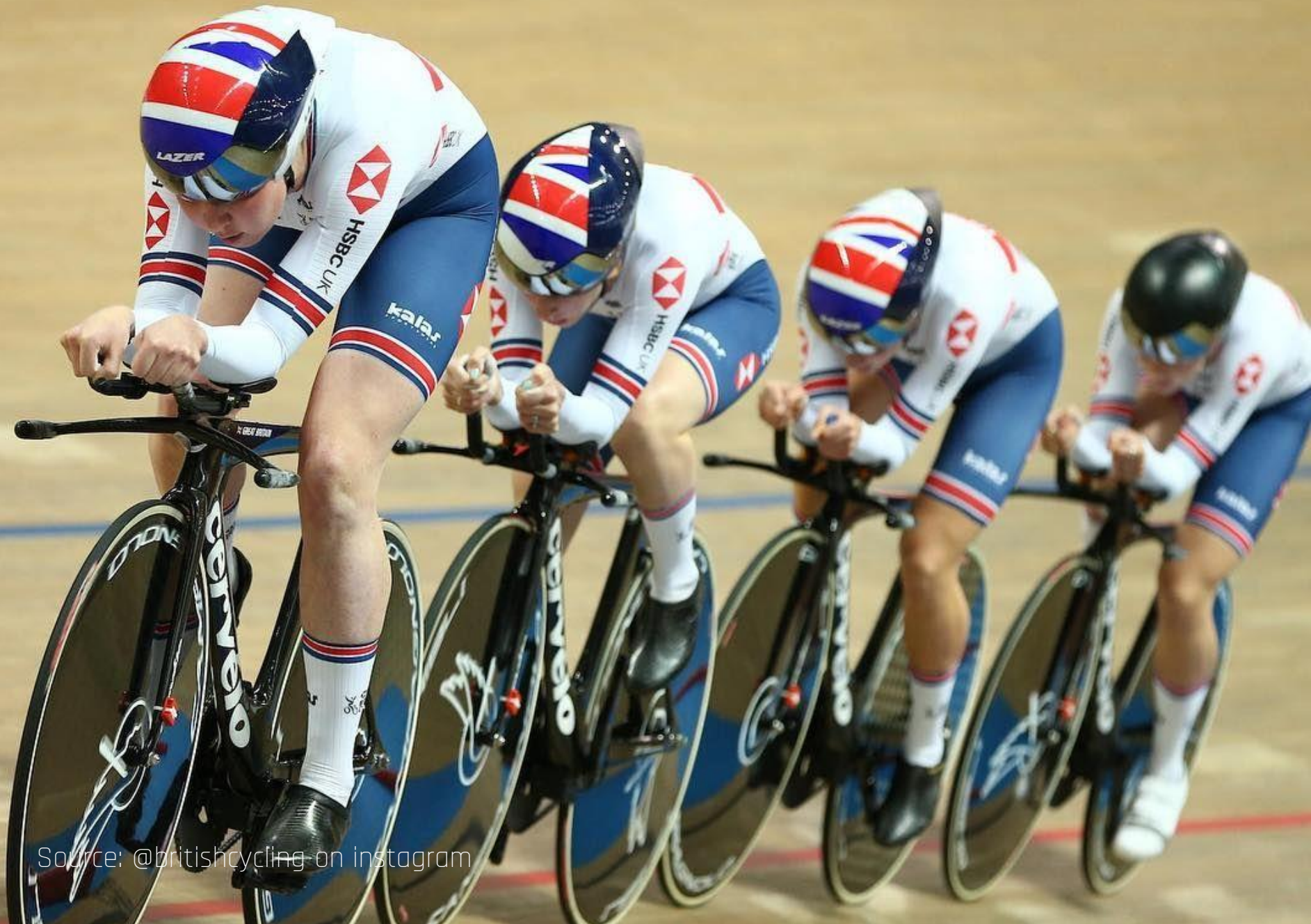
FairHeat

Potential of unutilised waste heat possible to incorporate into UK district heating production

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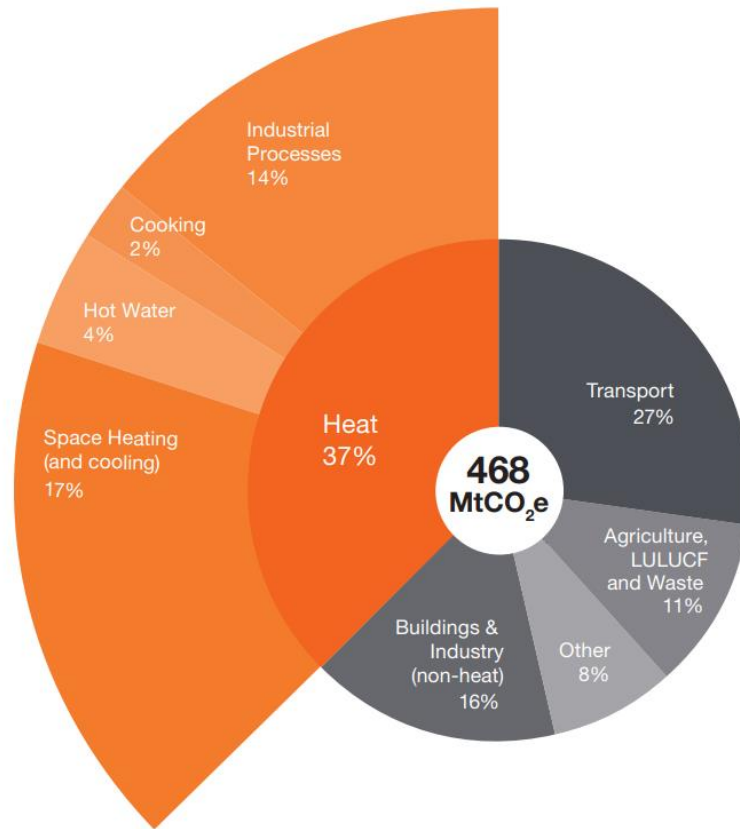
Agenda

1. Incremental gains
2. The role of heat networks in the UK
3. Waste heat potential
 - Industrial
 - Wastewater treatment
 - Waste incineration)
4. Associated impact on emissions
5. Concluding summary and Key Takeaways



Source: @britishcycling-on instagram

Total UK emissions in 2016 across different sectors



Source: Department of Business, Energy and Industrial Strategy, 2018, Clean Growth - Transforming Heating

Why use heat networks in the UK?

- Heat networks are a proven technology and part of the plan to create a sustainable energy shift in the UK
- Enabler of sustainability in Scandinavian Countries
- 43% of all UK heat demand can be cost-effectively met by heat networks by 2050.

Why use heat networks in the UK?

- Heat networks are a **proven technology** and part of the plan to create a sustainable energy shift in the UK
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- 43% of all UK heat demand can be cost-effectively met by heat networks by 2050.

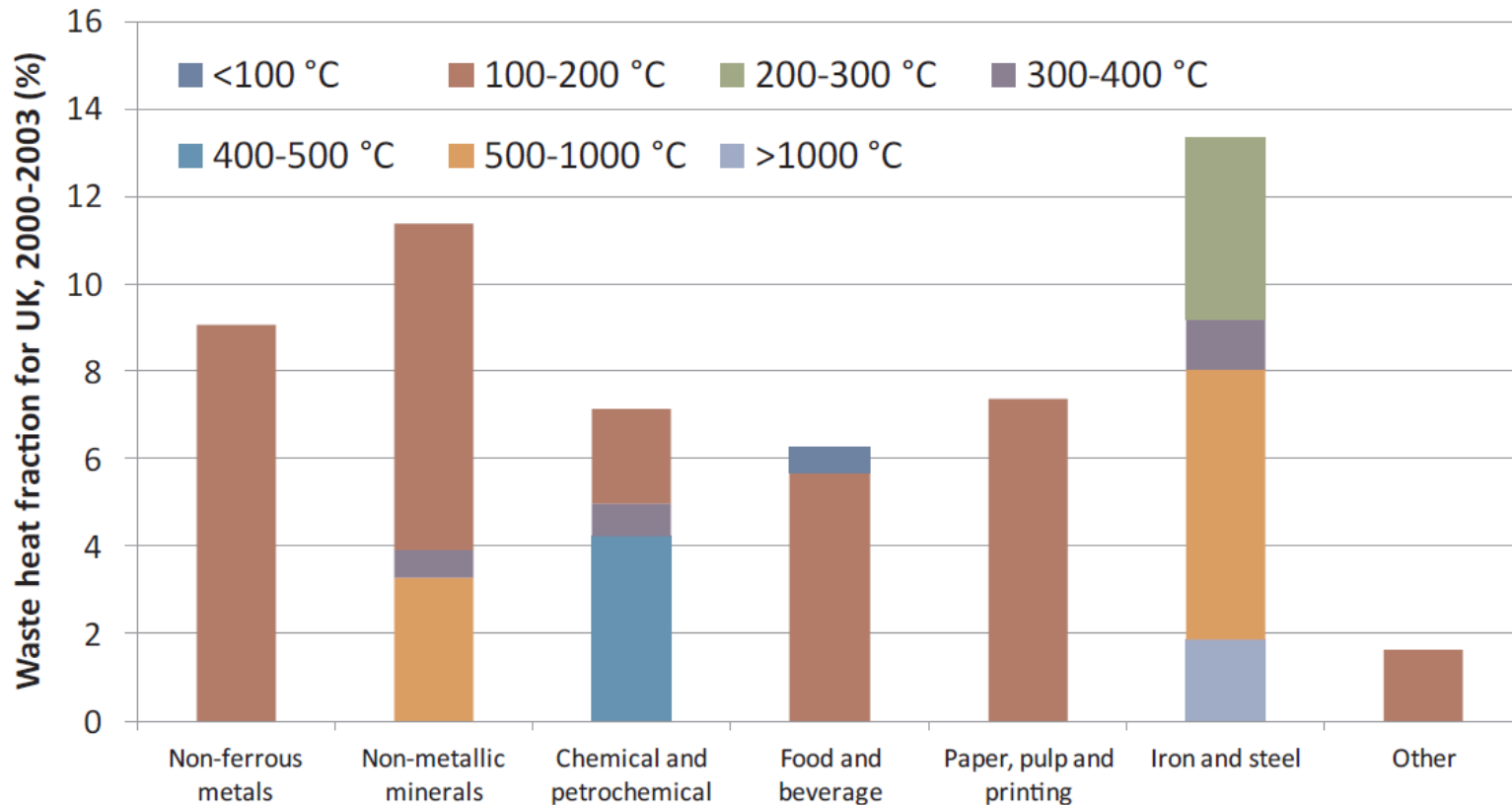
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Industrial waste heat potential

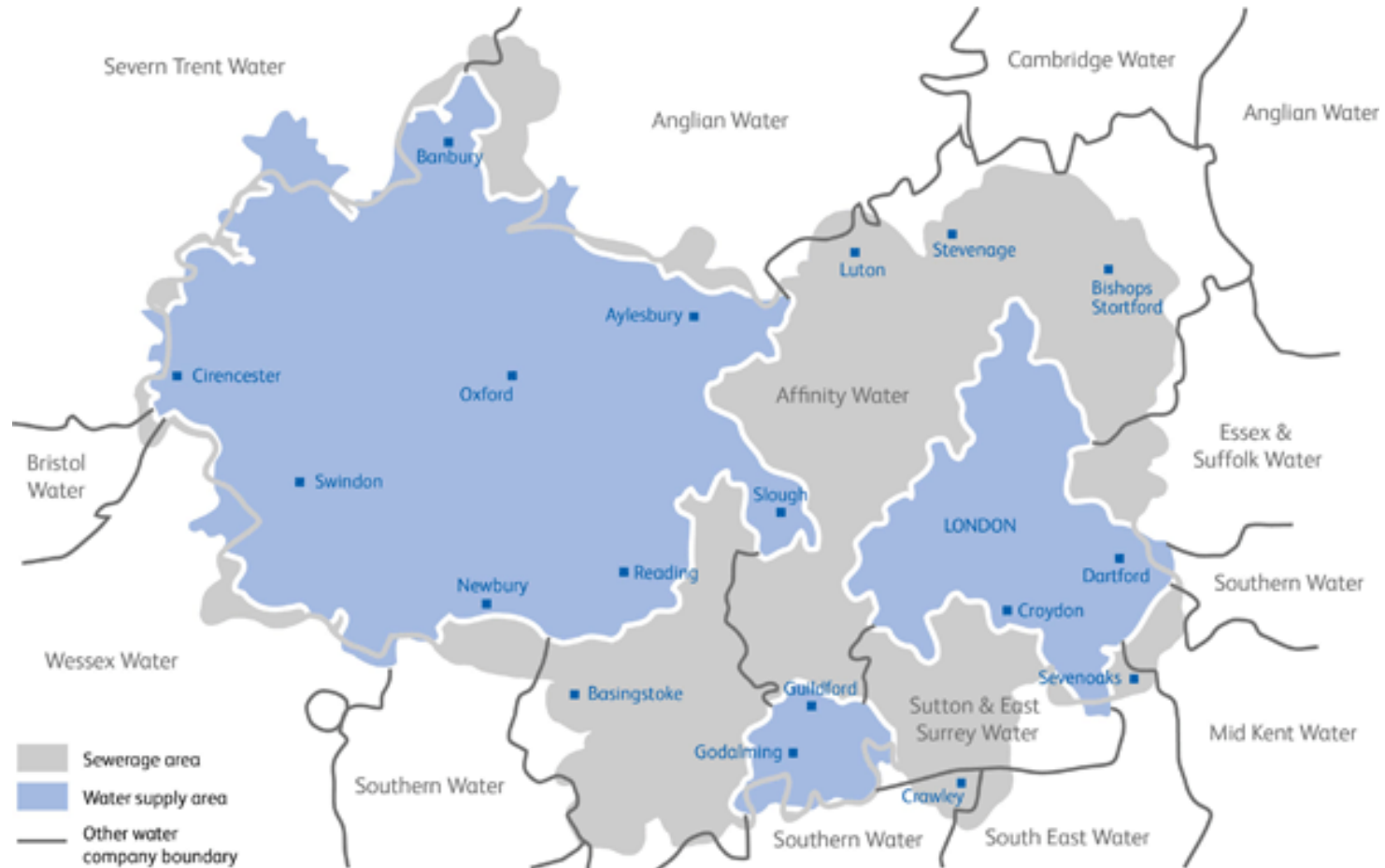


Source: Papapetrou M, et.al, Industrial waste heat: Estimation of the technically available resource in the EU per industrial sector, temperature level and country. Applied Thermal Engineering 2018

Industrial waste heat potential

2%

Potential in wastewater treatment facilities



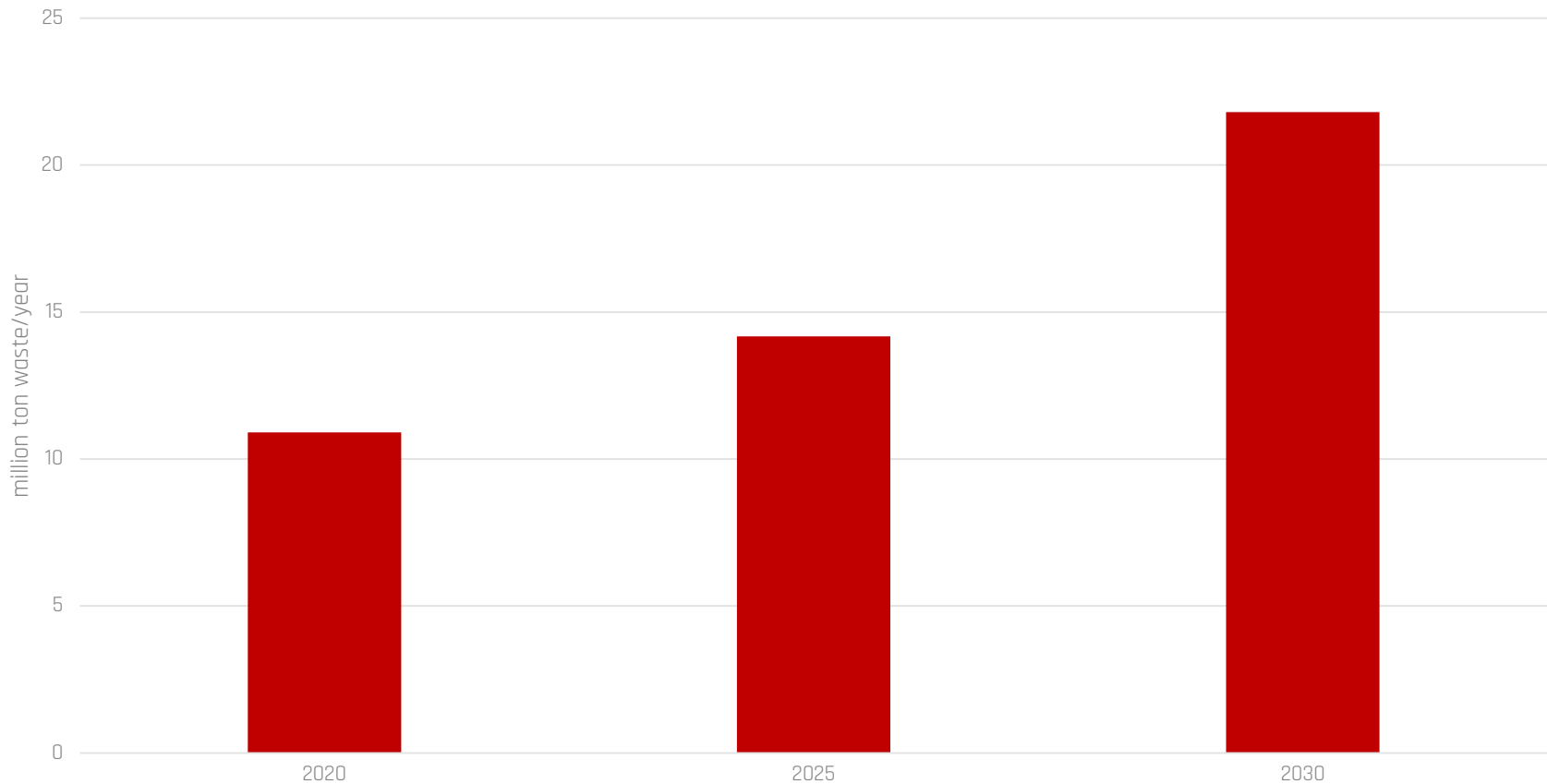
Source: Thames Water, <https://corporate.thameswater.co.uk/about-us/our-business/our-supply-area>

Potential in wastewater treatment facilities

3%

Waste incineration facility heat recovery potential

UK Waste Incineration Capacity



Recovery potential: 3 MWh per ton of waste

Waste incineration facility heat recovery potential

9%

Total investigated heat recovery potential

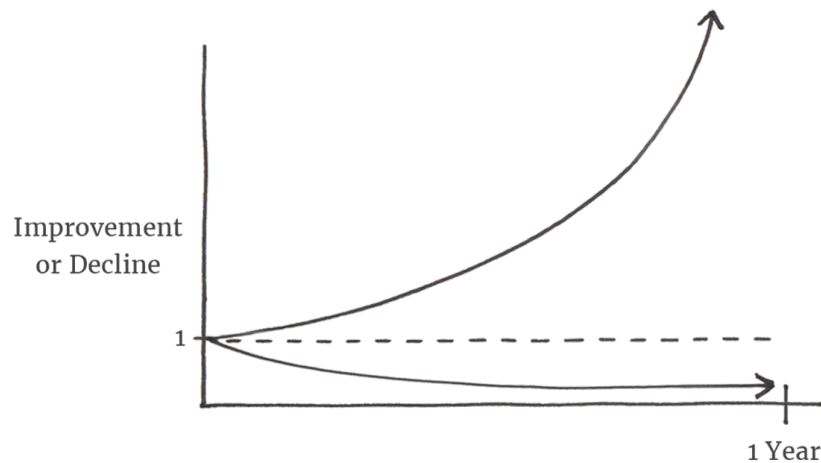
14%

Potential impact on total UK emissions

3%

The power of incremental gains

1% better every day $1.01^{365} = 37.78$
1% worse every day $0.99^{365} = 0.03$



Source: James Clear, <https://jamesclear.com/marginal-gains>

Thank you for listening!

How do **you** think the UK can enable more waste heat to be incorporated into district heating networks?

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