

The eHeat opportunity – €1 Billion Economic Benefit for Ireland

The decarbonisation of energy use, especially heat, remains a significant challenge for companies. Electrification is a sustainable, efficient and economic, means of generating heat, which has proven to be an particularly effective means of decarbonising industrial heat throughout Europe. Electric heat (eHeat) is also a flexible demand that can be controlled to respond to variation in renewable electricity supply.

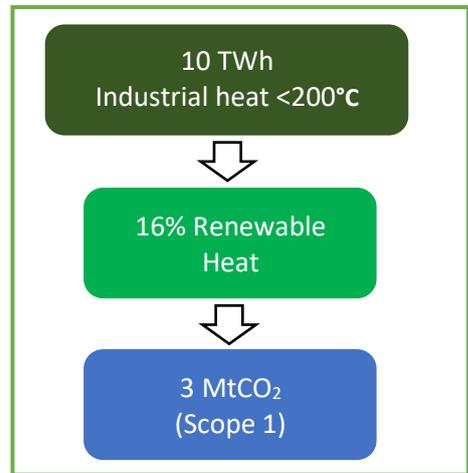
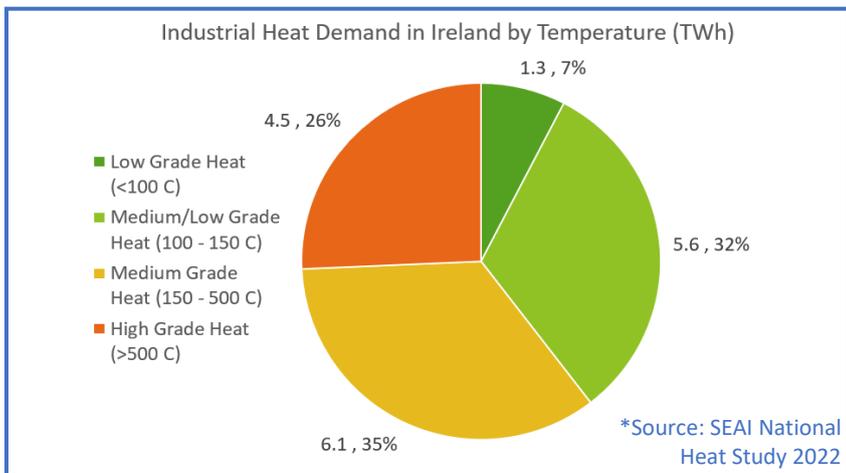
eHeat is the most realistic, practical means of decarbonising heat and will deliver significant benefits to Irish business and the wider economy.



Unlocking the eHeat opportunity

Ireland's Total Heat Demand*	Ireland's Industrial Heat Demand		
45 TWh	Industry*	% of Total	CO ₂
	17.5 TWh	~40%	~5 Mt

Electrification Potential
Heat demand <200°C = ~10 TWh
(HRE found 57% of Ireland's heat demand <200°C: www.heatroadmap.eu)



Electrification of 10 TWh (heat) displaces >13 TWh fossil

Could Increase RES-H Up to 16%

~€1 Billion Savings

Carbon saving = 3 MtCO₂
Avoided cost ~€300M/yr
*based on a cost of carbon of €100/ton.

~€470M per annum reduction in fossil fuel imports

Increased security of supply

*Based on fossil fuel price of €35/MWh

80% Utilisation of 3 TWh surplus renewable electricity delivers an economic benefit of **~€200M/yr** to wind

Greater utilisation of the electricity network could generate **~€50M/yr** additional revenue based on UoS approx. €15/MWh

Results in ~€500 Million of Savings for Irish Business

Cost to Generate Heat 10 TWh with Fossil Fuel ~€850M/yr	Cost to Generate Heat 10 TWh with eHeat ~€300M/yr	CAPEX for Heat Pumps ~€50M/yr	Net Economic Benefit to Irish Business ~€500M

Based on fossil fuel price of €35/MWh and 25% delivery charge, carbon price of €100/t, electricity price of €80/MWh, UoS of €15/MWh and heat pump CAPEX of €1000/kW_{th}.

Additional national benefits

eHeat utilises indigenous renewable resources to create est. **10,000 jobs**.

Less emissions improves air quality, health and well-being and has an economic advantage for Ireland