Turning Waste Heat into a Data Center Asset

White Paper for Data Center Operators, Policymakers, and Investors

Executive Summary

Waste heat reuse (WHR) is transforming from a sustainability experiment into a viable infrastructure asset class. Cities in Europe are integrating data center heat as a dispatchable, low-carbon baseload. Successful projects by Microsoft, Equinix, and Meta show measurable carbon savings and community benefits. This paper explores the technical, policy, and financial framework for making waste heat recovery an investable opportunity by 2030.

Simple Pro-Forma Model

Input Parameter	Description	Example Value
COP (Coefficient of Performance)	Heat pump efficiency factor	3.5
Tariff (€/MWh)	Heat sale price to district utility	20 €
Capex Split	Data Center vs Utility cost share	50/50
Availability (%)	Operational uptime for heat export	85%
Recovered Heat (MWth)	Average thermal energy recovered	20 MWth
Annual Export (GWh)	Seasonal average export	150 GWh
Net Annual Revenue	After energy & O&M	≈ €3.1M/year

Key Takeaways

- Waste heat reuse aligns sustainability goals with tangible financial value. - Projects can yield 10–20 TWh of recoverable heat across Europe by 2030. - Early partnerships with district heating utilities accelerate ROI and permitting. - Operators should design liquid-ready facilities to maximize recoverable temperature. - Policymakers can unlock value via tariff reform and streamlined interconnection rules.