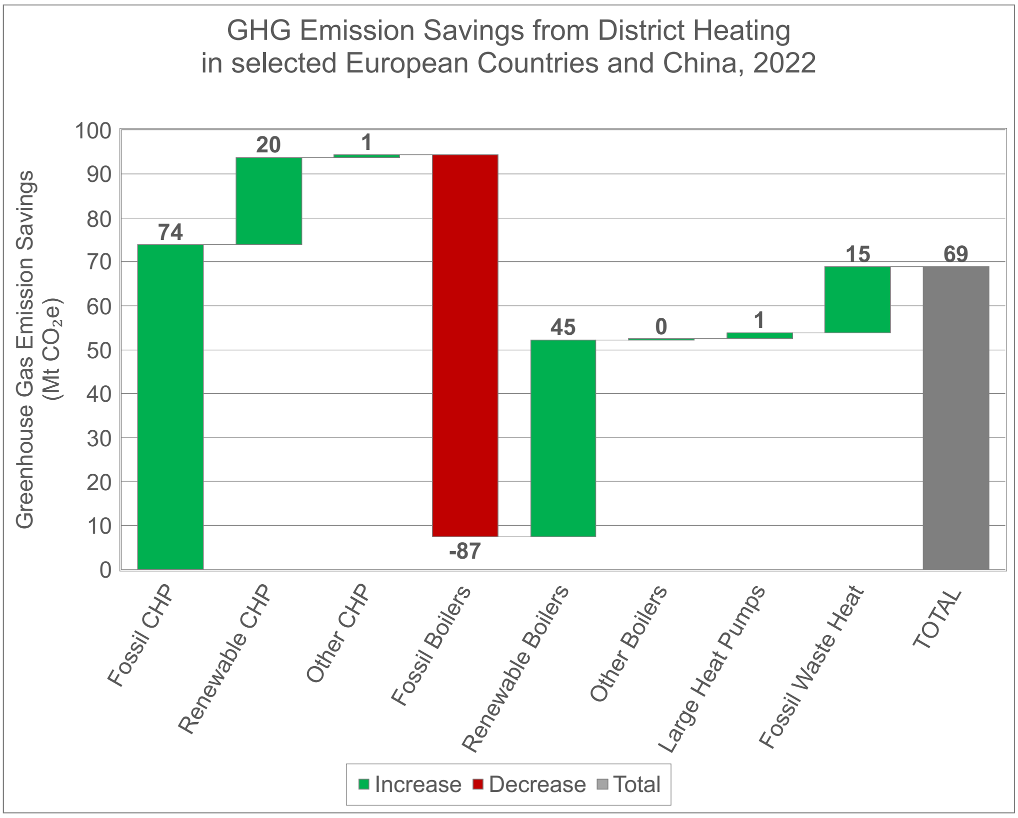
District Heating: The Proven Path to Fast, Efficient Decarbonization

District heating already delivers large-scale, proven emissions cuts and efficiency gains.



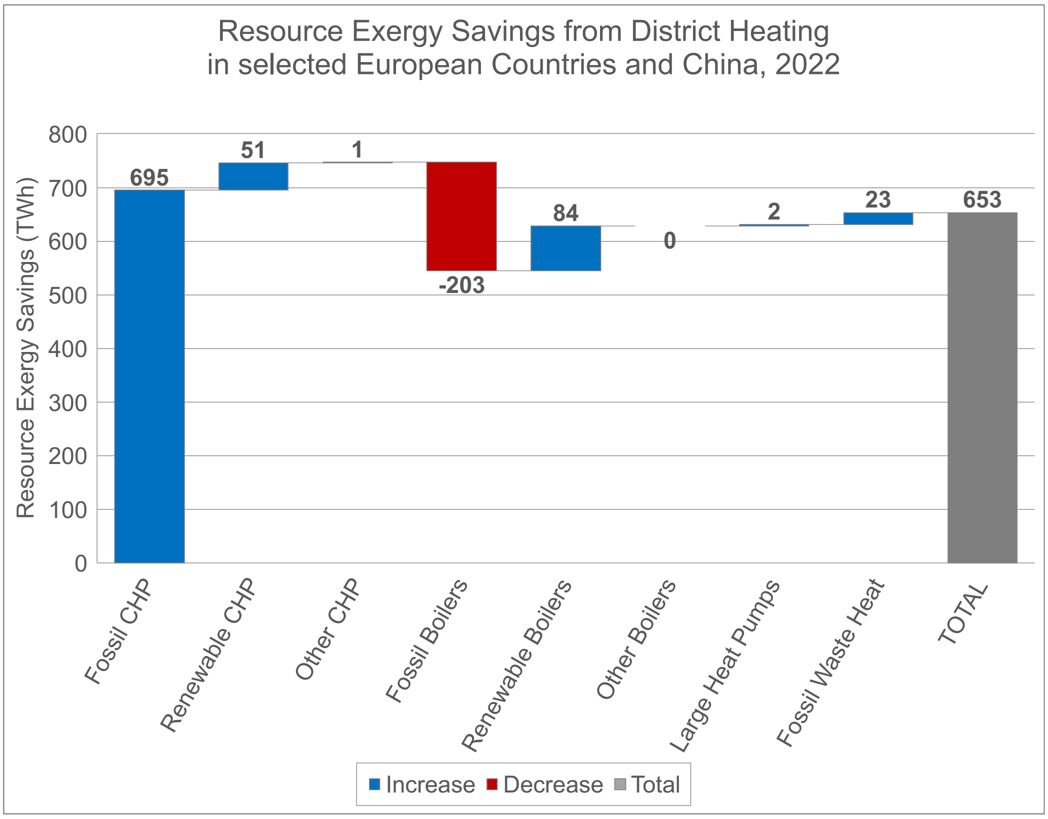
- **69 million tonnes CO_2 equivalents cut in 2022** — equal to removing 27 million cars from the road.
- **653 TWh of resource exergy preserved** — comparable to avoiding the operation of 52 large natural gas power plants or 73 000 modern on shore wind power generators.
- **CHP was the backbone in 2022:** cogeneration maximized fuel efficiency compared with separate generation.

High-Impact Transition Pathways

- **Replace fossil boilers** first for fastest emissions cuts.
- **Maintain efficient fossil CHP** during clean-grid transition.
- **Boost renewable and waste-heat** supply with stable incentives and network expansion.

Resource Exergy — A Next-Level Metric Enabling True Efficiency

It captures both quantity and quality — the real useful work energy can deliver.



Priority Actions for Decision Makers

- **Phase out fossil boilers**—replace with cost-stable district heating from CHP, renewables, and waste-heat sources.
- **Maintain fossil CHP** until low-carbon capacity and cleaner grids are ready.
- **Accelerate geothermal, solar-thermal, and large heat-pump deployment** in district heating networks.
- **Adopt resource exergy metrics** in national and EU frameworks to connect climate, security, and productivity targets.

Modern district heating, guided by resource exergy metrics, forms a cornerstone of rapid, resilient decarbonization. For detailed country-level results, data and methods, consult the full report on "Savings from District Heating in Europe and China, 2022".