



Energy efficiency to power Sustainable cities

– Alfa Laval

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Aurubis sulphuric acid plant heats the city of Hamburg



Aurubis sulphuric acid plant heats the city of Hamburg

– Aurubis Group, Hamburg, Germany



Energy savings
160,000 MWh
in first phase




Emission savings
100,000 tonnes/year



Heating of homes
20,000

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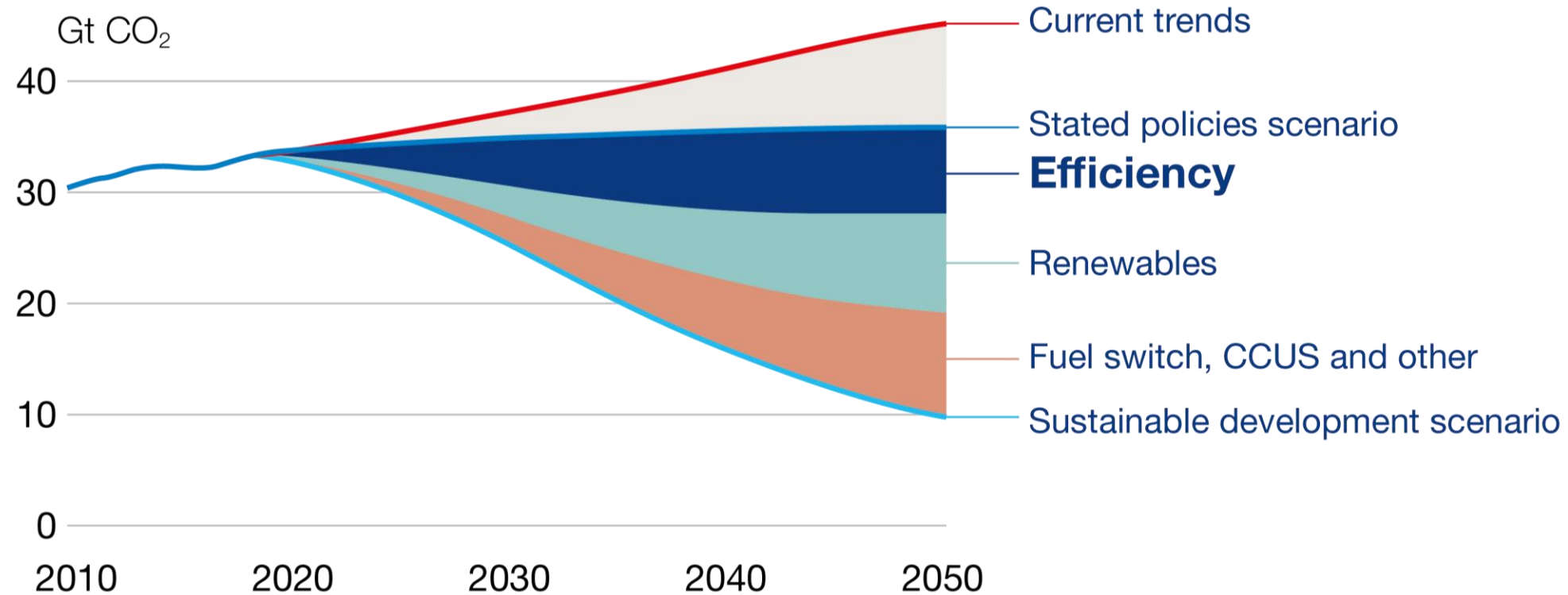
A photograph of an offshore wind farm at sunset. The sky is a vibrant mix of orange, yellow, and purple, with the sun low on the horizon. The water is dark blue with some ripples. Numerous wind turbines are visible, their silhouettes standing against the colorful sky. A large blue rounded rectangle is overlaid on the top right corner, containing white text.

What is more sustainable
than the energy not used in
the first place?

Energy efficiency



- Energy efficiency is one of the main contributors to reaching the targets of the Paris Agreement



Waste heat – world's largest untapped energy source



Up to 50% of industrial energy input is **lost as heat** in the form of hot exhaust gases, cooling water, and heat lost from hot equipment surfaces and heated products.

U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy

Energy efficiency to power Sustainable Cities



3%

The world's cities
occupy Earth's land

60-80%

The world's cities
account for **energy
consumption**

70%

The world's cities
account for **carbon
emissions**

Heating and cooling's role in the decarbonization

– Around 50% of global final energy consumption is driven by heating and cooling

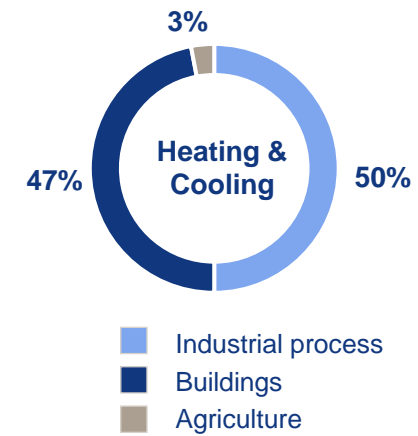


Renewable heat report, IEA, 2020

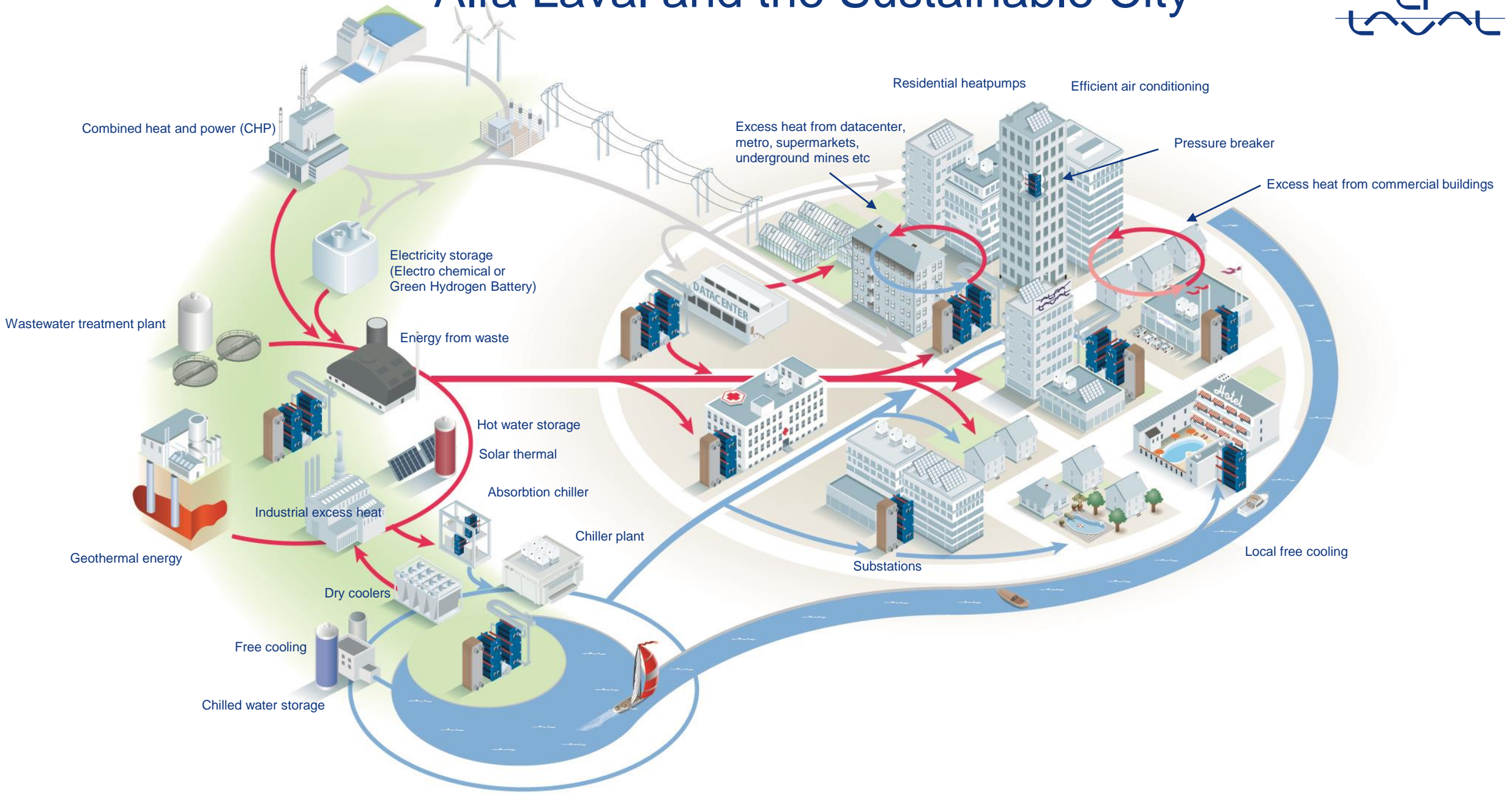
50% of EU's final energy consumption is going to the Heating and Cooling (H&C) sector, and this sector is mainly relying on fossil fuels

District heating and cooling in European Union 2022

45% of the energy-related CO₂ emission 2022



Alfa Laval and the Sustainable City



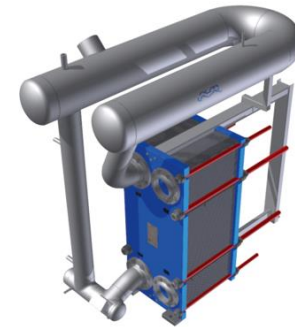
Alfa Laval's Sustainable City offering



Gasketed plate-and-frame heat exchangers



Semi-welded plate heat exchangers



Heat exchangers for industrial heat pumps using natural refrigerants



Brazed plate heat exchangers



Fusion-bonded plate heat exchangers



ALF filters

A close-up photograph of industrial machinery, likely a heat exchanger or turbine component, with a strong blue color cast. The image shows various metal parts, including a large cylindrical component with a ribbed surface and a smaller, more complex part with a grid-like structure. The lighting is dramatic, highlighting the textures and metallic surfaces.

Energy Hunter by Alfa Laval

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