

Press release

Corporate Communications
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Three cost-efficient ways to deliver on the Paris Agreement

Businesses are ready with cost-efficient solutions to help governments and cities take the next steps in implementing the Paris Agreement. At the COP 23 conference in Bonn, it is time to push for action and turn commitments into impact.

If we use energy more efficiently, it can [deliver 40% of the emissions reduction needed](#) to keep the planet within the 2 degrees scenario of global warming. And [35% can be added](#) to this if we at the same time integrate renewables into the energy systems. Three cost-efficient ways to make it happen are cutting energy use in buildings, controlling electric motors, and connecting the elements in smart energy systems with district heating and cooling.

It is mainly in the cities this must be achieved, and the battle for sustainable development must be won. Cities account for [60-80% of global energy consumption and 75% of carbon emissions](#), and with the massive growth in new urban dwellers, the pressure on climate will further grow.

“Cities are key to create the green transition, where we leverage energy efficiency and integrate more and more renewable energy sources. It is about doing it smart and efficiently when expanding and improving the cities. Good initiatives are already taking place, and solutions that benefit both the climate and economy are ready to use. Now we need to speed up their adoption,” says Kim Fausing, Danfoss President and CEO, and adds:

“To succeed with the implementation of the Paris Agreement, we must start coupling buildings, industry and the energy systems to drive higher efficiency and integration of renewables. This requires strong collaboration on a global, national and regional level and between cities, politicians and companies to pave the way for the best solutions and overcome barriers such as funding, policy incentives, knowledge sharing, and education.”

At COP23, Danfoss will participate in the [World Climate Summit](#). The summit is one of the most important international platforms for business-driven solutions to climate change. Anton Koller, Divisional President for District Energy, will represent Danfoss. On Tuesday, November 14, he will give a keynote speech on how district heating infrastructures can contribute vastly to CO₂ emissions reductions. The same day, the [World Alliance for Efficient Solutions](#), which has Danfoss as one of its founding members, will also launch a new 1,000 solutions’ initiative.

Below, the three cost-efficient ways to deliver on the Paris Agreement:

Cut energy use in buildings

Currently, buildings [account for nearly 40% of global energy use](#) and offer the largest cost-effective opportunity for savings. According to projections, an area equal to [roughly 60 percent of the world’s current total building stock will be built or rebuilt](#) in urban areas by 2030. Technologies like advanced compressors, variable speed drives, control valves and radiator thermostats can cut up to 40% of the energy used in the cooling and heating systems – with a short payback time of typically below 3 years. In

New York, where 70% of the city's greenhouse gas emissions result from the energy consumed by buildings, they have set ambitious reduction targets supported by laws and policy tools to activate a shift. In the Empire State Building, Danfoss has contributed with 6,500 radiator thermostats to cut energy consumption and increase comfort.

Control electric motor systems

The potential for cost-efficient savings is also huge when taking a broader look at electric motor systems. They consume [more than 50% of all electricity worldwide](#) in end-user applications and industrial processes. Most electric motors are not equipped with variable speed drives today, meaning that they work full speed, regardless of need. By deploying variable speed drives and other system-wide efficiency measures, [energy consumption in industrial motor systems can be reduced by up to 40%, and global electricity consumption by 8%](#). Payback time is typically 2-4 years. In the Danish city Aarhus, they have done this in their water and wastewater supply, and combined with biogas production from wastewater treatment, the city is creating an [energy-neutral water cycle](#) for its citizens – the first of its kind in the world.

Connect it all in a smart way

Even more can be obtained when thinking buildings, industry and the energy systems together. District heating and cooling systems can connect it all in a smart way, and a broad application, combined with energy efficiency measures, could [contribute with as much as 58% of the CO₂ emission reductions](#) required in the energy sector by 2050. District energy infrastructures can utilize surplus heat, free cooling sources and renewable energy to heat and cool buildings. It can use e.g. surplus heat from power plants, industrial processes, data centers, supermarkets and wastewater plants. Surplus heat that would otherwise just vanish into the air. Recovering all of Europe's surplus heat could [cover the heating demand of the entire building stock](#). And a similar potential exists across the world. In the [Chinese city Benxi](#), a district heating solution, which uses surplus heat from the local steel works, reduces the annual coal use in Benxi by 198,000 tons and provides clean air for the population.

Photo credit:

Empire State Building – Credit to Empire State Building

Chinese city Benxi - Credit to Danfoss

Wastewater treatment plant, Aarhus – Credit to Danfoss

For more information:

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