NEWS RELEASE

Johnson Controls Delivers Decarbonization at Vattenfall Berlin Power Plant

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- *Johnson Controls` heat pump commissioned at Berlin-Buch Combined Heat and Power (CHP) plant will support Vattenfall in decarbonization journey*
- *Installation will cut an estimated 620 tonnes of CO2 annually from district energy production*
- *Johnson Controls industrial refrigeration green technology will support Germany's 'Energiewende' and bolster energy security*

CORK, Ireland, April 21, 2022 /PRNewswire/ -- Johnson Controls (NYSE: JCI), the global leader for smart, healthy and sustainable buildings, today announces it has commissioned a new heat pump installation that will support European energy company Vattenfall in its goal to eliminate carbon emissions from its heating and power generation facilities by 2050. Heat pumps are seen as a crucial technology in the European Union's plans for a sustainable, low-carbon economy as set out in its Green Deal; and with energy prices at an all-time high, their ability to deliver heating and cooling without the need for more natural gas is now absolutely critical. Moreover, heat pumps are a core technology enabling Europe to meet its essential REPowerEU plan, including the aim of installing 50 million units across the bloc by 2030.

Johnson Controls green technology will support Germany's 'Energiewende' and bolster energy security

Johnson Controls Industrial Refrigeration business deployed its proven Sabroe heat pump technology with a 700 kW heating capacity at Vattenfall Europe Wärme AG's Berlin-Buch, combined heat and power (CHP), plant in Berlin, Germany. The CHP plant currently uses a heat recovery boiler to capture waste heat from an existing gas turbine to generate heat for the local district heating network. The addition of the heat pump will boost the plant's district heating capacity without burning any additional fossil fuel, thus contributing to energy security and avoiding the production of about 620 tonnes/year of carbon dioxide emissions.

In Berlin, Vattenfall operates the largest urban heating network in Western Europe with around 1.3 million connected residential units. A total of 2,000 kilometres of pipelines supplies the connected properties with 80 to 135°C hot water which provides heating and hot water to connected residences. The Buch island network in the north of Berlin supplies a total of around 10,000 apartments and 500 individual facilities such as schools or clinics with climate-friendly heat.

"This project puts the power of heat pumps to work to meet energy needs while cutting waste, emissions and costs. Importantly heat pumps deliver required heating without the need for additional gas supplies," said Dave Dorney, vice president & general manager industrial refrigeration at Johnson Controls. "We are proud to be part of the energy transition here in Germany and this project gives us the opportunity to put our large heat pumps to work and provide energy, environmental and security solutions."

Germany is in the midst of an energy transition, named *Energiewende*, that will see an increase in renewables and the reduction of fossil fuels as it aims to achieve carbon neutrality by 2050. The government has said coal fired power generation will be phased out by 2038. Vattenfall's own CO2 roadmap will see it completely phase out coal in its heat portfolio by 2030 in support of national targets.

"The new heat pump installation at Berlin-Buch is part of our goal to enable fossil-free living in one generation, while still delivering on our customers' expectations for the supply of affordable electricity and heat in the city of Berlin. We are proud to be part of the pioneering effort to roll-out heat pumps across Germany's energy sector," says Andreas Heuer, Asset-Manager dezentrale Anlagen, Vattenfall.

Following commissioning, the plant is now meeting its performance guarantees.

Johnson Controls is cutting edge when it comes to the technology needed to decarbonize buildings. The company is helping meet the growing demand for energy efficient technologies and has innovative building management solutions such as VAV HVAC systems, together with its most advanced energy efficient heat pumps. Johnson Controls portfolio of services and solutions, powered by OpenBlue, can also drive significant improvement in energy efficiency and corresponding carbon emissions

"Cutting carbon emissions from the use of fossil fuels in heating/cooling, whether for district heating, industrial processes, or in buildings, has to be a top priority if we want to achieve a net-zero economy in the fight against climate change," said Katie McGinty, vice president & chief sustainability and external relations officer at Johnson Controls. "Heat pumps are vital since they cut natural gas needs and bolster energy security even as they enable us to take on the almost 40% of global CO2 emissions that come from buildings. Natural gas is the primary source of energy for building heating, so we are eagerly ramping up our production of heat pumps and other solutions to meet the challenge of improved building efficiency and a net zero and secure energy future".

Both Vattenfall and Johnson Controls are founding members of the First Movers Coalition. The coalition was launched at COP26 in Glasgow by the U.S. State Department and the World Economic Forum. Members of the coalition are committed to increasing the share of emerging technologies critical to the net-zero transition. As a leader in the buildings space for more than 135 years, Johnson Controls has been a pioneer in sustainability. Among the earliest industrial companies to report emissions and pledge emission reductions, the company has made tremendous progress – reducing carbon emissions and energy intensity by more than 70 percent since 2002. The company was recently named again to the World's Most Ethical Companies® Honoree List and one of Corporate Knights' global 100 most Sustainable Companies — number one in its industry sector.

To read more about Johnson Controls commitment to sustainability, please visit: https://www.johnsoncontrols.com/corporate-sustainability/environment

About Johnson Controls:

At Johnson Controls (NYSE:JCI), we transform the environments where people live, work, learn and play.

As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet.

With a history of more than 135 years of innovation, Johnson Controls delivers the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through its comprehensive digital offering, OpenBlue. With a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world`s largest portfolio of building technology, software as well as service solutions with some of the most trusted names in the industry. For more information, visit www.johnsoncontrols.com or follow us @johnsoncontrols on Twitter.

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