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Power plants' digital makeover set to reduce operating costs by 27% and contribute to a 5% reduction in global carbon emissions from power generation by 2025

New report from Capgemini's Digital Transformation Institute finds that increased digital investments by power plant owners will create significant generation efficiency gains, driving down both operating costs and CO2 emissions

Paris, September 19 2017 – Capgemini, a global leader in consulting, technology and outsourcing services, has today announced the findings of "The Digital Utility Plant: Unlocking value from the digitization of production", a study of 200 executives at Director or higher level in global utility firms. The research reveals utility companies are investing in significant digital enhancements to coal and gas-fired energy generation to increase production efficiency and reduce their generation costs. Over the past five years, firms have invested an average of $330 million in digitizing their power plants. Continued investments will see one in five power plants (19%) becoming 'digital plants' by 2025, operating with approximately 27% lower costs and, together, contributing to a 4.7 per cent reduction in global carbon emissions from power generation.

Reducing energy generation costs

The report, which surveyed utility leaders across China, France, Germany, India, Italy, Sweden, UK and US found the increased production efficiency achieved from digitization will enable utilities to bring down energy generation costs. The report found that power plants with digital technology will see 27 per cent lower production costs, with individual plants saving $21 million each year on average. As the price of renewable energy continues to reduce, these savings will enable organizations with gas and coal-fired plants to remain competitive.

With global electricity demand increasing year-on-year and ambitious global carbon reduction targets to meet, these digital investments will ensure that traditional power plants can continue to contribute to an energy ecosystem increasingly shifting towards renewable energy sources.

More environmentally friendly power production

The research also provides an optimistic outlook on the environmental benefits of digitizing power plants. Utilities expect that digital investments will enable them to increase the energy produced from fossil fuels with a resultant decrease in carbon emissions. By 2025, *digitized* plants will annually produce 625 million metric tons less carbon emissions equivalent to a 4.7 per cent reduction in global emissions from power plants, 28.6 billion more trees or 133 million less passenger vehicles on the planet.

Greater gains possible from digital

Despite the huge potential gains from deploying digital plants only 8 per cent of utility organizations are currently digitally mature and just 19 per cent of power plants are expected to be digital within five years. If more utilities were to prioritize digital investments then the benefits to the industry and climate could be much greater. However, the report highlights the need to acquire the digital maturity required to plan and manage digital power plant projects. A 'digital beginner' organization typically achieves 33 per cent less in productivity gains than a 'digitally mature organization' from digitizing.

Perry Stoneman, Global Head of the Energy & Utilities sector at Capgemini said, *"It's clear that digital is already transforming power generation, enabling utilities to remain competitive and significantly reducing global carbon emissions. However, the industry can go further. With many utilities yet to digitize power plants, it is possible to reduce carbon emissions even more, if these utilities invest in digital skills and technologies. Firms which choose to embrace the digital future of power production now will gain a greater competitive advantage, lower production costs and boost their brand reputation."*

A copy of the report can be downloaded here.

"The Digital Utility Plant: Unlocking value from the digitization of production" Methodology

This research by Capgemini's Digital Transformation Institute provides insights into the impact investment in digital plants by utility providers. It covers the views of 200 executives at the director or more senior level, in utility companies with reported revenue of more than $1 billion for FY15. The survey took place from February to March 2017, and covered eight countries - China, France, Germany, India, Italy, Sweden, UK and US.

About the Digital Transformation Institute

The Digital Transformation Institute is Capgemini's in-house think-tank on all things digital. The Institute publishes research on the impact of digital technologies on large traditional businesses. The team draws on the worldwide network of Capgemini experts and works closely with academic and technology partners. The Institute has dedicated research centers in India, the United Kingdom and the United States.

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