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Press Release

Forged Technologies

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Lower consumption, higher efficiency, new waste management: Berco to reduce the environmental impact at its Copparo plant

- A new modular heating system to achieve a 13% decrease in gas consumption for the first year alone, reducing CO₂ emissions by 2,500 tons
- Various activities are expected to lead to an annual reduction of about three million kW/h of electricity upon completion
- All measures are part of a three-year lean manufacturing roadmap

Berco, a global leader in the production and supply of undercarriages and components for the world's leading manufacturers of heavy machinery and for the Aftermarket, is aiming to reduce the environmental impact of its production. This has resulted in the initiation of an optimization of its Copparo plant, to meet the environmentally sustainable standards of the coming years.

The implementation of this renovation will be carried out over a three-year roadmap to reduce CO₂ emissions by 2,500 tons per year as well as the annual consumption of gas by 13%. Various activities in the field of energy efficiency are estimated to lead to an annual reduction of about three million kW/h of electricity when the project is completed.

Respective investments have already been implemented or will be planned along the course of the roadmap. "This project", comments Andrea Marigo, Head of Integrated Management System Industry Europe at Berco, "started with an in-depth analysis of the consumption of electricity, water and gas. It is closely connected to our lean manufacturing path which was started three years ago at the Copparo plant and focused on production efficiency, eliminating waste and bringing value to the market."

Equipment with a better energy efficiency and a new modular heating system

The first step concentrated on reducing **the energy consumption of all the machinery** present in the Copparo production lines. To this end, the real use of each machine was analyzed in terms of relative performance. The obsolete, very energy-intensive ones were thus dismantled and, when necessary, replaced with new equipment that have a lower impact on consumption.

A new modular heating system will be activated in the coming winter months. **A 13% reduction in gas consumption** for the first year of operation is estimated, with a consequent reduction of as much as 2,500 tons of CO₂ emitted into the atmosphere. To reduce **the consumption of natural gas** both for production use and for heating (heating uses both gas and electricity) of the entire Copparo complex, Berco opted to replace the only 20 MW thermal power plant with a series of modern and delocalized thermal energy sources.



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Decentralization of compressed air and electric power to bring energy savings

The production and distribution of compressed air, widely used in various production phases within Copparo, has always represented a particularly energy-intensive process in terms of kW/h. Also in this case, the watchword is decentralization: the massive system with centralized compressors is being replaced by compressors located in the various production areas. Annual savings **of around 2.5%** compared to the average consumption of the last three years are estimated.

Furthermore, the decentralized distribution of electrical power will guarantee a better use of energy, with the new system catering to the specific needs of each individual department. The possible use of photovoltaic panels is equally under evaluation. The various activities relating to the production and distribution of compressed air, the modification of the cooling circuits as well as the reorganization of the electrical distribution, are estimated to lead to an annual reduction of about three million kW/h of electricity when the project is completed.

Lower amount of water required and non-separate waste

The current **water consumption** of the Copparo plant is about 300,000 m³ per year. Taken directly from the Po River, this water is mainly intended for the cooling circuits of the plants. Currently, the cooling circuits are closed and built with evaporative towers, which cool the water by exchanging heat with the surrounding air, before putting it back into circulation.

These circuits, however, will be the subject of future analyses and some studies are already at an advanced stage to evaluate important actions to realize decentralized plants in the near future. This would not only be less energy-intensive, but it would also potentially result in the reduction of the dispersion of water through evaporation - therefore less water would be required to be integrated into the system - thanks to new tower configurations.

In addition to lowering its energy consumption, Berco has also in recent years focused on ensuring the greatest possible recovery of steel. This goal has been achieved thanks to a careful management of the production process, that distinguishes and separates production waste in the best possible way, avoiding the transfer of non-separated waste.

These are the first strong structural changes that Berco already has in store for the next three years and are in line with the important objectives that the Group has set to reduce its carbon footprint. "In addition to these implementations", concludes Marigo, "the completion of the lean transformation of Copparo production, with the consequent strong reduction in the handling of goods within the plant, as well as waste in the treatment of materials, will bring further environmental benefits."

About Berco:

Berco is a global leading manufacturer and supplier of undercarriages for heavy machinery. With over 100 years of experience, the Italian company creates tailor-made undercarriage solutions for all types of machinery that range in weight from 1 to 330 tons. A market leader in components for Compact Track Loaders (CTL) and a main player in the mining sector, the industries the company supplies include construction, forestry and agriculture. One in every five chain-driven construction vehicles relies on Berco systems. The company's commitment to innovation is demonstrated by its continual investment in R&D as well as by its supplying of best-performing, long-life solutions to leading OE manufacturers.

For the Aftermarket, the company provides drive sprockets, idlers, rollers, track chains, track shoes and undercarriage systems. Its ranges are available in three product lines: Platinum, Original and



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Service. Berco's main factory is located in Copparo, Italy and the company has four other facilities in Italy, Brazil and the US, with an overall workforce of around 1,800 employees. Berco has been part of the thyssenkrupp multinational group since 1999, and in 2018 joined the Forged Technologies business unit – the world's largest forging company.

About thyssenkrupp Forged Technologies

thyssenkrupp Forged Technologies is a diversified supplier of components and system solutions for a wide range of different industries and markets. The forging group has a unique global footprint by operating more than 50 forging presses in 18 locations worldwide, including in Germany, Italy, Bulgaria, the USA, Mexico, Brazil, India and China. With sales of over 1 billion euro, the company specializes in the production of components and systems for the automotive, truck and construction machinery industries.

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