

voestalpine greentec steel: groundbreaking ceremony in Donawitz for Austria's largest climate protection program

greentec steel is the voestalpine Group's ambitious and feasible phased plan for green steel production. In a first step, one electric arc furnace will be constructed at each of the Linz and Donawitz sites. Converting to this technology allows the steel and technology Group to reduce its emissions by around 30%, representing annual savings of almost 4 million tons of CO₂. The investment volume is around EUR 1.5 billion. This traditional groundbreaking ceremony marks the start of construction at the Donawitz site, and this major investment will bring significant economic benefits to the region.

Construction of the electric arc furnace (EAF) in Donawitz starts in 2024, with the EAF scheduled for commissioning three years later. Once fully operational, the EAF will produce around 850,000 tons of CO₂-reduced steel annually. In contrast to the former LD (Linz-Donawitz) process, which uses coal and coke as a reducing agent, the EAF can be operated without the use of fossil fuels. The EAF uses scrap, liquid pig iron, and HBI (hot briquetted iron), with the mix adjusted according to the specific quality requirements. "Today, we launch the next generation of steel production. The partial conversion to electric arc technology at our two sites in Linz and Donawitz alone allows us to reduce local CO₂ emissions by around 5% from 2027. That makes greentec steel Austria's largest climate protection program," says Herbert Eibensteiner, CEO of voestalpine AG.

Construction forging ahead

At the site in Donawitz the necessary construction areas are already being cleared, by demolishing facilities including the old continuous casting plant and the disused rail track. This is where the future EAF and new scrap hall will stand. The APG (Austrian Power Grid) and local provider Energie Steiermark are also at work installing the power supply infrastructure. The dimensions of the greentec steel project in Donawitz are immense: the two construction areas are roughly equal in size to 10 football pitches (75,000 m²). Around 100,000 m³ of earth needs to be moved. Implementation requires a structured program consisting of 11 independent implementation projects, involving a project team of around 75 internal and external experts.

The plant engineering tender was issued in summer 2023: Italian plant engineers Danieli & C. Officine Meccaniche S.p.A. will be responsible for the engineering, production, and commissioning of the EAFs, using DIGIMELTER Technology. "By awarding the contract and ordering the delivery of the main equipment, we have laid the technological foundations for tomorrow's steel production. Working together with Danieli, we will now start the technical planning for this demanding project," says Franz Kainersdorfer, Member of the Management Board of voestalpine AG, and Head of the Metal Engineering Division, which is based in Donawitz.

Green electricity for the EAF

A key prerequisite for the conversion to electric arc technology is sufficient availability of green electricity at competitive prices. As well as signing delivery contracts with local energy providers to secure power

supplies, voestalpine is installing photovoltaic systems to expand the Group's own renewable energy generation capacities. In addition, wind turbines, hydraulic power generators, and further photovoltaic installations will be developed together with regional partners.

Significant economic impact in Styria and Austria as a whole

Construction of the two electric arc furnaces, one in Donawitz and one in Linz, will have a significant economic impact, as an Industrial Science Institute (IWI) study from September 2023 shows. The investments at both sites will generate value in Austria to the tune of EUR 767 million during the construction phase alone. This includes all the products and services linked directly and indirectly to, and triggered by, the investment. In addition, around 9,000 jobs will be secured in Austria during the construction period.

The investment of around EUR 450 million at the site in Donawitz creates Austria-wide added value of EUR 237 million, of which up to EUR 158 million will be generated in Styria. The investment in Donawitz will secure around 2,800 jobs in Austria during the construction phase, 1,700 of them in Styria.

Metal Engineering Division

With its Railway Systems business unit, the Metal Engineering Division of the voestalpine Group is the global market leader for railway infrastructure systems and signaling technology. With its Industrial Systems business unit, the division is also the European market leader for quality wire and global provider of full welding solutions. And it supplies seamless tubes all over the world from the Kindberg location in Austria. Customers come from the railway infrastructure industry, the oil and gas industry, the mechanical engineering, automotive, and construction industries, as well as the renewable energy sector. As part of the greentec steel program, the Metal Engineering Division is already intensively working on and researching various innovative, climate-friendly technologies and production processes. In the business year 2022/23 the division generated about EUR 4.3 billion in revenue with its Railway Systems and Industrial Systems business units; over 40% of this revenue was generated outside Europe. The division recorded an operating profit (EBITDA) of EUR 586 million and employed around 14,000 people worldwide.

The voestalpine Group

voestalpine is a globally leading steel and technology group with a unique combination of materials and processing expertise. voestalpine, which operates globally, has around 500 Group companies and locations in more than 50 countries on all five continents. It has been listed on the Vienna Stock Exchange since 1995. With its premium products and system solutions, voestalpine is a leading partner to the automotive and consumer goods industries, as well as to the aerospace and oil & natural gas industries. The company is also the global market leader in railway systems, tool steel, and special sections. voestalpine is committed to the global climate goals and has a clear plan for decarbonizing steel production with its greentec steel program. In the business year 2022/23, the Group generated revenue of EUR 18.2 billion, with an operating result (EBITDA) of EUR 2.5 billion; it has around 51,200 employees worldwide.

voestalpine AG

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