

GlobalFoundries Dresden: Europe's Premiere Semiconductor Manufacturer Modernizes its Energy Supply

- **Innovative energy supply reaches efficiency of over 90 percent and allows for more sustainable production**
- **Significant reduction of greenhouse gas emissions as part of GF's global "Journey to Zero Carbon" initiative**

Dresden, December 16, 2021. GlobalFoundries® (GF®) is modernizing its energy supply to reduce costs and environmental impact while improving operational resiliency at its Fab 1 facility in Dresden, Germany, in the heart of Europe's leading microelectronics cluster. The multi-year project represents an important contribution to the company's overall sustainability and efficiency efforts. Upon completion of the project, the Energy Supply Center (EVC) will require 30 percent less natural gas than current operations, reducing greenhouse gas emissions by about 25 percent. Over the course of a year, the EVC is expected to achieve an average overall efficiency of over 90 percent, or up to 15 percent more than the most modern grid power plants achieve today.

GF is partnering with the largest municipal utility in eastern Germany, SachsenEnergie AG, which is headquartered in Dresden. As a regional performance leader in the energy sector, the company is contributing its expertise in the field of energy supply technology in the form of planning, conversion and operational management of the EVC. Planning and permitting reviews have started, with the project expected to be completed in 2027.

Most modern energy supply center in Europe

The modernization of the existing energy supply system will run in parallel with ongoing manufacturing operations. Once completed, the EVC will be one of the most modern of its kind in Europe. Together with SachsenEnergie, GF has opted for a combined heat, power and cooling-plant with natural gas as the primary energy source. The new EVC will enable the use of alternative energy sources such as hydrogen. GF's Dresden site is planned to be completely energy self-sufficient and independent of the public grid by year end 2027.

Contributing to our Journey to Zero Carbon initiative

"As we expand the capacity of Fab 1, the modernization of our energy supply is one of the most important projects for GF Dresden," says Dr. Manfred Horstmann, Vice President and General Manager GlobalFoundries Dresden. "This project makes a substantial contribution to our company-

wide Journey to Zero Carbon initiative, which aims to reduce total greenhouse gas emissions by 25 percent from 2020 to 2030."

Dr. Frank Brinkmann, Chairman of the Board of SachsenEnergie, expresses his thanks for the trust placed in a strong partnership: "We are very pleased to intensify the trusting, long-standing cooperation with GlobalFoundries and, with the new energy supply center to be built for GlobalFoundries, to provide security of supply at the highest technical standard with high-quality electricity for the semiconductor industry. SachsenEnergie sees itself as a shaper of an intelligent energy transition and a partner to industry. With the modernization and further expansion, we are jointly making the semiconductor site of Dresden fit for the future, more sustainable, and strengthening the attractiveness of the business location in the heart of Saxony."

In addition, SachsenEnergie is driving forward the energy transition in Dresden and eastern Saxony through the construction and modernization of its own power plants and the increased development of renewable energy facilities such as solar thermal and wind power plants.

World market leader for feature-rich semiconductors

GlobalFoundries Dresden, one of the company's five production sites worldwide and the engine of the German microelectronics cluster, employs more than 3,200 people. GF is a global leader in feature-rich semiconductor manufacturing. The chips are manufactured on semiconductor wafers in highly complex processes in a clean room, free of air particles.

Technical Highlights:

In order to achieve 100 percent reliability, the systems are modular and redundant. Additionally, the re-cooling system for the new power supply will be converted to a closed system. This reduces the amount of water required and allows for a significant reduction of wastewater from the EVC.

Energy demand GF Fab in Dresden (uninterrupted operations 365 days a year): 1 terawatt hour; of which

- Demand for **electric energy: 500 gigawatt hours** (equivalent to the electricity required to power approx. 125,000 German households)
- Demand for **energy for heating and especially cooling: 500 gigawatt hours**

Impact after modernization:

- **Greenhouse gas reductions of 100,000 tonnes**
- **80 percent reduction in water use and wastewater discharge (EVC)**

Unique at GF Dresden:

- Utilization of nearly **100 percent of the waste heat** from the natural gas engines by converting it into heating and cooling energy, assisted by ORC (Organic Rankine Cycle) process

Other special features:

- GF operates fully air-conditioned clean rooms, since even minimal fluctuations in humidity and temperature impair production.
- GF uses **Europe's largest ice storage** facility to support the cooling of the waste heat generated in production. It is used to cap peak loads and to store energy. It is also being expanded in the course of modernization.

Information on GF and its climate protection program:

a) Information on the reduction of total greenhouse gas emissions:

[GlobalFoundries Sets “Journey to Zero Carbon” Goal to Reduce Greenhouse Gas Emissions by 25% while Expanding Global Manufacturing Capacity | GLOBALFOUNDRIES \(gf.com\)](#)

b) Sustainability at GlobalFoundries:

[Environmental Sustainability is Imperative | GLOBALFOUNDRIES \(gf.com\)](#)

Contact:

Jens Drews
Director Communications
GlobalFoundries Dresden
Email: jens.drews@gf.com
Phone: +49 351 277-1010
Mobile: +49 172 3552369

Nora Weinhold
Press and Media spokeswoman
SachsenEnergie
Email: Nora.Weinhold@SachsenEnergie.de
Phone: +49 351 468-3671
Mobile: +49 174 1502935