



Active for climate protection

SCHOTT is planning to become a climate-neutral company by 2030. In fiscal year 2021, the specialty glass manufacturer reached an important milestone. It now supplies all of its electricity at all of its locations worldwide using renewable energy sources.



SCHOTT meets

100
percent¹

of its worldwide electricity
needs using renewable
energies

Climate change is one of the greatest challenges of our time. Everyone must take responsibility: policy makers, business, and society as a whole. As an energy-intensive specialty glass manufacturer, SCHOTT wants to live up to this task. With its Zero Carbon program, SCHOTT aims to become climate neutral by 2030. Based on the “Avoid – Reduce – Compensate” principle, the technology group is pursuing an action plan with four goals: technology change, increasing energy efficiency, switching to green electricity, and compensating remaining greenhouse gases. The road to becoming climate neutral

has some major challenges. However, SCHOTT achieved an important milestone in fiscal year 2021: the company now supplies all of its global electricity from renewable energies, such as wind and solar power.

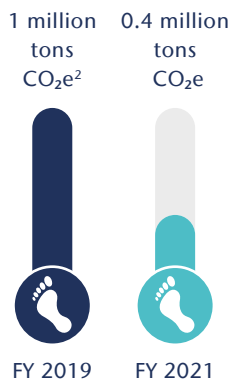
“The switch to 100 percent green electricity marks a first important achievement in our long-term climate strategy,” explains Dr. Jens Schulte, Member of the SCHOTT AG Board of Management, who leads the Zero Carbon program. “This change has enabled us to reduce our climate-harmful emissions by around 60 percent since 2019.”



SCHOTT employees
collected over

1,400
ideas

to reduce carbon emissions
in an internal
ideas competition



Compared to base year 2019,
we have reduced our carbon
emissions by approximately

60 percent
through the switch to
100 percent
green electricity¹

Initially, the company is making the switch to green electricity by purchasing green power certificates. Known as EACs (Energy Attribute Certificates), these certificates confirm the origin and amount of electricity produced with renewable energies and fed into the grid. Here, SCHOTT places particular emphasis on ensuring a high-quality certification and thus making a sustainable contribution to the energy transition.

As a next step, SCHOTT also plans to use Power Purchase Agreements (PPA), i.e. long-term power purchase agreements with certain renewable energy systems. Here, the focus is also on quality: by entering into PPAs, SCHOTT wants to support the expansion of renewable energies and thus contribute to increasing the availability of green electricity.

Flagship projects for technology change

In the long term, SCHOTT plans to use new technologies to reduce the use of fossil fuels as much as possible. This change, however, requires the company to fundamentally rethink glass production. This will necessitate groundbreaking innovations. Developing new melting technologies that no longer rely on fossil fuels will take time, involve high research and investment costs, and depend on external factors. Therefore, the technological transformation process is the biggest hurdle on the way to climate

neutrality. Scientists and melting experts are working on different technological solutions in various development projects. SCHOTT is particularly focusing on hydrogen and electrification technology to heat its melting tanks.

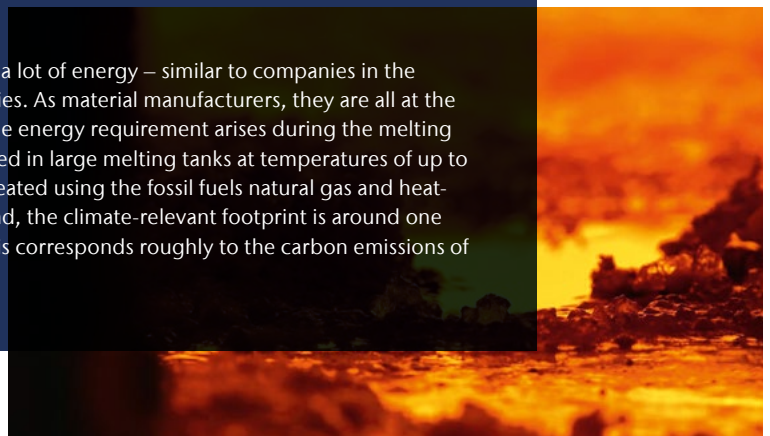
Beginning at the end of 2021, the German Federal Ministry for the Environment (BMI) provided grant funding of €4.5 million for two development projects to support climate-friendly glass production. Grants from the “Decarbonization in Industry” program will fund electrification projects.

In the PROSPECT project, a concept is being developed for a pharmaceutical tubing glass melting process in which the melting units are almost entirely heated using electricity instead of the fossil fuel natural gas. The PLANET 1 project concerns industrial research into the complex interactions in the melting process for specialty glasses for technical applications when the electrical heating component is increased to over 60 percent. In both new technologies, only green electricity will be used in order to reduce carbon emissions.

“With these flagship projects, we plan to lead the way as technology pioneers,” explains Dr. Frank Heinrich, Chairman of the SCHOTT AG Board of Management. “We want to pave the road for the specialty glass industry with innovative solutions.”

Glass production is energy intensive

As a specialty glass manufacturer, SCHOTT requires a lot of energy – similar to companies in the plastics, steel, paper, and building materials industries. As material manufacturers, they are all at the beginning of the value chain. The largest share of the energy requirement arises during the melting process. Specialty glass and glass-ceramics are melted in large melting tanks at temperatures of up to 1,700°C. Up to now, the melting tanks have been heated using the fossil fuels natural gas and heating oil, or electricity. Due to the high energy demand, the climate-relevant footprint is around one million tons of CO₂e (CO₂ equivalents) per year². This corresponds roughly to the carbon emissions of a city in Europe with 150,000 inhabitants.



More information

Would you like more information about the climate neutrality strategy of SCHOTT? You can find more information at [schott.com/environmental-responsibility](https://www.schott.com/environmental-responsibility)

¹ The switch to green power was achieved through the purchase of green power certificates (EACs).

² Calculations made in 2019 based on the market-based method of the Greenhouse Gas Protocol (GHG). The exact location-based carbon footprint for fiscal year 2019 was 641,081 t CO₂e. SCHOTT currently includes emissions from its own production (Scope 1 GHG) and from purchased energy (Scope 2) in the calculation.