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Toshiba Corporation

Toshiba Energy Systems & Solutions Corporation

Toshiba Group Decarbonization Technologies in the Spotlight at COP27 Japan Pavilion

Power to Chemicals and Superconducting Motor that Contribute to Carbon Neutrality

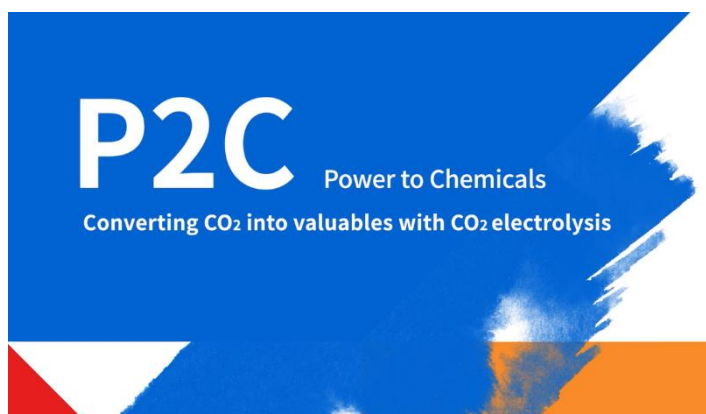
TOKYO—Toshiba Corporation (TOKYO: 6502) and Toshiba Energy Systems & Solutions Corporation will exhibit technology innovations that advance decarbonization at the [Japan Pavilion](#), the exhibition accompanying [the 27th UN Climate Change Conference of the Parties \(COP27\)](#) from November 6 to 18.

The Japan Pavilion is hosted by Japan's Ministry of the Environment and will spotlight Japan's initiatives for climate change mitigation, and 'number one' and 'only one' environmental technologies. It will send a message to the world that Japan aims to achieve carbon neutrality by 2050, and to contribute to global decarbonization and adaptation to climate change.

Toshiba Group has been invited to present its Power to Chemicals technology and a Superconducting Motor at the COP27 event. More details follow.

1. Power to Chemicals (P2C): Converting CO₂ into valuable materials with CO₂ electrolysis

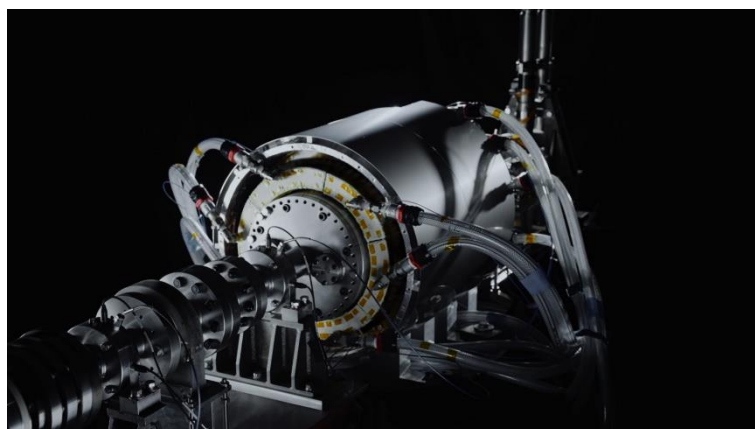
Realizing carbon neutrality requires technology to convert CO₂ into valuable products, especially in industries where it is difficult to reduce CO₂ emissions. P2C is a technology that uses electricity from renewable energy sources to reduce CO₂ into CO, and combine it with H₂ to produce chemicals, synthetic fuels and so on. One example is sustainable aviation fuel (SAF), for which there is a growing need worldwide as the aviation industry seeks decarbonization. Through a project initiated by MOE, Toshiba Group is advancing P2C technical development and carrying out studies toward specific social implementations. In the Japan Pavilion, Toshiba Group will exhibit a CO₂ electrolysis cell stack, the core of this P2C technology.



Click [here](#) for an introduction video of Toshiba's P2C technology.

2. Superconducting Motor: replace fossil-fuel engines with superconducting motors to power large mobility vehicles and boost zero emissions

Toshiba Group has developed the world's first (*1) prototype of a lightweight, compact, high-power superconducting motor with a maximum output of 2 MW by applying the superconductivity technology and manufacturing technology for high-speed rotating equipment that it has cultivated over many years. The motor is less than one-tenth the weight and size of an equivalent conventional motor, making it possible to replace fossil-fuel-driven engines with motors and contributing to zero-emissions for various types of large mobility vehicles. The Group will further improve the motor and accelerate efforts for social implementation. For example, the aviation industry is looking to use SAF to approach carbon neutrality by 2050. But fuel alone is not enough. Advances in entire aircraft systems, including electrification of engines, are required, and for that Toshiba's light, compact, high output motor is a promising solution. In the Japan Pavilion, Toshiba Group will showcase a full-scale model of the superconducting motor, giving visitors a sense of its compactness.



Click [here](#) for an introduction video of Toshiba's superconducting motor technology.

(*1) Toshiba Energy Systems & Solutions Corporation survey.

About Toshiba Corporation

Toshiba Corporation leads a global group of companies that combines knowledge and capabilities from over 140 years of experience in a wide range of businesses—from energy and social infrastructure to electronic devices—with world-class capabilities in information processing, digital and AI technologies. These distinctive strengths support Toshiba’s continued evolution toward becoming an Infrastructure Services Company that promotes data utilization and digitization, and one of the world’s leading cyber-physical-systems technology companies. Guided by the Basic Commitment of the Toshiba Group, “Committed to People, Committed to the Future,” Toshiba contributes to society’s positive development with services and solutions that lead to a better world. The Group and its 120,000 employees worldwide secured annual sales of 3.3 trillion yen (US\$27.4 billion) in fiscal year 2021.

Find out more about Toshiba at www.global.toshiba/ww/outline/corporate.html

About Toshiba Energy Systems & Solutions Corporation

Toshiba Energy Systems & Solutions Corporation is a leading supplier of integrated energy solutions. With its long experience and expertise in wide range of power generating and transmitting systems and energy management technology, the company delivers innovative, reliable and efficient energy solutions across the globe. Split off from Toshiba Corporation (TOKYO: 6502) in October 2017.

<https://www.toshiba-energy.com/en/index.htm>

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