



Helping China’s Development of Biodegradable Plastics

Sustainability and energy transition benefits

Biodegradable plastics not only reduce waste, but they can also consume less energy to produce and release fewer emissions that contribute to greenhouse gases that cause climate change.

The transition from conventional petroleum-based plastics to biodegradable alternatives supports national and corporate decarbonization objectives. After they’ve been disposed of, biodegradable plastics release a small amount of carbon dioxide (CO₂) during the composting process. However, the amount of CO₂ is far less compared to emissions during the manufacturing of conventional plastic materials.



Polybutylene succinate (PBS) is a biodegradable plastic that can replace conventional hydrocarbon-based plastics for use in disposable tableware, paper cups and gas-barrier packaging for food.

Flowserve supplies equipment to leading supplier of PBS

Polybutylene succinate (PBS) is a biodegradable plastic that naturally decomposes into water (H₂O) and CO₂. As China pursues initiatives that can create a more sustainable environment, there’s increasing focus on biodegradable plastics.

That led to Flowserve being selected to supply more than 150 SIHI® H1000 Dry vacuum pumps to a leading PBS manufacturer for its expansion project. The company trusted Flowserve based on the successful performance of the same pump model that Flowserve supplied for a previous project.



SIHI H1000 Dry vacuum pumps from Flowserve installed in a biodegradable plastics plant in China



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Growing market for plastic alternatives

China recently banned several types of non-degradable, single-use plastics. As a result, PBS and other biodegradable plastics are expected to become preferred alternative materials. Their performance characteristics are similar to conventional plastic materials while their environmental benefits are far greater.

In this case, PBS is produced utilizing renewable feedstock such as glucose and sucrose through a fermentation process. It can replace conventional plastics made from hydrocarbons for use in single-use products such as disposable tableware, paper cups and gas-barrier packaging for food.

The PBS producer that invested in the Flowserve pumps is expected to rank among the top three in China; its expansion project will help meet that country's growing demand for biodegradable plastics.

Adapting to future needs

Our SIHI H1000 Dry vacuum pumps will be a critical component in the PBS production plant and play an integral role in China's transition to biodegradable plastics. Flowserve can leverage our 225 years of flow control experience and a comprehensive portfolio of product and service solutions so our customers can diversify their energy mix, decarbonize their operations, and digitize their plant processes. Further, this application of our pumps is another example of how Flowserve is committed to helping make the world better for everyone.



Read Flowserve's approach to [energy transition](#).

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