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Will Hong Kong's only industrial-scale chicken waste treatment plant be forced to shut down?



BSF Hatch, which turns chicken faeces into animal feed, fertiliser and biofuel, faces closure in August unless its government contract is renewed. Photo: Dickson Lee

Government contract of BSF Hatch, which turns chicken faeces into animal feed, fertiliser and biofuel, is set to expire at the end of August

Environmental group The Green Earth says city needs more, not fewer, of such facilities to deal with its mounting food waste problem

Hong Kong's only industrial-scale chicken waste treatment plant faces imminent closure as its government contract is set to expire within four months, its operator has said, even as the city scrambles to deal with a mounting food waste problem.

BSF Hatch, which uses a process that turns chicken faeces into animal feed, fertiliser and biofuel, said it would have to cease operations at the end of August if the city's environmental authorities did not grant the company a renewal soon.

“Without the government contract, this project won't be able to self-sustain,” said Kenny Tso Wai-yan, chief executive of Organic Tech, which operates BSF Hatch.

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Organic Tech and its parent company, Baguio Green Group, won an 18-month government tender in November 2021 to set up a plant in Tuen Mun's EcoPark as part of a pilot project to treat the city's chicken waste using the larvae of black soldier flies.



Kenny Tso, chief executive of Organic Tech Limited, holds up larvae of black soldier flies at BSF Hatch, a treatment facility that turns chicken faeces into biofuel. Photo: Dickson Lee

Scientists proposed using flies to convert manure into protein from as early as the 1970s, when they observed that their larvae had an extraordinary ability to treat organic waste. The technology to breed them has been available since 2002.

Countries such as the United States, Britain and Singapore have their own projects using the larvae to process food waste and other organic waste. The latter launched its first facility in February 2022.

In mainland China, the value of the black soldier fly market has risen to 416 million yuan this year, up from 212 million yuan in 2017, with a compound annual growth rate of 14.4 per cent.

In Hong Kong, Baguio Green Group built a 35,000 sq ft enclosed, controlled environment facility to run the project after securing a HK\$27.6 million (US\$3.5 million) contract from the Environmental Protection Department.

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BSF Hatch began operations in February 2023. Tso said the plant currently converted about half, or 16.5 tonnes, of the chicken waste the city generated daily into high-protein animal feed, fertiliser, pet food and biodiesel.

Baguio Green Group, one of the city's largest waste management companies, had said in 2022 that it aimed to treat 10 tonnes of chicken waste a day.

Using the fly larvae was better than other biowaste treatment technologies because the conversion process would not cause secondary pollution besides a small amount of sewage, Tso added.

Average volume of food waste generated daily (tonnes) in Hong Kong

(Hover/tap for information)



Source: Environmental Protection Department

SCMP Graphics

According to Tso, BSF Hatch imported about 1.2kg of fly eggs, equivalent to 24 million larvae, from the mainland each day to process the faeces collected from the city's 29 poultry farms.

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The plant processed 6,231 tonnes of chicken waste between February 2024 and April this year, he said.

He added that with some remodification, the facility could be deployed to process food scraps as well.

The Environmental Protection Department said another trial would be initiated in August of a different technology to treat chicken faeces called “anaerobic co-digestion”.

The term refers to the way in which microorganisms decompose organic matter in an oxygen-deficient environment to generate biogas that can be use to fuel power generation.

A spokesman for the Environmental Protection Department said it would use both pilot projects to help plan “long-term waste treatment arrangements for chicken waste”.

Hong Kong environmental authorities are scrambling to cut food waste in the face of landfills that are swiftly approaching capacity.

The latest official statistics show that the city sent 3,302 tonnes of food scraps to its three active landfills every day in 2022, accounting for about 30 per cent of municipal solid waste generated daily.

Environmental authorities opened the city’s first organic waste treatment facility, O Park, in 2018 on Lantau Island to treat 200 tonnes of food waste daily.



Hong Kong's first organic waste treatment facility, O Park, on Lantau Island, treats 200 tonnes of food waste daily. Photo: hkgbc

The park's second phase, located at Sandy Ridge in the northern New Territories, is expected to be operational later in the year and has a daily capacity of 300 tonnes.

Thomas Chan Ting-hin, environmental affairs officer of advocacy group The Green Earth, said Hong Kong needed many more biowaste treatment facilities and should not let BSF Hatch be shut down.

“If the plant closes down, the chicken manure can only go to landfills or O Park,” he said, adding that animal manure produced methane, a greenhouse gas that was 28 times more potent than carbon dioxide in terms of global warming potential.

Losing the manure-processing plant would add pressure to the valuable space needed for processing food scraps and “create doubt about Hong Kong’s overall capacity to deal with its food waste problem”, he added.

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