

September 26, 2022
Sinanen Holdings Co., Ltd.
Sinanen Facilities Co., Ltd.

Demonstration test for subcritical water treatment technology enabling effective utilization of aquatic weeds selected under Shiga Prefecture's "Support Program for the Development of Technologies to Counter Aquatic Weeds"

—Aiming to create paper packaging material and aviation fuel (SAF) from aquatic weeds through subcritical water treatment that does not generate dioxin or CO₂—

Having engaged in environmental solutions business since fiscal 2021, Sinanen Facilities Co., Ltd. (Headquarters: Okegawa City, Saitama, President and CEO: Eiji Kawana, hereinafter "Sinanen Facilities"), a subsidiary of comprehensive energy, housing, and daily-life services provider, Sinanen Holdings Co., Ltd. (Headquarters: Minato-ku, Tokyo, President and CEO: Masaki Yamazaki, hereinafter "Sinanen Holdings"), has been selected for its demonstration test of subcritical water treatment technology in the FY 2022 "Support Program for the Development of Technologies to Counter Aquatic Weeds" for Lake Biwa conducted by Shiga Prefecture (Governor: Taizo Mikazuki).



■ The "Support Program for the Development of Technologies to Counter Aquatic Weeds" for Lake Biwa

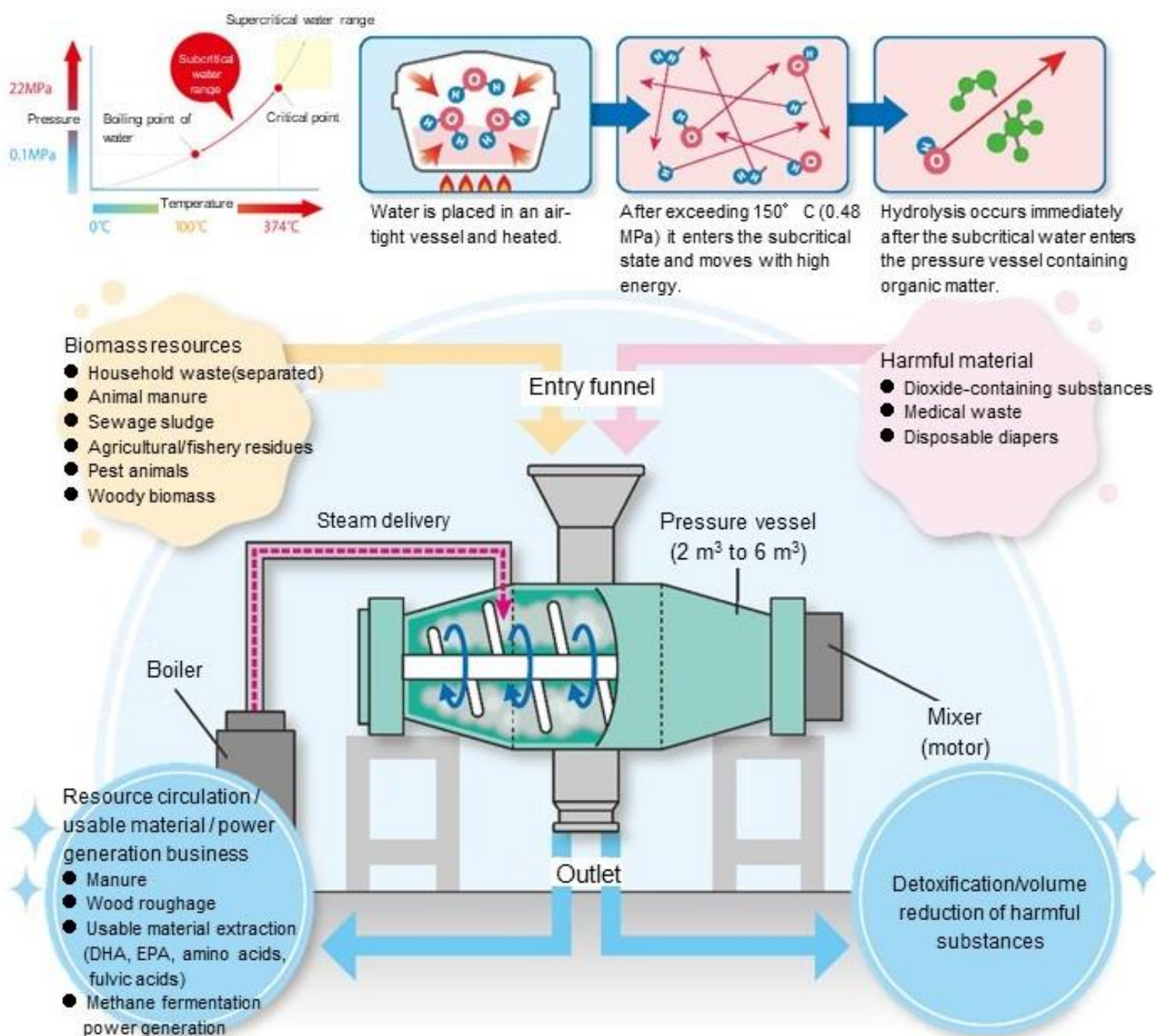
Shiga Prefecture has implemented this program to support the development of new technologies that can counter the rampant growth of aquatic weeds and expansion of invasive non-native aquatic plants in Lake Biwa, as well as assist the conservation of the lake's reed colonies. The program encourages multiple companies to propose new technologies for the eradication of aquatic weeds and the suppression of their growth, awarding grants to those selected after screening by an examination committee.

Sinanen Facilities noticed subcritical water treatment technologies that do not generate dioxin or CO₂ while searching for new ways to expand its environmental business. With the cooperation of producer and seller of subcritical water treatment equipment G-8 International Trading Co., Ltd. (Headquarters: Hiratsuka City, Kanagawa, President and CEO: Yoshitsugu Aso), the company proposed to and was selected in the FY 2022 program for its technology that can transform aquatic weeds into a resource through subcritical water treatment. The program runs until February 28, 2023.

Reference: “Support Program for the Development of Technologies to Counter Aquatic Weeds” webpage of Shiga Prefecture

<https://www.pref.shiga.lg.jp/ippan/kankyoshizen/biwako/318834.html>

● Subcritical water reaction equipment—basic knowledge



(Sorting and processing of metals, glass, rubber, etc.)

Subcritical water refers to water with a temperature and pressure slightly lower than the critical point of water (temperature: 374°C, pressure: 22.1 MPa). Hydrolysis can be conducted by placing organic matter and water together in a pressure vessel after the water has been transformed into its subcritical state by making its temperature and pressure exceed 150°C and 0.48 MPa, respectively.

In the demonstration test, aquatic weeds removed from Lake Biwa will be treated with subcritical water to extract their cellulose. With the cooperation of Nippon Molding Co., Ltd. (Headquarters: Anjo City, Aichi, President & CEO: Akira Ishihara), Sinanen Facilities will use the cellulose as pulp to create paper-made packaging material that can replace plastic packaging and cushioning materials. In addition, with the cooperation of the Green Earth Institute Co., Ltd. (Headquarters: Bunkyo-ku, Tokyo, CEO: Tomohito Ihara), Sinanen Facilities will apply biorefinery technology, which utilizes microorganisms, to produce bioethanol and other substances from saccharified cellulose, aiming to have them used for aviation fuel (SAF*).

*)SAF: Sustainable Aviation Fuel.

Reference: Website of Sinanen Facilities Co., Ltd.:

<https://www.sinanen-f.com/arinkaisuihannosochi/>

Through this demonstration test, Sinanen Facilities aims to solve environmental issues in Shiga Prefecture and contribute to the realization of a sustainable society through the utilization of aquatic weeds as a resource.

■ About Sinanen Facilities Co., Ltd.: <https://www.sinanen-f.com>

Sinanen Facilities is a business company under the umbrella of Sinanen Holdings Co., Ltd. It operates business centered in the Kanto area involving the installation, maintenance, and after-sales service of air conditioning, floor heating, and heat source equipment for detached houses, multiple-dwelling complexes, and corporate facilities. In recent years, the company has focused efforts on proposals and construction work for whole-facility air-conditioning systems and its environmental solutions business (R&D and consulting for environmental measures).

■ About Sinanen Holdings Co., Ltd.: <https://sinanengroup.co.jp/en/>

Founded in 1927, Sinanen Holdings Co., Ltd. is the holding company of a corporate group offering comprehensive services related to energy, housing, and daily life. With the mission of the Group to contribute to realizing a comfortable life for all customers in their communities through energy and home & life services, we provide Retail/Wholesale Energy & Related Business for consumers, Energy Solution Business for corporations, and non-energy businesses such as bicycle sharing, environmental and recycling, system development, antimicrobial, building management and maintenance, and other services.

[Contact for inquiries about this release]

Shindo, Environmental Solutions Business Department, Sinanen Facilities Co., Ltd.

Tel: +81-3-6478-5566 E-mail: yuji-shindo@sinanengroup.co.jp

[Media inquiries]

Yoshida, Kimura, and Kiryu, PR/IR Team, Corporate Planning Department, Sinanen Holdings Co., Ltd.

Tel: +81-3-6478-7807 Fax: +81-3-6478-7824 E-mail: kouhou@sinanengroup.co.jp