

July 1, 2021

Air Water Inc.

Launch of Japan's first trigeneration business using gasification power generation method

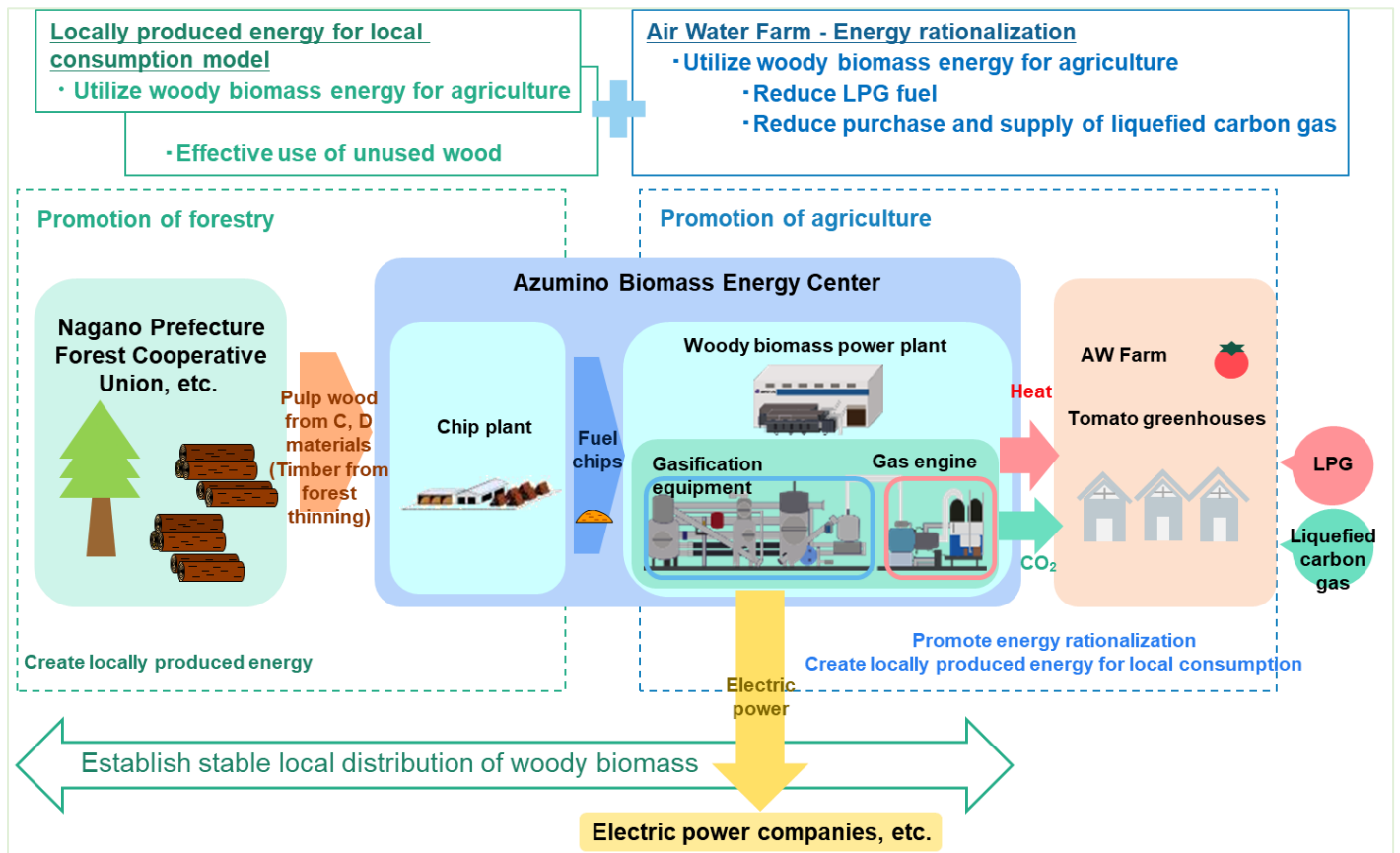
- Contributing to sustainable forestry and agriculture by utilizing heat and CO₂ emitted from power generation for tomato cultivation

The Company is pleased to announce that it will commence Japan's first trigeneration*² business on July 1, 2021, using the gasification power generation method*¹ at the Azumino Biomass Energy Center established on the site of a tomato farm in Azumino City, Nagano Prefecture.

As well as contributing to the promotion of the local forestry industry through the use of unused wood for power generation, the use of heat and carbon dioxide (CO₂) emitted from the power generation facility for tomato cultivation will reduce agricultural costs and promote sustainable agricultural business.

*1: A method of generating power whereby woody biomass is gasified by pyrolysis and reduction reaction, and the gas produced is used as fuel to generate electricity via an engine generator

*2: Trigeneration: In contrast to cogeneration, which supplies not only electricity when power is generated but also heat produced by power generation, trigeneration is an energy supply system that makes efficient use both of the heat and electricity produced from the heat source as well as the CO₂ generated.



1. Background and Goals

The Company established the Azumino Biomass Energy Center on the site of the Azumino Vegetable Garden of Air Water Farm Co., Ltd., an agricultural land-owning corporation engaged in tomato cultivation, where it has installed a biomass gasification power generation facility suitable for small-scale power generation. Since April 2020, the Company has been operating a cogeneration business that utilizes the FIT (Feed-in Tariffs for Renewable Energy) system to generate 1,000 kW of electricity and supply waste heat from the power generation facility to the Azumino Vegetable Garden. As well as selling clean energy that uses sustainable woody biomass as fuel for power generation, the Company is helping promote the forestry industry by utilizing unused local wood for power generation and reducing agricultural costs by using the heat generated by power generation to keep tomato cultivation greenhouses warm.

The Company will commence a trigeneration business at the Center, adding a new 1,000 kW facility to the existing 2,000 kW cogeneration system that will not only generate power and supply heat as it has until now but will also purify CO₂-rich exhaust gas emissions from the power generation facility, using Japan's first gasification power generation method to promote photosynthesis in tomatoes. This will decrease the environmental impact by recycling CO₂, as well as reducing the amount of LPG fuel used to keep tomato cultivation greenhouses warm and the amount of liquefied carbon dioxide used to promote photosynthesis.

Through this business, the Company will promote sustainable agriculture and contribute to the local community by utilizing local materials and creating employment. Going forward, we will also tailor the trigeneration model of local production for local consumption established at the Center to the situation of each region.

2. Outline of Azumino Biomass Energy Center

- (1) Location: 6200 Misato-yutaka, Azumino City, Nagano Prefecture
- (2) Method of power generation: Gasification, engine method
- (3) Power output: 1,960kW
- (4) Fuel used: Woody biomass (annual consumption: 25,000 t)
- (5) Operation commenced: Cogeneration (power generation + heat supply) business commenced April 1, 2020
Trigeneration (power generation + heat + CO₂ supply) business commenced July 1, 2021

Exterior and interior of Azumino Biomass Energy Center



- (Reference) Air Water Group's Renewable Energy Power Generation Business (Power Plants)

Power Plant:	Operation commenced:	Capacity
Nihonkaisui Ako No. 1 Biomass Power Station (Ako City, Hyogo Prefecture)	April 2015	Approx. 16,500 kW
Air Water & Energia Power Yamaguchi Woody biomass/coal-fired power plant (Hofu City, Yamaguchi Prefecture)	July 2019	Approx. 112,000 kW
Nihonkaisui Ako No. 2 Biomass Power Station (Ako City, Hyogo Prefecture)	January 2021	Approx. 30,000 kW
Air Water & Energia Power Onahama Woody biomass-fired power plant (Iwaki City, Fukushima Prefecture)	April 2021	Approx. 75,000 kW
Air Water Azumino Biomass Energy Center (Azumino City, Nagano Prefecture)	July 2021 (Trigen)	Approx. 2,000 kW
Nihonkaisui TTS Kanda Power Woody biomass power plant (Kanda-machi, Miyako-gun, Fukuoka Prefecture)	October 2023 (Planned)	Approx. 50,000 kW

- (Reference) The Group is working to achieve the Sustainable Development Goals (SDGs) adopted at the United Nations Summit by 2030. This initiative will contribute to the following development goals:

7 Affordable and Clean Energy

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

15 Life on Land



[Contact for inquiries]

Corporate Communications, Air Water, Inc E-mail : info-h@awi.co.jp

Contact persons (Osaka): Nakai/ Ishii Phone: +81 6 6252 3966 12 8 Minami Semba 2 chome, Chuo ku, Osaka shi, Osaka, 542 0081, Japan

Contact persons (Tokyo): Fukushima/ Sumi Phone:+81 3 3578 7804 18 19 Toranomom 3 chome, Minato ku, Tokyo, 105 0001, Japan

Contact for inquiries regarding this business:

Air Water Inc. Energy Division

Contact persons: Akasaka /Tajima Phone: +81 3 3578 7837; 18-19 Toranomom-3 chome, Minato-ku, Tokyo, 105 0001, Japan