

Biomass Energy in the Transition to a Low-Carbon Economy

YFY Inc.

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About YFY Group

Forest Products and Fine Paper

- Chung Hwa Pulp
- Guangdong Dingfeng Pulp and Paper
- Union Paper Corporation

Containerboard and Packaging

Consumer Products

- Yuen Foong Yu Consumer Products
- Yuen Foong Shop

Graphic and Packaging Services

- YFY Jupiter

Special Materials

- Shin Foong Specialty and Applied Materials

Technology

- E Ink Holdings
- Arizon RFID Technology

Biotech & Medtech

- YFY Biotech Management Company
- TaiGen Biotechnology
- Medeon Biodesign
- MiCareo
- Taiwan Genome Sciences

Carbontech & Management Group

- Ensilience Co., Ltd.
- Effion Enertech Co., Ltd.
- San Ying Enterprises Co., Ltd

Financial Group

- Sinopac Holdings

Organic Food & Restaurants

- Mountain and Sea House
- Qimin Market Hotpot
- Farm Table



Established in 1924, YFY's founding is rooted in agriculture and becomes a practitioner of circular economy

YFY's First Circular Economy Endeavor

1939

In 1939, the Kaohsiung Neiwei plant used sugar mill residual bagasse to produce bagasse boards, exporting to Hokkaido as construction material. This was the first example of a circular economy product.



This rare business license granted in the Japanese occupation era is the origin of YFY's Kaohsiung Neiwei plant.



The Beginning of YFY's Papermaking Journey

1950

In 1950, Kaohsiung Jiutang plant used sugarcane bagasse to produce high quality typing paper, which marked the beginning of YFY's papermaking journey.



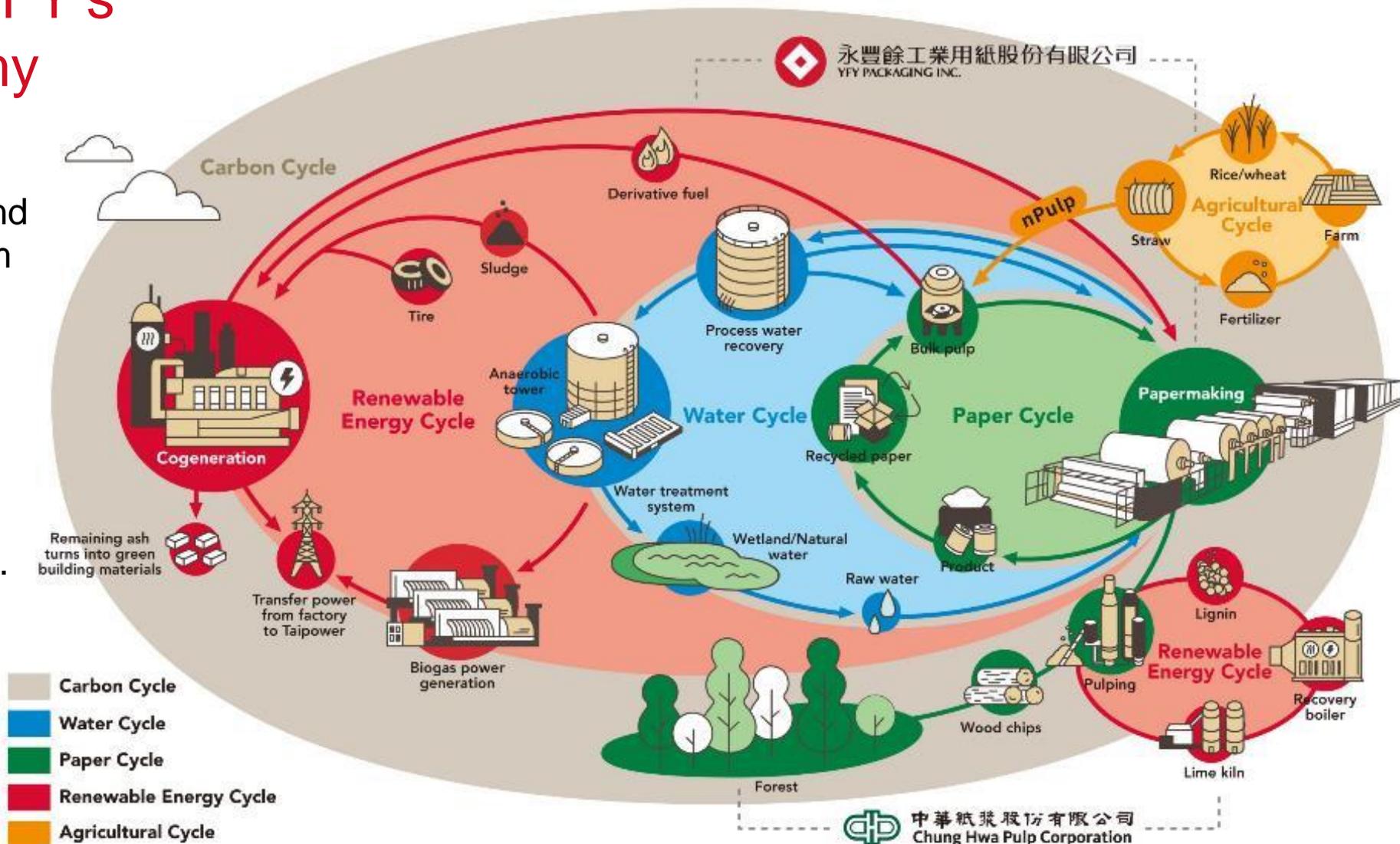
The various papers produced by YFY have accompanied countless Taiwanese, and participated in Taiwan's economic and cultural development



Five Cycles of YFY's Circular Economy

YFY strives to conserve and regenerate resources: from cellulose fiber, water, energy, to encompass all production by-products.

These efforts in aggregate are our completed five cycles of circular economy.



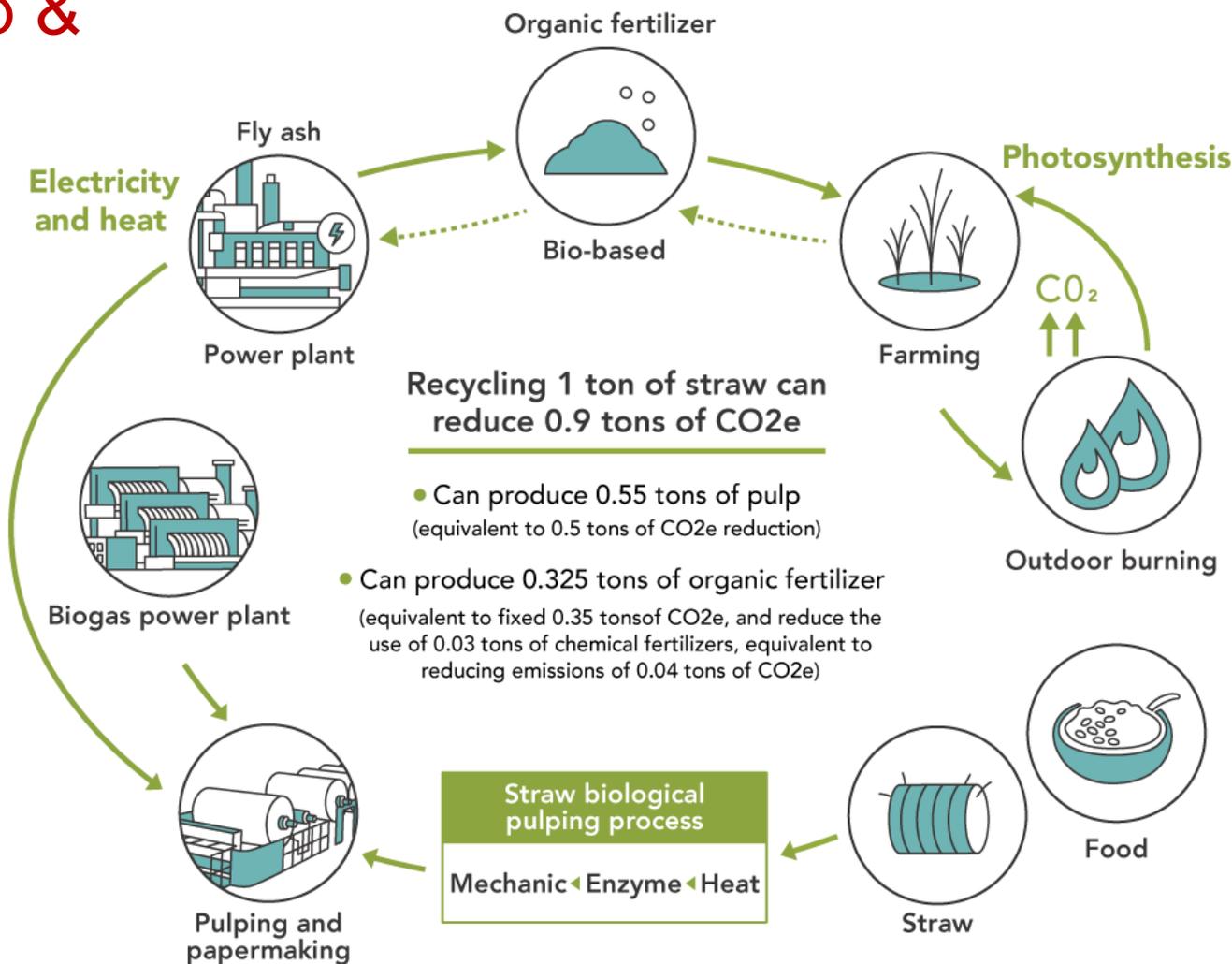
nPulp utilizes non-wood fiber as an alternative to wood fiber in pulp & papermaking



Winner of Edison Awards in 2014



Recycling agricultural straw as raw materials, using heat, mechanical power and enzymes to produce bio-based pulp through a biological process without chemical additions. The bio-pulping nPulp is then processed into various types of paper rolls, cartons and paper products.



Anaerobic digestion turns organic matter from wastewater to biogas

To ensure proper water treatment during the papermaking process, we remove the organic matter through anaerobic digestion, decompose the organic matter in the discharged water into biogas, and then pass the treated biogas through internal combustion engine to convert it into heat to drive the generator to produce electricity.



Xinwu Plant Biogas
Power Generation
5,200 kW

Fermentation Time
4 hours

The purity of
methane up to
83%

The first SRF zero coal cogeneration plant in Taiwan, turning waste to energy

YFY Packaging uses 97% of recycled paper as raw materials. To ensure that papermaking residue such as plastic can be transformed into reusable resource, Solid Recovered Fuel (SRF) is a great technology to turn waste into an alternative fuel for coal. The cogeneration boiler provides steam and electricity needed in the plant, while reducing the process waste.



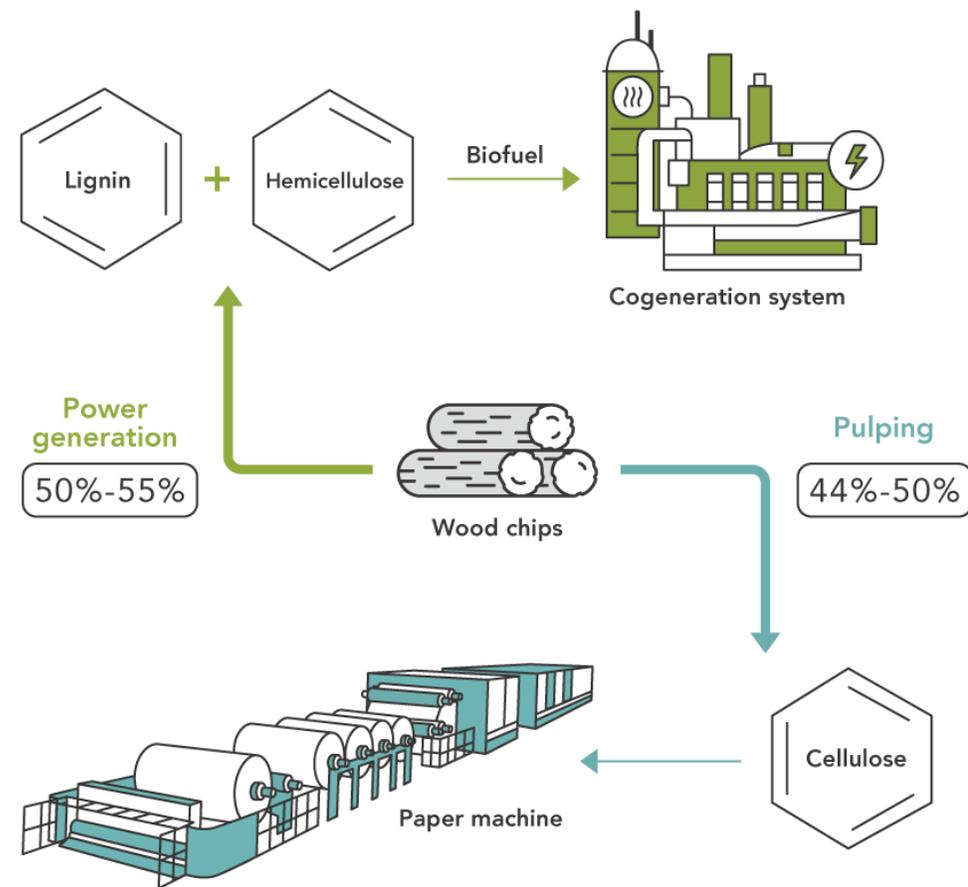
Xinwu Plant SRF
Power Generation

9,500 kW

87,800

tons of coal can be
reduced

Hualien Plant has operated lignin biomass energy since 1968, the earliest biomass energy in Taiwan



Lignin Power Generation
20,000 kW

300,000
tons of coal can be reduced

Wastewater to Green Energy

An ROT Project with Taoyuan City Government

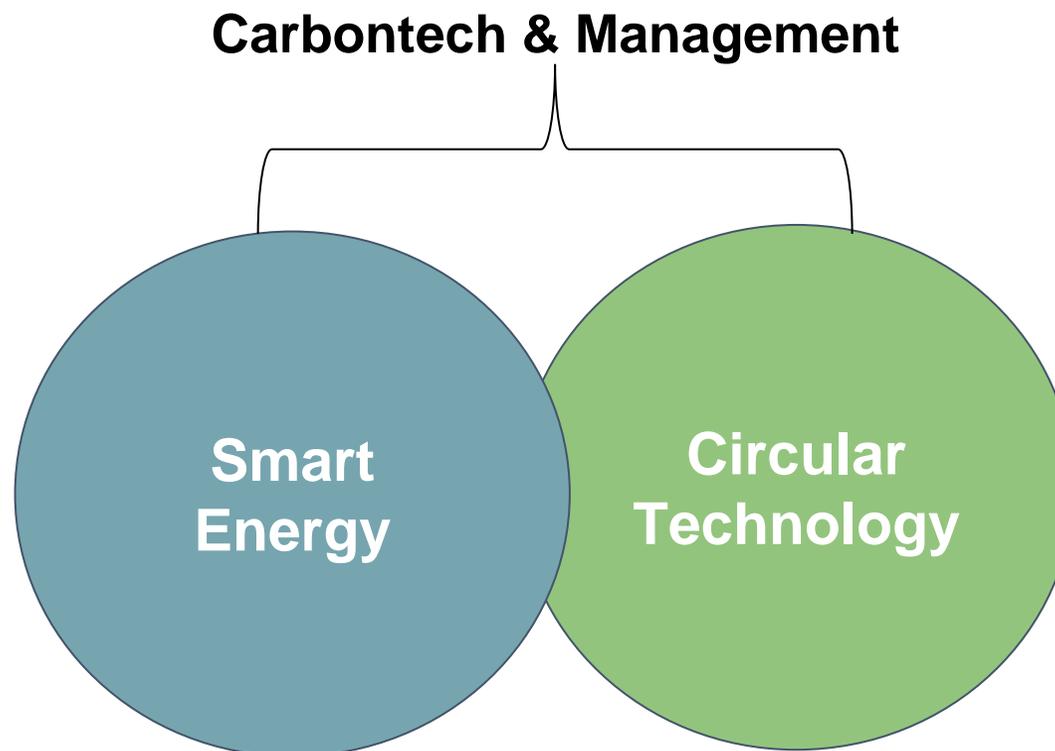


Photo: Department of Water Resources, Taoyuan

YFY works with Taoyuan City Government, Guishan Water Resources Recycling Center, on a ROT project (Reconstruction–Operation–Transfer), leveraging YFY’s experience in anaerobic digestion for wastewater treatment.

Carbontech & Management Group

Focus on Renewable Energy, Energy Storage, and Circular Technology



Smart Energy System

- Decentralized smart grid for green energy
- Regional smart energy systems
- Carbon credit management for industries

Waste-to-Energy

- Taiwan's renewable energy market
- Green energy generation market
- Service for public facilities

