

Cairns

Smart Green

Economy

#### CASE STUDY: NET ZERO ENERGY

# Green Energy Power Plant

## MSF Sugar

MSF Sugar, a subsidiary of the Mitr Phol Group, is transforming the sugar industry with its commitment to sustainability and innovation.

In line with its circular bioeconomy philosophy, MSF Sugar has invested nearly A\$100 million in the Green Energy Power Plant (GEPP), based in Far North Queensland's Tableland region.

This facility is at the forefront of renewable energy production, converting 100% renewable sugarcane fibre, or bagasse, into green power. In addition, their process ensures every byproduct has a use, reducing waste to zero.

#### 24MWh OF CLEAN ENERGY

The Green Energy Power Plant is designed to reduce waste and produce renewable energy. By converting bagasse, a by-product of sugarcane processing, into electricity, the plant generates 24 megawatts of power—enough to supply approximately 26,280 homes and the sugar mill itself.

Thanks to a special partnership between MSF Sugar and its local growers, farmers have been able to invest in advanced equipment and improve their practices. This has led to sustainable farming that helps offset increasing input costs through improved efficiencies and time management, while also minimising waste.



*"We focus on creating value for the sugar mill, the grower, and the Cairns community. In Far North Queensland, we have more than 700 growers, 700 employees and 2,000 suppliers, generating over \$400m annually. The sugar industry is an important, sustainable way of supporting the local economy."*

**Jia, Thitichaya Poontanasombat, Chief Financial Officer, MSF Sugar – Mitr Phol Group**

## HOW IT WORKS

The company has invested over \$650m in the region since 2012 to drive its circular bioeconomy philosophy, which involves:

**Collaborative engagement:** MSF Sugar works closely with local sugarcane growers, ensuring sustainable agricultural practices that produce high-quality bagasse.

**Bagasse processing:** During sugarcane processing, bagasse is extracted and transported to the power plant.

**Energy conversion:** At the power plant, bagasse is burned in a high-efficiency boiler to produce steam, which drives turbines to generate electricity.

**Sustainable practices:** The process is designed to be self-sufficient, using bagasse as the primary fuel source, reducing reliance on fossil fuels and minimising waste.

Every byproduct created through the crushing of sugarcane has a use. From ethanol that can be used for sustainable aviation fuels to organic fertilisers, Mitr Phol is working to ensure every byproduct has a purpose.

## WHY IT MATTERS

There are several benefits this initiative drives:

**Renewable energy production:** Generates 24 megawatts of clean, renewable energy, reducing reliance on fossil fuels.

**Waste reduction:** Converts sugarcane by-products into valuable energy, promoting a circular economy.

**Agricultural sustainability:** Financial sustainability due to farm investment and environmental benefits from water and organic fertilisers.

**Community development:** Supports the economic development of the Queensland region by providing stable, renewable energy.

This initiative aligns with global efforts to transition to renewable energy sources and reduce greenhouse gas emissions.



*"The way I farm now, is much more sustainable. Technology has changed so much that we're now green cane harvest best practice. All our big tractors are GPS-guided, and the machinery has increased in size so that the harvesters' throughput can match the mill's capacity."*

**Paul Gregory, Farmer – Gordonvale**

Disclaimer: This case study showcases an innovative approach in Cairns' Smart Green Economy. While this project is not owned by Cairns Regional Council, and the presentation of this case study does not imply Council endorsement, it is our aim to highlight some of the exciting initiatives in our region and inspire positive change within our community.

# 24MWh

Of clean energy

# 26,280

Homes powered  
by GEPP

# \$100m

Invested in the GEPP

# \$650m

Total investment by  
MSF Sugar

## SUPPORT THIS PROJECT

To learn more about MSF Sugar's sustainability projects in the Cairns and Far North Queensland region, visit their website.

For more information visit  
[msfsugar.com.au](http://msfsugar.com.au)

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