

Rainbow Growers reduces GB carbon emissions while generating substantial revenues

Partner Profile

Locations	Kent
Assets	Combined heat and power
Services	STOR and triad management
Revenue	Over £30,000 pa
Capacity	2.4MW

In 2009, Dutch commercial horticulturists Rainbow Growers entered the Thanet Earth greenhouse complex in Kent – which has enough glass to cover nearly 80 football pitches – and opened one of the largest single-unit greenhouses in the UK.

Rainbow Growers and Flexitricity

Rainbow Growers' greenhouse is powered by two large gas-fired combined heat and power (CHP) generators. These supply heat and CO₂ to the capsicum pepper crop. Unlike most of Flexitricity's clients, only a small proportion of the generated electricity is needed on site; the majority is sold.



"This is an important way to reduce operating costs and make more efficient use of our generating capacity..."

Pleun van Malkenhorst, Managing Director, Rainbow Growers

New revenues from existing assets

Rainbow Growers' two on-site CHP units, totalling 5.4MW of electrical output, operate when heat or carbon dioxide is required in the greenhouse. On average, just under half of this capacity is standing idle at any time, and this spare capacity is made available to Flexitricity. The site has a full parallel grid connection, allowing Rainbow to generate electricity at any time.

During idle periods, Flexitricity's demand-response infrastructure has the ability to turn on the generators at short notice. This helps National Grid to stabilise the national electricity network during demand peaks, or when large power stations fail. Heat generated by the CHP units is retained in heat stores for later use.

This revenue source – worth a significant annual sum to Rainbow – is enabled by Flexitricity, entirely from assets which the company uses day to-day.

Getting on with core business

Rainbow Growers provides reserve electricity to National Grid only within the constraints of normal business operations. Flexitricity created elective arrangements, allowing Rainbow to opt in and opt out in accordance with its needs. Flexitricity understands that core business processes must always be protected, so the system operates only within pre-agreed limits, which are measured and checked in real time.

"This is an important way to reduce operating costs and make more efficient use of our generating capacity," said Pleun van Malkenhorst, Managing Director of Rainbow Growers.

"We obviously need to generate our own power. However our arrangement with Flexitricity means we



Key Facts

2.4MW of electricity generation capacity can be automatically turned on for short periods

Reduces national carbon dioxide emissions

Over £30,000 earned every year

No disruption to core processes

are also deriving revenue from the plant, which helps towards our costs. In addition, this helps reduce carbon emissions."

"Flexitricity's smart grid approach allows us to do this while we get on with our day jobs – producing great crops for UK consumers."

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To request more information about Flexitricity's demand response services:

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