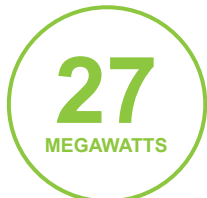




Kent Combined Heat and Power Plant

EXPORTING



**OF GREEN ELECTRICITY
TO THE TENANTS OF
DISCOVERY PARK
AND THE LOCAL GRID
NETWORK**

SUPPLYING



**HOMES WITH
CLEAN AND GREEN
ELECTRICITY**

SAVING OVER



**TONNES OF CO₂
A YEAR**



Our Combined Heat and Power Plant is now fully operational, exporting around 27MW of green electricity which is enough to supply the equivalent of 50,000 homes and save over 100,000 tons of CO₂ every year. It's difficult to visualise how much that is, but imagine the amount of carbon emitted by driving around 28 million miles in an average car – the same distance as driving round the world nearly 1,135 times, that is how much CO₂ is saved every year.



Kent Combined Heat and Power Plant

Building our Power Plant

Now our combined heat and power plant is fully operational it is exporting around 27MW of green electricity by burning locally sourced wood fuel to generate heat and power for Discovery Park. This is the equivalent of supplying 50,000 homes, saving 100,000 tons of CO₂ every year.

Our plant is one of many new biomass plants across the UK using a variety of plant based products to produce clean, green electricity to protect the environment by generating power from renewable sources which will never run out. Renewable energy, including biomass energy, produces little to no greenhouse gases or other harmful pollutants, so it has minimal impact on the environment, preserving resources for future generations.

Who are we?

We are a special purpose company set up to own and manage the Discovery Park CHP plant. We are owned by Copenhagen Infrastructure Partners K/S (CIP), a Danish infrastructure fund which specialises in the development of and investment in, renewable energies. Our power plant was built by Danish company Burmeister Wain Scandinavian Contractor (BWSC), who are continuing to operate and maintain the plant now it is completed. The wood fuel is sourced and delivered by Euroforest Ltd, a leading provider of harvesting and wood marketing services to the UK forestry industry. For more information please take a look at www.kentrenewableltd.com, www.cippartners.dk, www.bwsc.dk and www.euroforest.co.uk.



Our Construction Timeline

	2016		2017				2018		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
WORK AT THE SITE									
Site Clean-up	■	■							
Piling & Foundations	■	■	■	■					
Delivery of main components			■	■	■	■			
Onsite assembly of components			■	■	■	■	■	■	
Cold Commissioning						■	■	■	
Hot Commissioning							■	■	■
Grid connection live							●		
PREPARATION FOR OPERATION									
First steam test							●		
First synchronisation								●	
First Power to grid								●	
Full commercial operation									●

How did we build our plant?

Building a combined heat and power plant is a very complex business and we started ours in the summer of 2016. Construction work was finalised and the plant first generated clean, green energy in April 2018 and was ready for commercial operation by September 2018, almost 2 months ahead of schedule and within the £160 million budget for the project. Here's an overview of what we needed to do to be able to generate renewable heat and power:

- We started by preparing the site so we could begin the construction process. As we were working on an old industrial area, this involved clearing and crushing about one million tonnes of concrete.
- Once the clearing had taken place we could focus on the first stage of the construction process; the foundations for the buildings. This was one of our noisiest periods whilst we were building, as it included piling – driving the anchor points of the buildings far into the ground, with what was essentially a very big hammer.
- Next came the erection of the steel buildings that house our combined heat and power plant, and then we started assembling the power plant components. These were delivered along prior agreed transport routes with these unusual convoys drawing a lot of attention as they passed by.
- Once all the separate parts of our plant had arrived, we were then able to bring in the large crane and lift all the different sections in to place. These big crane lifts included positioning the boiler, condensers, mechanical process equipment and the chimney.
- Due to the nature of the site, we had to complete a new onsite road system to ensure we could move our biomass fuels around effectively. This is a small network which provides us with the infrastructure we need.
- Our new power plant was then connected to the existing electrical infrastructure on the site.
- We carried out pressure tests of the system in two phases, the first in November 2017, the second in February 2018. This is where we tested all the individual sections of the boiler to make sure they were more than capable of dealing with the pressure of the steam that is now passing through them. We tested them to extremes far greater than they will ever be put under during normal operation to ensure they are as safe as they can possibly be.
- In late February 2018 we carried out our steam blow testing. This was one of the final processes for cleaning the boiler to get it ready for final commissioning.
- Our energy plant was then commissioned and approved for the first generation of electricity on 23rd April 2018. The plant started operating commercially in September 2018.

What fuels the Power Plant?

Our combined heat and power plant is fueled by locally sourced, virgin low-grade roundwood logs, sawmill woodchips and clean recycled wood. There used to be several paper mills in the region which provided an excellent market for local forestry. Since their closure, it has been difficult to find alternative markets for this low-grade wood and much of the woodland area has not been managed for many years. By the time we began planning our power plant it was believed that of the 790,000 acres of regional woodland, 430,000 were not being actively managed. Our power plant provides a new, significant and reliable local market for low grade wood and is becoming the catalyst for more woodland to be brought back into active management plans.

All the wood we use in our power plant comes from sustainably managed sources and is accredited under the Forest Stewardship Council (FSC) scheme. The wood processing and supply chain management is undertaken by EuroForest. They ensure the wood from the forests to the plant is managed under their FSC approved chain of custody process, which the FSC audit annually.

As well as providing a fantastic source of local fuel for us, there are a range of other benefits in managing these local woodlands including carbon balancing, biodiversity management, maintaining the forest eco system, employment opportunities and productive

potential. Well managed, forests provide clean air, improved flood management, homes for wildlife, beautiful scenery, places for recreation and more than 5,000 products we all use every day. When they are not well managed, forests are often unhealthy and unproductive because of overcrowding, disease, insects, and competition for light, water and nutrients.

Our combined heat and power plant uses low grade wood that has few alternative uses and consequently has limited economic benefit. This has seen large swathes of forests in the South East become unmanaged leading to a loss of these positive environmental benefits. Older trees in such unmanaged forests remove minimal CO₂ when compared to newly planted young trees. Only through active management will the forests eco systems be maintained and improved. Active management for wood fuel makes the South East's woodlands as environmentally diverse, sustainable and productive as possible.

As markets for sustainable woodland products have disappeared, so too have the jobs and wildlife associated with woodland management, active management will see these opportunities return. Key indicator species of birds and butterflies have suffered catastrophic declines and localised extinction over the same period and we hope to work with our suppliers to ensure their management techniques respect and support the area's biodiversity.



What are the benefits to the community?

We believe that it is vital that we work hard to bring as many benefits as possible to the local area within which we work; we want to be good neighbours and a valued part of our community. The main purpose for building our power plant was to provide clean, green heat and power to Discovery Park, there are however many more benefits we've focused on delivering in the area.

Whilst our combined heat and power plant was being built we worked hard to source and use as many local contractors as possible, and in turn encouraged them to use local businesses for their supplies, lunches and even for an after-work drink in the local pub. This meant that as our power plant was being built a significant amount of money was spent in the local economy by the contracted businesses and the 400 people they employed.

One of the most important benefits we feel we offer is employment and we wanted to continue the success of our build phase. Because of this we wanted these opportunities to be offered as locally as possible and are proud to say that nearly all our team are from the local community. That is 27 high quality jobs with real job security, with most of our team living within 10 miles of our plant. We know we have an excellent team and are proud to be working with them to make our power plant a huge success.

We also continue to focus on the benefits our local wood chip sourcing policy, supporting woodland workers to manage areas that may not have been actively looked after for many years. We hope that with the security of market our power plant brings we will soon start to see more woodlands supporting biodiversity, woodland jobs and the carbon offsetting benefits of short rotation coppice.

How did we make it all happen?

To build such a complex plant on time and within budget is a difficult task, so we know we have many people to thank! We would not be where we are without the patience and support of the local community and tenants of Discovery Park. Without all their understanding, our combined heat and power plant would not have been ready on time and we hope we are paying back some of that support through the benefits we are working hard to deliver.

Our local partners have helped us so much along the way. Working with Discovery Park, Dover District Council, Kent County Council and the local parish council has helped us ensure that our power plant has been constructed effectively, with consideration to our neighbours and on time. We thank everyone involved.

All the teams who have worked with us during the construction and commissioning phases of the project have been amazing. They have showed real commitment to getting the job done as efficiently and safely as possible, and with understanding of the real need to work with all our neighbours. We would like to thank everyone involved individually but there are just too many people that have helped make this plant a reality – providing clean, green heat and power. Thank you.

So, if you have a question, comment or something you would like to share with us please contact:

Colin Dobson - General Manager
Kent Renewable Energy Ltd
Discovery Park
Ramsgate Road
Sandwich
Kent CT13 9ND

Website: www.kentrenewableltd.com
e-mail: info@kentrenewableltd.com
Mobile: 07495 678718



