



HKD Energy Annual Report 2015-16

HKD Energy: purpose and vision

HKD Energy is a Community Benefit Society, formed in 2014 to develop renewable energy projects, promote energy efficiency, and create awareness of environmental and energy issues in our villages of Hassocks, Hurstpierpoint, Keymer and Ditchling.

Our vision is to create low-carbon communities, by making buildings more energy efficient and generating the electricity we need from renewable sources.

Downlands School solar project

In February 2015 we installed 307 solar panels on the roofs of Downlands School and Sports Centre in Hassocks. This was the results of two years of hard work and an extremely successful share issue which raised £100,350 in just a few weeks.

The panels began generating energy in March 2015, so this financial year is the first complete year of generation.

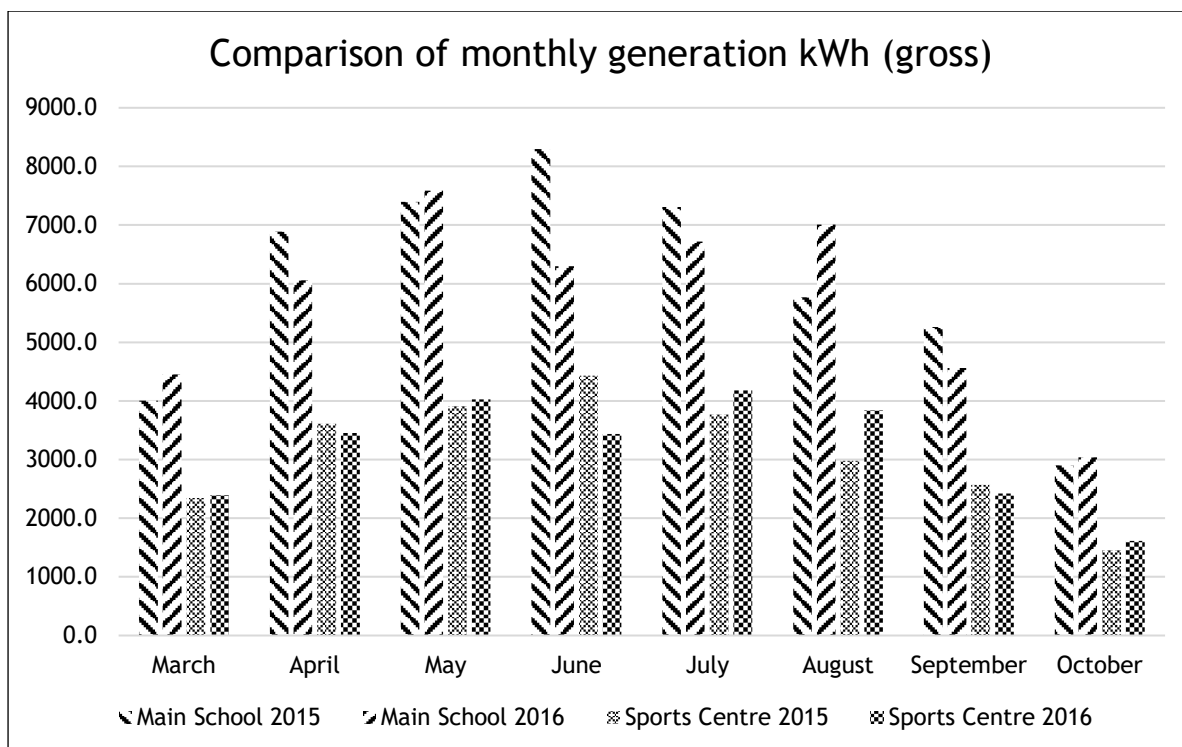
In August 2015 we received and reviewed a report on the panel installation, carried out by OST Energy. This was commissioned following an incident with one panel following extremely high winds. The report made a series of recommendations which have since been actioned by Solar Resources, the company that installed the panels.

This spring poor weather, with lots of rain, meant that our panels generated less electricity than we had hoped in the first half of the year. However, it also meant that the panels were cleaned by the rain, making them more efficient when the sun did shine. And the good weather in August 2016 did help recover the situation.

Another challenge has come from the local seagulls, who spend time on the roofs of the sports centre and the school. We have installed bird deterrents to try to address the problem of them fouling a small number of panels.

Despite these challenges, the panels have worked well over the year and have performed reasonably close to our projections, allowing for the variability in the weather. In the 12 months to 30 June 2016, the main school generated 49,350 kWh and the sports centre 26,185 kWh. Both of these totals are over 90% of what we had projected.

The way that the weather affects the amount of electricity the panels can generate is illustrated in the graph over the page, which compares how each set of panels (on the main school and the sports centre) performed between April and October in 2015 and 2016.



Meetings with our supporters

In January and February this year we had meetings for members and supporters to hear from speakers about developments in renewable and community energy.

In January, Will Cottrell, CEO of the Brighton Energy Co-op talked about their £1m of new community-funded solar PV projects in Sussex and Kent. As one of the earliest community energy groups, Brighton Energy Co-op has witnessed the significant growth in community energy over the last 5 years. That's being challenged by recent government changes, and Will talked us through the changes and their impacts. However, Will remains optimistic and expects new business models to emerge.

In February, Jonathan Gaventa, an HKD Energy investor and a director of the E3G environmental think tank, talked about the 'extraordinary transition' to clean energy. The pace of change is demonstrated by China, which has more wind and solar power than any other country, and in the next 14 years is planning new clean energy infrastructure generating 800-1,000 GW, equivalent to the entire European power system.

Jonathan was joined by Chris Rowland and Nick Rouse from OVESCO, both also directors of the new Meadow Blue Community Energy, which recently raised over £1.2m in a share issue for a large solar farm near Chichester. This represents a significant 'scaling up' for community energy, from relatively small rooftop projects. Once built, the farm will be a wildflower meadow with sheep grazing.

Impacts

We're sad that we've not been able to launch a new project during 2015/16. This is due to changes in government policy related to renewable energy. These changes include a big cut in the payments given to households and organisations that install solar panels.

Whilst these policy changes don't affect our existing project at Downlands, they have made it much harder to set up new projects that will benefit both the host organisation and investors.

However, we're proud of the impact that we've had so far, and of the impacts we hope to have in the future. These include:

Raising awareness in the community

Local people have valued the chance to learn more about renewable energy, as witnessed by the numbers attending events we have run. We also know that some of our investors and supporters have installed solar panels on their homes and explored installing panels on community buildings, partly as a result of the contact they have had with us.

Carbon saving

Over the 20 year span of the Downlands School project we expect to save the equivalent of some 843 tonnes of carbon dioxide through generating electricity directly from the sun. In this financial year we saved the equivalent of 40.7 tonnes, so we are firmly on track to meet our target.

Saving money for the school

Over the 20 year project we expect to save Downlands School around £150,000 in electricity costs. In the past year we saved the school around £4,400 in electricity costs.

Educational impacts

The panels and the information generated by the monitoring system are used by teachers at Downlands. For example, last year data about the amount of electricity generated was used in year 9 science environments project. The panels are also referred to when pupils are taught about renewable ways to generate electricity.

We have information about the panels is regularly displayed as part of the eco schools display during open evenings and it is used in the school's application for 'eco-school' status.

Over the 20 year project we estimate that nearly 7,000 pupils will come into close contact with the panels, seeing first-hand how a system like this can immediately start cutting carbon.

HKD Energy Limited

A Community Benefit Society registered with the Financial Conduct Authority no. 7021

Registered office: 15 East Gardens, Ditchling, Hassocks BN6 8ST

www.hkdenergy.org.uk

Future plans

New projects

Following the successful share offer and installation of the Downlands project, directors explored a number of potential sites for future solar projects. However, a series of policy changes by the government has made it difficult to plan for any new projects of this kind. So we have been looking at other forms of renewable energy which still offer a reasonable rate of return for investors - in particular ground source heat pumps. Finding sustainable ways to heat our homes and other buildings is really important, as 40% of the energy used in the UK is for heat.

We have been working with Downlands and Windmills Schools to explore the possibility of installing a ground source heat pump that might provide affordable heating for both schools, as well as for the sports centre at Downlands. We'll give an update at our AGM and in next year's annual report.

We continue to explore the possibility of new solar projects.

Repaying investors

Based on our income to date, we are on target to begin paying interest of 4% to our investors in March 2017. We will pay interest on any shares held by investors on 6th March 2017.

From March 2018 we plan to begin to repay capital to investors (investors who claim tax relief must hold their investment for at least 3 years).

We are also building a small contingency fund to repay in full the investments of anyone who dies.

Downlands School bonus payments

As the Downlands School solar project develops it will generate a modest surplus (expected to be c. £23,000 in total), all of which will go to the school. However, in the early financial years, HKD Energy needs to retain yearly profits (after maintenance, taxes and interest payments) as working capital to replace equipment as it wears out and as capital redemption reserve. Directors currently expect to begin paying bonuses to the school in year 11, but will review the financial position each year.

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