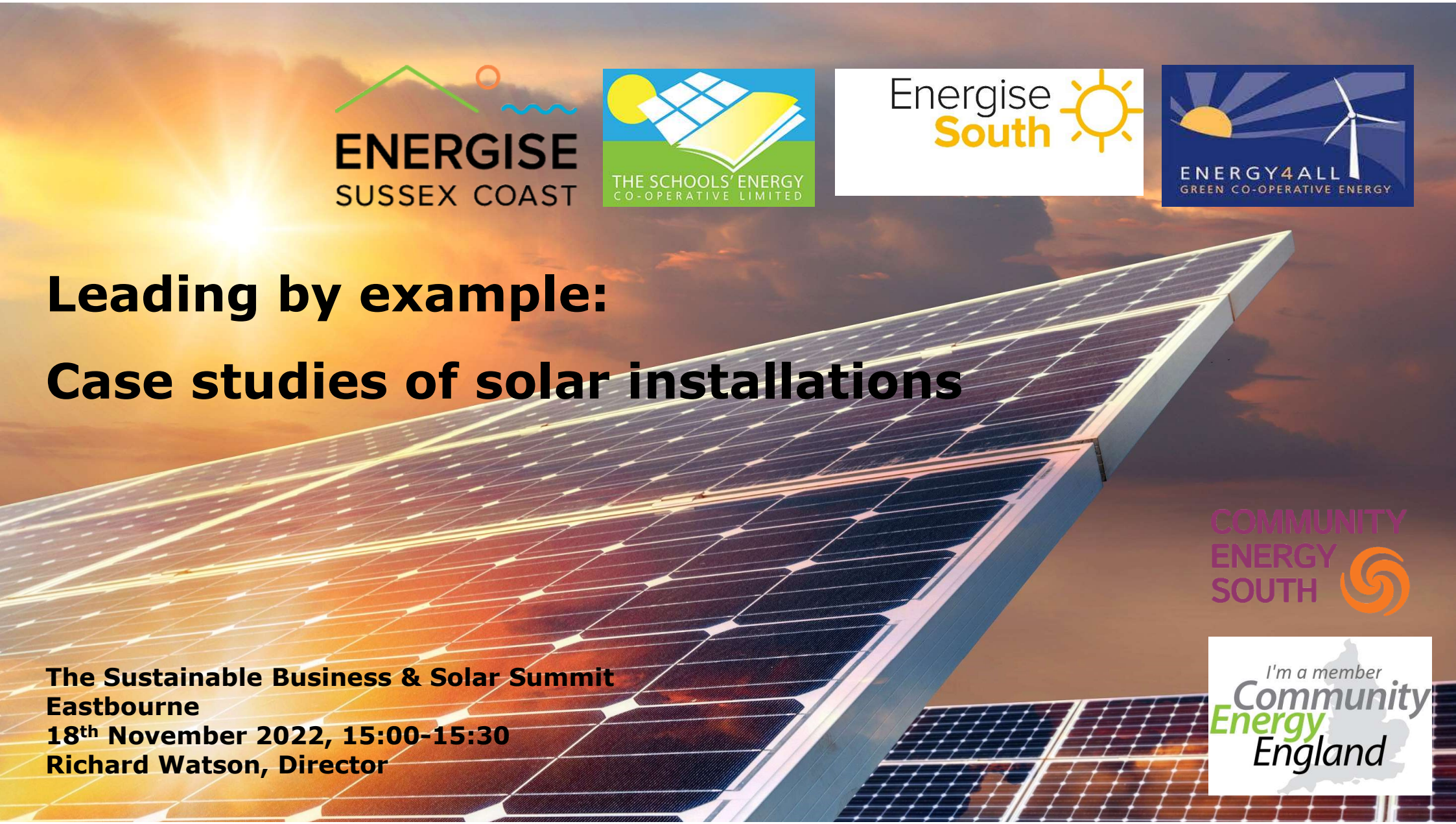

Leading by example:

Case studies of solar installations

The Sustainable Business & Solar Summit
Eastbourne
18th November 2022, 15:00-15:30
Richard Watson, Director

THE SCHOOLS' ENERGY CO-OPERATIVE LIMITED

ENERGISE SUSSEX COAST

Energise South

ENERGY4ALL GREEN CO-OPERATIVE ENERGY

Glenleigh Park Primary Academy

ENERGISE SUSSEX COAST

Key Facts

- 600 panels
- 150 kW capacity
- 141,936 kWh output per year
- 50,671 kg CO2 saved per annum* or **power for 47 houses** for a year
- £9,992 school saves per year
- £268,496 school saves over 20 years

*compared to electricity generation from gas

Glenleigh Park Primary Academy is one of 4 Aurora Academy schools in Bexhill and Eastbourne, 3 of which were suitable for solar. This was one of the largest arrays of any UK school at the time (2014). So good was its solar potential that Energise Sussex Coast and Wey Valley solar co-op decided to found the Schools Energy Co-op (SEC) to own and manage the panels. SEC have gone on to install solar on 84 schools across the UK and also on Salisbury Cathedral.

Heron Park Primary Academy

Key Facts

- **120** panels
- **29.64 kW** capacity
- **24,960 kWh** output per year

*compared to electricity generation from gas

- **8,911 kg CO2** saved per annum* or **power for 8 houses** for a year
- **£1,757** school saves per year
- **£47,216** school saves over 20 years

Heron Park is one of 2 Aurora Academy schools in Eastbourne and one of the early Schools Energy Co-op installations. It had some teething problems when panels had to be taken off the roof to do some roof upgrades and when replaced, water managed to seep into the cabling and affect the meters. This took a while to be fixed and new meters had to be installed. As a result the panels have only performed at 82.2% of their expected capacity. Note that all these costs are borne by the co-op and not the school.

The panels have generated 153,111 kWh in the last 6.1 years, saving an estimated £12,249 and 54,660 kilograms of carbon dioxide (assuming the school uses 88% of the power generated).

The total carbon saving over 20 years is 178,214 kgs and the power generated will be sufficient to supply the electricity demand of 166 homes for 1 year.

For the next 13.5 years the school will only pay a discounted price for the solar electricity it uses, making a saving that we estimate to be 50% on the cost of electricity from the grid.

After that time the school will be gifted the panels which should be operating at close to their best for another 20 years, and perhaps even longer.

The Managing Director of Aurora Academy schools was a physicist and he jumped at the opportunity to have solar panels installed at no cost.

Contact

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Oakwood Primary Academy

Key Facts

- **190** panels
- **47.32 kW** capacity
- **46,703 kWh** output per year

*compared to electricity generation from gas

- **16,673 kg CO2** saved per annum* or **power for 16 houses** for a year
- **£3,288** school saves per year
- **£88,347** school saves over 20 years

Oakwood is one of 2 Aurora Academy schools in Eastbourne and one of the early Schools Energy Co-op installations. It has been generating electricity for six and a half years at 91% of its anticipated capacity. All the early schools in the Schools Energy Co-op have received additional payments as part of the profit share scheme that some community benefit societies run. When there is surplus income rather than give higher dividends to members they gift cash rewards to the schools. The Aurora group has received roughly £2000.

The panels have generated 301,588 kWh in the last 6.45 years, saving an estimated £21,232 and 107,667 kilograms of carbon dioxide (assuming the school uses 88% of the power generated).

The total carbon saving over 20 years is 333,461 kgs and the power generated will be sufficient to supply the electricity demand of 311 homes for 1 year.

For the next 13.5 years the school will only pay a discounted price for the solar electricity it uses, making a saving that we estimate to be 50% on the cost of electricity from the grid. Although King Offa Academy in Bexhill did not have a roof that was suitable for solar the 3 Aurora Academy schools will save, we estimate, £404,060 over the 20 year agreement, and save 1,525 Tons of CO2. The power generated by the panels is enough to supply the annual electricity demand of 1,443 homes.

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St Leonards Academy & Sports Hall

Energise South

Key Facts

784 panels

227.36 kW capacity

226,301 kWh output per year

*based on UK grid intensity of 220gmsCO2\kWh

49,786 kg CO2 saved per annum* or **power for 75 houses** for a year

£13,465 school saves per year

£490,921 school saves over 25 years

St Leonards Academy has one of the larger school solar arrays in the country. This will have a positive impact on its considerable energy bills as it uses roughly 1 million kWh of gas and electricity every year. In spite of the poor summer in 2021 and the failure of one set of inverters which led to a quarter of the panels being switched off for 3 months, the site is nevertheless achieving 96% of its expected annual generation.

The school and sports hall will make considerable savings of the 25 years which we estimate as £490,921 or £13,465 a year.

It will generate enough power for 75 homes a year and 1886 homes during the license period.

Savings of carbon will be 49786 kgs per year and 1244655 kgs over 25 years.

All this amounts to a significant benefit for the school and its role in the low carbon transition.

Contact

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Innovation Centre

Energise South

Key Facts

263 panels

75.11 kW capacity

72,857 kWh output per year

*based on UK grid intensity of 220gmsCO2\kWh

16,028 kg CO2 saved per annum* or **power for 24 houses** for a year

£4,335 centre saves per year

£158,051 centre saves over 25 years

The Innovation Centre is a large commercial unit on the Churchfields Estate in Hastings, managed by Sea Change for multiple business tenants. These panels have performed exceptionally well and are currently operating at 114% of their projected capacity in spite of 2021 being a poor solar year.

In some sunny months they were producing 135% of their expected output.

The two arrays at the Innovation Centre have been the best performing to date.

They generate enough power for 24 homes a year, or 607 homes across the full license period.

We estimate the savings as £158,051 over 25 years and the carbon savings as 400,713 kgs.

There are many similar commercial roofs in the industrial estates of Hastings and other seaside towns. Covid and the consequences of Brexit have made many businesses apprehensive about their long term futures and we believe that in a stable economy more businesses would have been willing to take up the solar offer.

In circumstances such as these we are exploring shorter renewable contracts for sites where the tenants may change.

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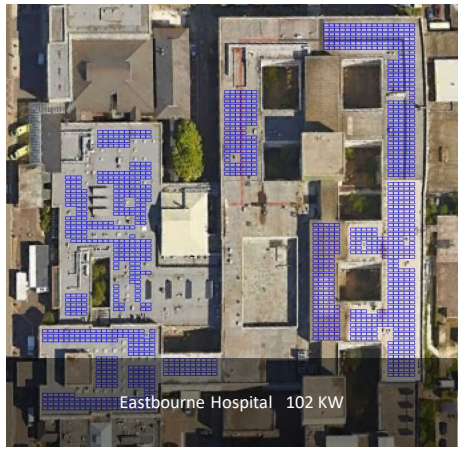
ENERGY4ALL
GREEN CO-OPERATIVE ENERGY

Plastics Factory Hastings 529 KW (cost £ 351,000)

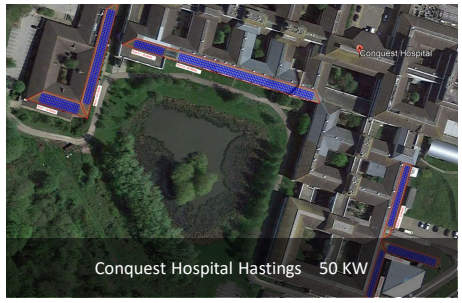
Towner gallery Eastbourne, 22 KW

< 1 MW of solar potential in each town : Bexhill, Eastbourne, Tenterden, Battle, Rye..



Eastbourne Hospital 102 KW

Bexhill Hospital 40 KW (Bexhill has 52 Care homes



Conquest Hospital Hastings 50 KW

ENERGISE
SUSSEX COAST

A JUST TRANSITION …

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