

Commercial solar

Cold Store 250 kWp

Warehouse 186 kWp

LarkEnergy Commercial

Harnessing the earth's natural energy



Cold store 250 kWp

Why choose solar?

Solar is the fastest growing source of energy in the UK and globally. It enables people and businesses to generate their own independent supply of energy that helps cut costs and reduce carbon emissions.

- ☀️ Earn an excellent return on your investment
- ☀️ Cut your energy costs
- ☀️ Shrink your carbon footprint
- ☀️ Support UK jobs
- ☀️ Reduce your reliance on the big energy companies

A solar installation will reduce your overheads and earn an income for 20 years.

Why choose Lark Energy

Lark Energy is a market leader in the rapidly growing UK commercial and utility scale solar industry. We undertake high quality projects of all sizes for our clients and investors, ranging from 30 kWp rooftop installations to 30 MWp ground-mounted solar farms.



Our track record

Lark Energy is part of the Larkfleet Group of companies, a privately owned construction and development group based in Lincolnshire. Founded in 2000, the Group is a diversified business with activities ranging from housebuilding to waste management.

The Group has an increasing focus on the energy sector and invests part of its profits in early stage energy technology businesses.

Lark Energy was established in March 2010 and focuses on financing, developing and installing commercial and utility scale solar projects for our clients and investors. The company has grown rapidly and now employs 45 full-time staff with a turnover for 2013/14 of just under £60m.

Lark Energy is the proud winner of multiple industry awards for both land and rooftop installations. These include the 'Most Successful Ground Mount Site' in the Solar Power Portal Awards and 'Solar Award for Excellence' in the Solar UK Awards.

Our team

Lark Energy is committed to the development of a sustainable, long-term solar industry in the UK. Our staff of 45 professionals, based at offices in Market Deeping, Solihull and Edinburgh, have unmatched experience in solar development, design, construction and maintenance.

The company's Managing Director, Jonathan Selwyn, has over 20 years' experience in the environmental technology and renewable energy sectors. He is a Board member of the Solar Trade Association, the leading voice for the solar

industry in the UK. He and his colleagues sit on many other government committees and industry steering groups and helped develop the industry's first code of conduct - the '10 commitments'.



Our commitment to you

- Our highly experienced commercial sales team will guide you through the most cost-effective options designed to deliver an excellent return on investment.
- Our specialist in-house engineers will design the most efficient solar system to suit your needs.
- We will, at all times, use top tier products with industry leading warranties.
- Our construction team will deliver a first class installation to the highest industry standards.
- Our in-house maintenance team will ensure that the system continues to operate with optimal efficiency throughout its lifetime.*

* Each system comes with a standard 2 year warranty. Lark Energy offers a range of extended warranties to suit your needs.

Lark Energy's leading facts and figures

Number of rooftops installed
750

Consented
254 MWp

Constructed and connected
150 MWp
(enough clean energy for 37,000 homes)

Operate and maintain
114 MWp

CO₂ Saved
67,000 tonnes
per annum



G's Growers Ltd

Size

250 kWp

Number of panels

1,000

Annual energy production

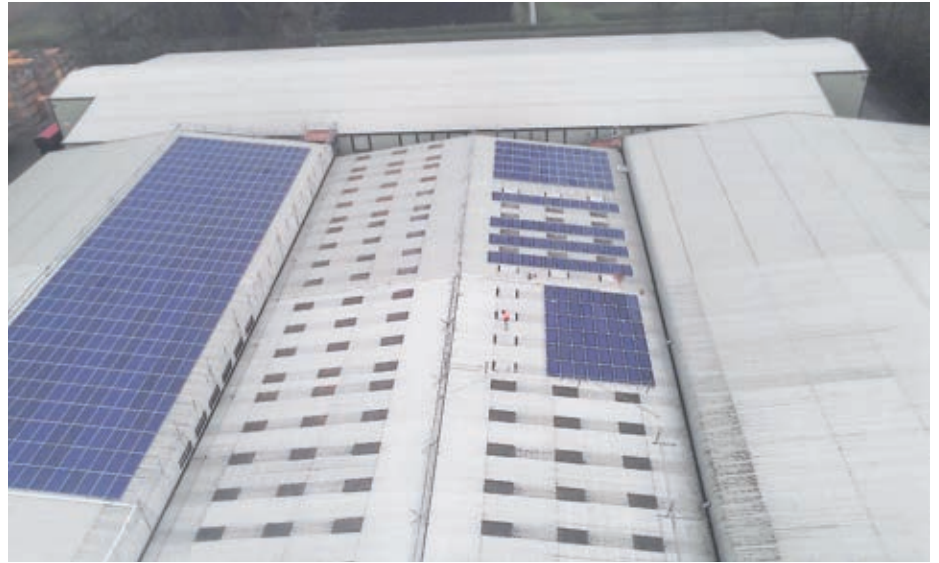
208,224 kWh

Annual CO₂ reduction

62 tonnes

Return on investment

19.5%



G's have been growing, packing and marketing fresh vegetables for over 60 years. They are an intensive energy user but take their commitment to the environment seriously. They are committed to a 30% reduction in carbon emissions by 2020. In 2013, the Ramsey site won the prestigious Marks and Spencer Plan A environment award.

They have been implementing energy efficiency and renewable energy measures for some time and in 2013 they awarded Lark Energy a contract to install solar panels on their cold store.

On the face of it this was a straight forward roof-top installation on a site with a large, incoming high voltage grid connection. However, due to local generation and grid constraints UKPN, the local distribution network operator (DNO), refused to provide a conventional connection fearing adverse impacts on the network.

Fortuitously, UKPN had just launched a government-funded pilot project designed to find new ways of connecting renewable energy in areas of constrained grid. The 'Flexible Plug and Play' pilot scheme seeks to overcome these constraints by allowing the DNO to remotely manage exported energy to the grid. It aims to enable cheaper and faster integration of distributed generation, such as solar, into the electricity distribution network.

Lark Energy suggested that G's installation would be a good candidate for the pilot. However, as the first project of its type in the UK, Lark Energy had to navigate extensive design and contract requirements to even

have the project accepted. Once accepted, Lark Energy then had to come up with the appropriate technical solutions required by UKPN, including limiting the size to 250 kWp, and designing and installing specialist active network monitoring and power management systems.

Once the solar system was installed, it took many weeks for the monitoring and management system to be perfected so that all data could be accessed remotely in real time and connection could be controlled by UKPN. It is now, however, fully functioning and providing significant clean power to G's cold store.

The project will feed into research that will be shared with all DNOs in the UK who face the challenge of connecting high levels of renewable generation over the coming years. It will enable them to explore cheaper 'interruptible' connections using new control and monitoring smart technologies to improve the utilisation of existing networks instead of incurring expensive reinforcements.

As the site has extensive cold storage facilities and is operational 365 days of the year it is not anticipated that the generation will ever be interrupted and the company can expect an excellent return on their investment, a substantial reduction in carbon emissions and comprehensive operational support from Lark Energy.

In 2013, the Ramsey site won the prestigious Marks and Spencer Plan A environment award



Ketton

Size
12 MWp

Number of panels
50,644

Annual energy production
11,400,000 kWh
(enough energy to power
3,200 homes a year)

Annual CO₂ reduction
3,420 tonnes

Cement manufacture is an energy and carbon-intensive process. Whilst significant reductions in CO₂ have been made by the industry, there has to date been limited adoption of renewable energy generation. Lark Energy, working in partnership with Armstrong Energy and Hanson Cement, has designed, developed and constructed an innovative 12 MWp project which, for the first time, brings significant solar power to a major UK cement works.

Ketton Solar Farm is comprised of 2 phases. The first phase is 9 MWp situated on 20 hectares of former quarry belonging to Hanson Cement in Rutland, and consists of 38,544 modules. The second phase is 3 MWp and is sited on an adjoining field of 7 hectares, consists of 12,100 modules and together they will generate enough energy to cover around 13% of the Cement work's annual consumption

The project was jointly developed by Lark Energy and Armstrong Energy with the latter providing funding partly through an innovative PPA arrangement with Hanson. It also has a pioneering approach to managing the grid connection. Lark Energy has designed the solar farm to enable active and reactive power management and to protect the grid from reverse current. This has a number of advantages, including minimising the need for costly 33kv upgrade work, reducing the energy costs for Hanson and enabling the inverters to be used as capacitor batteries at night.

As the proposed project fell wholly within the working cement works, and could not be seen from the adjacent village, the council didn't receive a single objection and it received unanimous approval from Rutland County Council in late July 2013.

The power from the solar farm connects into Hanson's private 11kv network on three separate circuits. This means that individual switchgear and transformer sets are required for each circuit. The 11kv network then connects to Western Power Distribution's 33kv public grid network via a step up transformer. Various upgrades of the customer and DNO substations had to take place to enable the connections.

“Lark Energy was the installer of choice when it came to Hanson’s solar farm at its Ketton site. Having proved themselves with other large ground based installations in the UK, Lark had demonstrated they could meet our brief of a safe and professional installation”

Mark COX MBA, Hanson Cement

Poultry Farm

Size

470 kWp across 5 sites

Annual energy production

420,000 kWh

Annual CO₂ reduction

126 tonnes

Return on investment

18.5%



The Directors of a leading private company in the Food and Agribusiness industry asked Lark Energy to help them devise a solar PV rollout plan across their poultry farming portfolio. This involved a detailed assessment of multiple sites across East Anglia and the East Midlands. Lark Energy investigated the energy requirements and infrastructure for each site together with associated grid capacity.

Lark Energy's assessment concluded that the best option was to use the land adjacent to five poultry buildings for ground-mounted installations. Lark Energy secured planning permission on the five proposed sites and then devised a comprehensive construction and delivery programme. This included strict health and safety criteria being observed including bio-security measures for working in proximity to the poultry farms.

All projects were delivered to time and budget and are now contributing to a strong return on investment, lower energy bills and reduced carbon emissions.

Manufacturing Plant

Size

150 kWp

Annual energy production

119,502 kWh

Annual CO₂ reduction

36 tonnes

Return on investment

15%



The owners of this manufacturing and warehouse facility, with substantial energy bills, were looking for ways to cut costs, reduce their carbon emissions and realise a healthy return on investment.

Their double pitched, East West facing roof was the ideal size for 150 kWp. This solution gives good generation throughout the day and the total on-site consumption can often be better than for a south-facing roof. The array was designed around existing skylights so that natural daylight was not obscured from the warehouse.

In order to pass the structural survey, a lightweight fixing system was used to secure the panels to the roof using the manufacturer's design layout and benefitting from their independent warranty.



Coldstore and Warehouse

Size

2 x 50 kWp systems

Annual energy production

82,000 kWh

Annual CO₂ reduction

25 tonnes

Return on investment

18%



The Landlord of the site decided to install 50 kWp solar PV systems on both buildings. The tenants agreed and were happy with the positive PR that comes with on-site renewable energy generation. The PV systems have improved the energy performance rating of the buildings and the landlord benefits from regular generation and export tariff payments.

Both systems were installed just before a feed in tariff deadline, and in order to secure the higher feed in tariff rate, Lark Energy co-ordinated several teams of roofing contractors and electrical engineers on site at the same time.

Grain Store

Size

250 kWp

Annual energy production

214,231 kWh

Annual CO₂ reduction

71 tonnes

Return on investment

17%



The owners of this very large grain-store, with a high voltage connection, wanted to offset substantial energy bills from grain drying and moving.

Lark Energy was recommended by a neighbouring landowner with whom we had recently developed a large solar farm. We proposed a 250 kWp ground-mounted system adjacent to the grain-store with panels mounted in a two panel portrait format on piled steel frames. Following a detailed planning submission, the local planning authority consented the scheme with a requirement to fence the site with 1.5m high stock proof fencing and some planting to the south of the site.

As with many projects of this size, the connection to the customer's electricity system presented a number of challenges including the need for a new distribution board and a stand-alone internet connection for performance monitoring.

Wymeswold

Size

33 MWp

Number of panels

125,000

Annual energy production

31,350,000 kWh

(enough energy to power 8,500 homes a year)

Annual CO₂ reduction

9,405 tonnes

Lark Energy developed the award winning 33 MWp solar farm at the former World War II airfield at Wymeswold, near Loughborough.

The project consists of over 125,000 panels, spread over an area of 150 acres and provides 8,500 homes in the surrounding community with their annual energy needs. The project was by far the largest to have been developed and built in the UK when it connected to the grid in March 2013.

Lark Energy worked very closely with the site owners, the Prestwold Estate, the local community and Charnwood Borough Council and, despite its scale, achieved planning consent without a single public objection.

We faced many challenges in building the project, particularly in relation to the grid connection, weather and changes in government policy.

We had to change the 6km grid connection route at short notice after it was discovered the main bridge had no further capacity. The new route necessitated a directional drill



“Wymeswold is an excellent example of how large scale solar can co-exist with the natural environment”

Greg Barker, Energy Minister



under the River Soar and several adjacent flooded fields.

It was not until the beginning of February 2013 that the first pile was driven into the ground, by which time weeks of continuous rain had made the site waterlogged. At the height of construction some 450 contractors were on site working in very difficult conditions.

Lark Energy also had to work around the existing users of the site, notably a motorsports company, who use a large part of the runway within the site for track day car experiences.

It was nevertheless completed and connected in a record 7 weeks, meeting the deadline at the end of March 2013.

Wymeswold demonstrates Lark Energy's expertise and capability in project development, community involvement and getting even the most complex project completed to time and budget.

Our solar solutions are designed to enhance the value of existing buildings and land, reduce consumption of grid energy and reduce the carbon intensity of operations.

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Lark Energy is part of the Larkfleet Group of companies. Larkfleet Limited is an MCS (Microgeneration Certification Scheme) Approved installer. MCS is the certification mark for onsite sustainable energy technologies.



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