Leading sustainable development in the UK
The Larkfleet Group

Karl Hick established Larkfleet in 2002 and over the following years has built it into a thriving group of companies.

Based in Lincolnshire, England, the group employs almost 150 people at its offices, stores and factories and on construction sites throughout Cambridgeshire, Lincolnshire, Nottinghamshire, Peterborough and Rutland.

Larkfleet Homes, the leading company in the group, is one of the top 50 housebuilders in the UK by value of homes sold.

As well as being a major housebuilder the Larkfleet Group is now also:

- A major developer of sustainable energy projects – particularly in photovoltaics (PV).
- A leader in research and development into renewable energy and sustainable construction.
- A provider of energy-efficiency improvements for new and existing buildings.
- A developer of sustainable communities with energy-efficient, low carbon homes.

Larkfleet is a unique group of businesses with a commitment to sustainability that sets us apart from competitors.

Group companies work together on many projects to offer an unrivalled service to homebuyers, local authorities, housing associations, solar farm developers, independent builders and construction companies.

The group’s success allows us to provide local employment and support the local environment with low carbon building, sustainable construction and wildlife protection. Our success also enables us to support local schools and charities and sponsor business awards to celebrate the achievements of local companies.

We are committed to training the next generation of construction professionals. We recruit young local apprentices who gain experience in energy-efficient construction during their time with us. We provide local graduates with business experience through structured training. With both these programmes we aim to encourage local talent and harness the innovation and enthusiasm provided by these young people.

We have been involved in setting up a new University Technical College in Peterborough for which we are one of only three local employer sponsors.

We invest in research and development (R&D) in areas such as sustainable construction and renewable energy. Our leadership in this field has attracted national and international interest and government financial backing.

Our current R&D projects have the potential to revolutionise the construction industry with innovative techniques for low-cost building.
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Larkfleet Group companies include:

- **Larkfleet Homes** - an energy-efficient housebuilder.
- **Lark Energy** - the UK’s leading developer of photovoltaic (PV) “solar farms”.
- **Hawksmead** - developing sustainable communities.
- **Larkfleet Renewables** - developing and selling sustainable technologies.
- **Kestrel Timber Frame** - providing timber frames from sustainable forest sources.
- **Deepings Building & Plumbing Supplies** - builders’ merchants.
- **Falcon Waste Development Land Company Limited** - developing waste-to-energy plants.
Larkfleet has moved beyond housebuilding into creating sustainable communities. For example, we are responsible for planning and developing a major urban expansion of the town of Oakham.

The new development will contain up to 1,100 homes, a continuing care retirement community, a care home, a hotel and around 30 acres of offices as well as parks and open spaces, children’s play areas and a new local centre. There will also be new cycle, footpath and bus routes as well as a new site for the Rutland County Show and improved facilities for the town’s football, rugby and other clubs.

The homes we are building there – like the homes we are building in many other places – are constructed using timber frames provided by group company Kestrel Timber Frame.

The timber is obtained from sustainable sources and the timber frame building technique gives high levels of energy efficiency with low embedded carbon.

Many of the homes we build have solar PV (photovoltaic) panels fitted as standard so homebuyers can benefit from reduced energy bills. The panels produce electricity from daylight even in cloudy English weather.
Green Deal Eco House
The Green Deal Eco House shows how housing and commercial buildings can incorporate many different energy saving measures. The latest addition to the Green Deal Eco House is a biomass boiler. This is a demonstration unit for group company Larkfleet Renewables which offers house owners the opportunity to have biomass boilers fitted using UK government finance.

Larkfleet PassiveHouse
Larkfleet Group, as part of a consortium of companies, developed Startlink Lightweight Building Systems (SLBS). The project was supported by funding from the UK government because of the potential significance of the technology being developed.

We have constructed a ‘test house’ using these materials and methods – the ‘Larkfleet PassiveHouse’ – which is built to Passivhaus and Code for Sustainable Homes Level 6 standards. It shows how lightweight pultruded glass-reinforced plastic (GRP) composite beams and panels could revolutionise the way in which homes are built.

The house is designed to be built using modular components that can be mass-produced in a factory and then easily installed on site with minimal labour and site waste. This allows the building to be completed in much less time than a traditionally built house.

The light weight of SLBS homes also offers the potential for them to be built on foundations which would rise in response to flooding. This would keep the houses themselves entirely clear of the water. This may make it possible to develop housing where it is not currently viable because of potential flood risks.

We are now building an experimental half-scale house on rising foundations in the garden of the existing Larkfleet PassiveHouse.

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Solar power is the fastest growing and most popular energy technology in the UK and Lark Energy, part of the Larkfleet Group, is one of the industry’s leading companies. It specialises in the development, design, installation and maintenance of high quality commercial and utility-scale solar photovoltaic (PV) systems and has won a number of awards for its projects.

Since June 2011 Lark Energy has achieved planning consent for over 250 MWp of solar farm projects and has installed more than 800 rooftop systems across the UK. Its projects range in size from 30 kWP to over 30 MWp and are providing enough clean energy for more than 35,000 households.

Lark Energy developed the UK’s largest solar farm at Wymeswold Airfield with landowner Prestwold Estates. The farm was funded and is owned by Hazel Capital.

It consists of 125,000 solar panels covering an area of 60 hectares (150 acres). It was built in less than eight weeks before the end of March 2013.
Waste to energy

As well as investing in various forms of solar power Larkfleet is also investing in waste-to-energy plants with major developments proposed at Clay Cross in Derbyshire, England, and Tarbolton in Scotland.

At Clay Cross, Falcon Waste Development Land Company – part of the Larkfleet Group – is a partner in Clay Cross Biomass Limited. The company has been established specifically to develop the Clay Cross Energy Recovery Facility which will produce heat and electrical power by ‘gasification’ of waste wood from construction and demolition sites.

Gasification uses heat, pressure and steam to convert the waste into a gas composed primarily of carbon monoxide and hydrogen.

The plant will be able to generate around 12 MW of electrical power. Some of this will be required for operating the facility but about 10 MW – enough to meet the needs of approximately 18,000 homes – will be exported to the national grid.

In addition to electricity the plant will produce up to 3 MW of thermal energy in the form of hot water or steam. This could be made available to local businesses, industry and homes – it would be sufficient to heat the equivalent of nearly 1,200 average houses.

If the equipment proves to be successful the major market is likely to be in warmer countries where there is sunshine for long periods of the year. We have already had interest from Pakistan and Bangladesh. We are talking to the UK government about support for exporting to these countries and others.

Waste Steam

Adjacent to the PassiveHouse and Eco House demonstration homes Larkfleet has recently installed an experimental solar power system.

The ‘solar steam’ system consists of panels which focus the sun’s rays onto metal tubes filled with water. This heat can be harnessed to heat water or to produce steam which can be used to drive a generator to produce electricity. The panels are mounted on a rig which rotates to track the movement of the sun through the day.

This initial trial installation will produce only a small amount of steam for experimental purposes. One of the objectives is to test the effectiveness of the equipment in British weather conditions – it should be possible to produce some power even on cold and cloudy days. The system has enormous potential to help tackle global warming and generate ‘carbon-free’ electricity.

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An award winning group

Larkfleet Group companies have won many regional, national and international awards for business and environmental achievements.

Karl Hick personally was named as the Peterborough Telegraph Business Person of the Year 2013 and in 2010 he was named as an ‘international green hero’ by the Green Organisation, an independent environment group dedicated to recognising, rewarding and promoting environmental best practice around the world.

He was also recently named as Midlands regional winner of the ‘master entrepreneur’ category in the Ernst and Young Entrepreneur Awards and as a regional winner in the National Business Awards.

In recent years Larkfleet Group or group companies have been shortlisted for:

- First Time Buyer Awards
- Business Green Leader Awards - Renewable Energy Project of the Year
- East Midlands Property Dinner Awards
- Procon Awards
- Sustainability Leaders Awards
- Housing Design Awards (HAPPI) Sustainable Housing Awards
- Sustain Magazine Awards
- Lincolnshire Energy Awards
- Innovation Award category in the Lincolnshire Media Business Awards.

We have recently won:

- Best over 50s housing developer in the world at Global Over 50s Housing Services Award
- Best developer in Northern Europe at the Overseas Property Professional Industry Awards
- East Midlands LABC Awards – best large housing development category
- Green Apple Award for Environmental Best Practice
- Chamber of Commerce ‘Sustainability Award’ – Eastern Region
- International Business Awards (Stevies) – Silver Award winner in the ‘materials and construction’ category
- In 2013 Lark Energy’s solar farm at Wymeswold won the Solar Power award for best large scale solar project and the Solar Industry Awards’ Solar Award for Excellence: Ground Mount Installation.
- In 2014 Lark Energy’s solar farm at Hanson Cement’s Ketton Works in Rutland (pictured above) won the award for best Ground-Mount Solar Site under 10 MWp.

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