

Kettering Energy Park

Helping to Secure Kettering's
Strategy for Responsible Growth

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FIRST RENEWABLE

The energy challenge



“The unprecedented combination of the global financial crisis, tough environmental targets, increasing gas import dependency and the closure of ageing power stations has combined to cast doubt over whether the current energy arrangements will deliver secure and sustainable energy supplies.” **Ofgem**



The UK is increasingly looking towards imported LNG (Liquid Natural Gas) to reinforce the energy mix. This leaves the country exposed to the vagaries of supply and price volatility

- In the next 6 years, **34% of the UK's power generation will be lost** as a result of nuclear decommissioning and the closure of 9 fossil fueled power stations
- If the decommissioned power stations are not replaced it has been predicted a **shortfall in peak energy supply could occur by 2017**
- **By 2015 65% of all energy will be imported**, much of it from countries with an unstable political backdrop. **This is a major threat to our energy security**
- **Energy prices have increased by 60% in real terms in the last eight years**
- The Energy Efficiency Scheme now requires all organisations using over 6,000 MWh (circa £500,000) of electricity a year to pay a **'carbon tax' of £16 per tonne (rising to £30 per tonne by 2020) of carbon dioxide**
- Increasingly Local Planning Authorities are making it mandatory for all **new developments to source increasing amounts of energy from renewable sources**
- European Legislation requires **15% of all energy to be renewable by 2020**



The Energy Park

An integrated, constant, renewable, low carbon, decentralised energy source able to secure the energy future of a community.

Integrated

Ensuring the maximum renewable return from the minimum land take

Constant

Understanding the importance of mixing technologies to produce constant not intermittent power supplies

Renewable & Low Carbon

The only way to make communities sustainable into the future

Decentralised

Focussed on the needs of and directly benefitting the host community

Secure

Long term and strategic in scale, ensuring communities maximise renewable opportunities provided by the Energy Park



Onshore Wind Power

Onshore wind generation has a vital role to play in helping the UK achieve its carbon reduction targets and close the looming energy gap. It is more economical than the offshore alternative.



Solar Power

Solar power has undergone a step change in efficiency and cost effectiveness over the last few years and this has increased the opportunities for solar infrastructure developments on large commercial buildings and land based solar farms.



Biomass

Solar and wind power are vital for a low carbon future but communities and businesses need a constant, non-intermittent supply. This need can be met sustainably with a carbon neutral biomass plant.



Anaerobic digestion

An important new technology for producing renewable fuels, the outputs from an anaerobic digestion plant can be turned into fuel for vehicles or electricity/heat generation and fertiliser.



Hydroponics

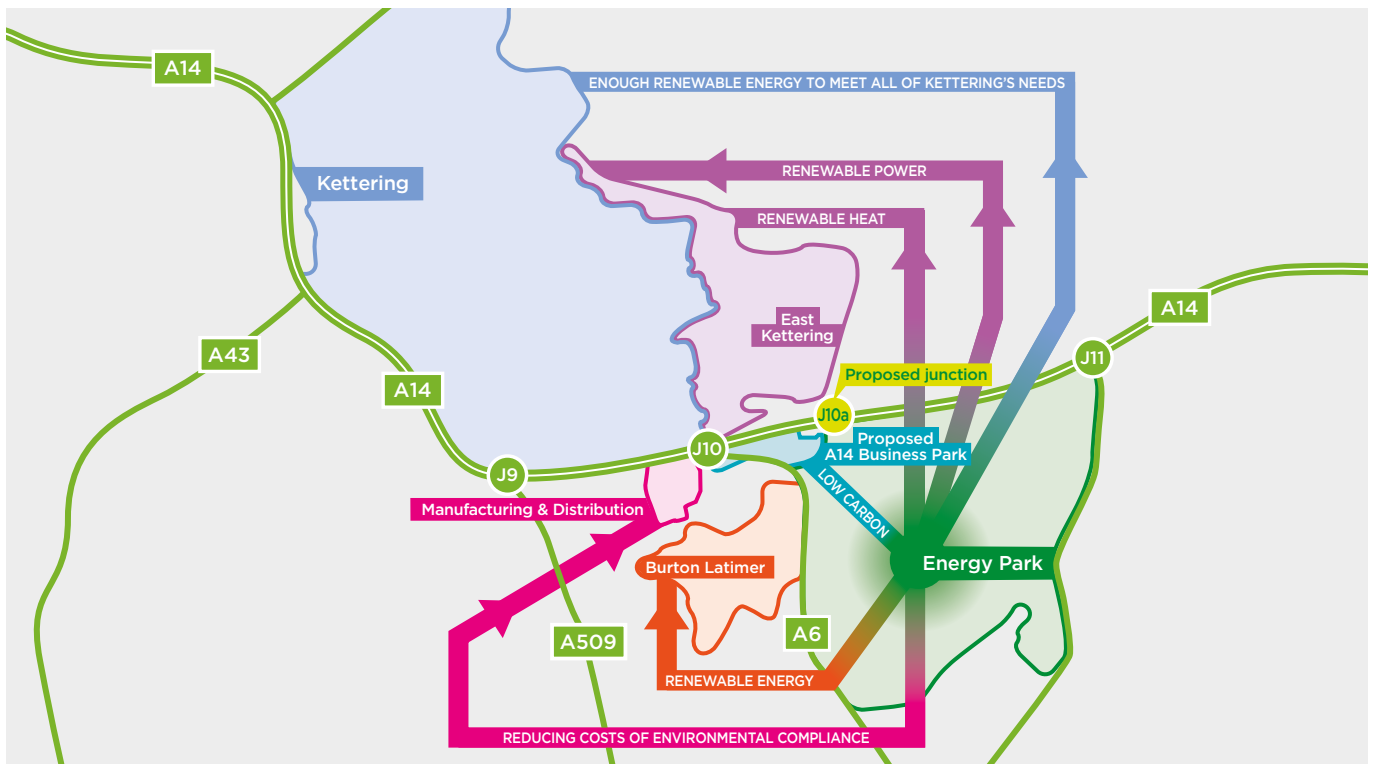
Hydroponics is a method of growing crops in nutrient rich water rather than soil. It is an extremely efficient way of producing a large volume of high quality food and is an ideal companion operation for renewable technologies.



Data Centres

Data centres consume large amounts of electricity for power and cooling so security of energy supply is 'mission critical'. This makes Energy Park occupancy ideal for their needs.

Sustainable power for a whole community



The Energy Park will support Kettering's future growth by providing much of the energy needed to sustain it, and further fuel that growth by creating long term jobs. This symbiotic relationship will unite the town and Energy Park within one eco-system.

- Kettering Energy Park has the capability to generate enough power for Kettering's current and future needs. Phase one, known as the Burton Wold Wind Extension, will see the installation of nine high efficiency GE turbines that will produce enough power for 11,000 homes
- The Energy Park will act as an enabling development for existing consented schemes within Kettering that have to meet renewable energy targets
- The Energy Park provides a direct benefit to the community in that it provides a resilient and robust supply of electricity for all domestic, commercial and municipal purposes
- The Energy Park will turn Kettering into a best-in-class location for energy intensive businesses. In choosing Kettering over other locations such as high energy users will stimulate growth and create long term, high value jobs

Kettering Energy Park



1 TOWN CENTRE

- Delivering of 'Suite 16' programme of regeneration
- Kettering Borough Council assets key to unlocking further town centre activity

2 BURTON LATIMER

3 MANUFACTURING & DISTRIBUTION

4 THE ENERGY PARK

- Dedicated area for decentralised energy production
- 1,100 acres of land to the East of Burton Latimer (south of A14)
- Purpose is to match energy production with consumption

5 EXISTING 10-WIND TURBINE SITE

- Burton Wold was the largest on-shore wind farm when consented, and benefitted from strong local support in the community

6 PHASE ONE: WIND TURBINE EXTENSION

- 9 new GE high efficiency turbines – twice as efficient as the existing turbines
- in construction and operational by May 2014

7 LOW CARBON A14 BUSINESS PARK

- Proposed 90 acre business park to the south of junction 10 of the A14
- Mix of Office and Distribution space
- Dependent on improvements to J10

8 EAST KETTERING SUSTAINABLE URBAN EXTENSION

- Alledge Brook have outline planning consent for a business park to the north of Junction 10
- East Kettering Urban Extension has outline consent for 5,500 new homes

Harvesting energy from the sun



Phase two of the Kettering Energy Park will see the installation of a 40MW solar farm which will complement the wind farm developments. The solar array will increase and harmonise the production of renewable energy, further increasing security of supply of low carbon electricity to Kettering.

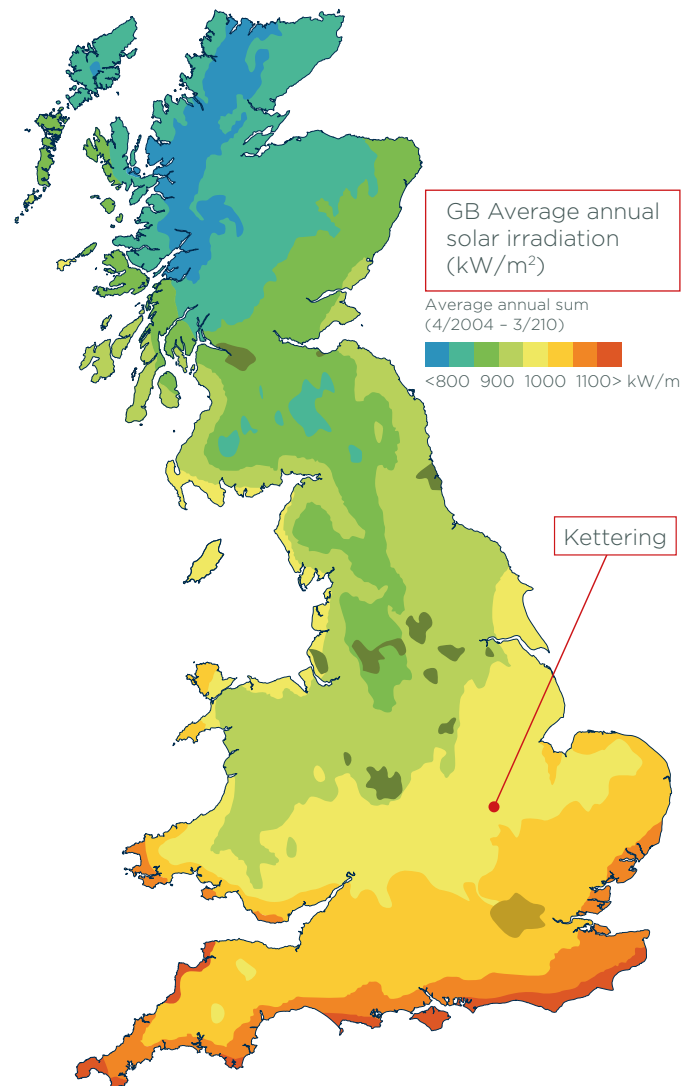
Solar energy is a simple and established technology providing a source of safe, clean and renewable energy which produce zero emissions. Due to its favourable location in respect of solar irradiation the solar farm will have the capacity to:

- Generate up to 26,280MWh of electricity per annum
- Provide enough to electricity to meet the needs of over 6,300 homes
- Reduce CO₂ emissions by up to 11,300 tonnes every year

The area of solar development will extend to approximately 136 acres.

The solar farm will offer the opportunity for ecological biodiversity enhancement, with the land beneath the panels being used for grazing or the establishment of wild flower meadows.

The Kettering Solar Farm represents a £30m investment in the area and will provide in the region of 100 construction related jobs during its installation.



The benefits for Kettering

Kettering has long been at the forefront of renewable energy, supporting the largest on-shore wind farm in the UK when Burton Wold was first consented. The borough now has the opportunity to host the UK's first exemplar Energy Park, which is set to play a major role in securing Kettering's strategy for growth while also meeting its carbon reduction targets.



KEY ENERGY PARK BENEFITS IN NUMBERS

£113m of inward capital investment

320,000 tonnes of CO₂ saved every year

400 construction jobs

375 operation and supply chain jobs

Green infrastructure will provide the stimulus and support for economic prosperity:

- The opportunity to deliver sustainable food production through the use of on-site renewable combined heat and power as well as the symbiotic consumption of CO₂
- Opportunity for businesses to maximise use of renewable energy, avoiding carbon tax and making Kettering a lower cost location. This will attract businesses, stimulating growth and creating jobs

Harvesting enough renewable energy to satisfy the whole of Kettering's electricity requirements

- Opportunity to partner with public sector organisations to supply the whole community with sustainable energy
- In the face of threats to energy supply and price volatility, Kettering has the opportunity to take control of its own energy future

Community dividend

- Phase one dividend of £300,000 paid over life of the wind farm to spend on local priority projects
- Once the Energy Park is fully developed, the target for the community dividend will be in excess of £1million

£113m of private sector investment

- The investment in energy infrastructure is strategic and long term, creating jobs for skilled workers for at least the next 25 years and probably beyond
- The wind farm extension alone represents an investment of £45million
- When the Energy Park is fully developed 375 green collar workers will be investing their salaries locally
- Security of a sustainable, community scale energy source for the foreseeable future

A low carbon advisor with a proven track record

“
Public and private partnerships are vital to make community energy solutions happen in the UK

” **Paul Baan**
Head of Energy Efficiency, E.ON Connecting Energies.



The challenge for a sustainable energy future is to know what to build, where and when. E.ON has decades of experience in decentralised energy across Europe and is bringing this knowledge and understanding to drive the change to a low carbon economy within the UK.



E.ON Energy Centre, serving as a hub for a district heating network providing a sustainable and cost-effective source of heat to business units at Skypark and homes at the neighbouring community of Cranbrook, both located within the Exeter and East Devon Growth Point

E.ON's experience across Europe proves that one solution is to integrate lower carbon energy sources into the local communities in which it is consumed - doing that brings benefits including local job creation, skills development, a more resilient and future-proof network as well as community engagement and low carbon innovation.

Kettering Energy Park provides an opportunity to develop an integrated range of low carbon and renewable technologies at the same time as meeting the region's ambitions of growing the local economy and leading the way in sustainable planning.

For further information about Kettering Energy Park contact

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