

Milton Keynes - A Sustainable Energy Action Plan

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cRRescendo is a project co-funded by the European Commission under the sixth framework programme



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Milton Keynes - A Sustainable Energy Action Plan

Milton Keynes – A Low Carbon City?

- Participation in the cRRescendo project 2005 to date
- Formal adoption in 2005 of Local Planning regulations (policy D4) to require Zero Carbon development
- Creation of a local 'Carbon Offset' fund – operational from 2008, £1.2m collected, completed projects saving 3,800 tCO₂ p.a
- Became signatories of the Covenant of Mayors 2010.
- Low Carbon Living programme & Smart City initiatives 2011



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Low Carbon History

- Pioneering developments - UK's first solar powered house, 1972
- First UK door to door recycling scheme, 1989
- National Energy Foundation created and located here in 1990
- History of innovative housing developments, leading to improvements in UK National Standards



Oxley Woods Reduction of c. 27% in CO₂ emissions, compared with a conventional new-build house of similar size. This reduction rises to almost 40% with the inclusion of the EcoHat*



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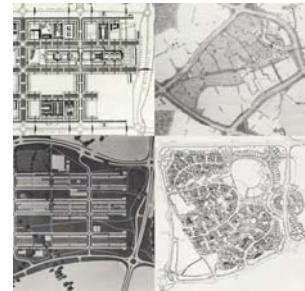


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Grid squares – Inherent smart infrastructure?

Grid squares partition the city into manageable development parcels that can accommodate a variety of typologies, tenures, uses and forms - whilst establishing a cohesive urban form.



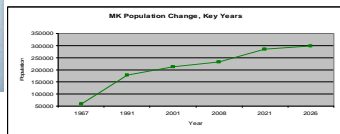
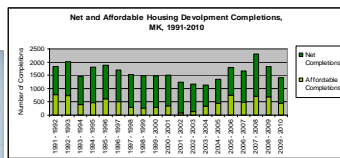
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Designed for development and growth



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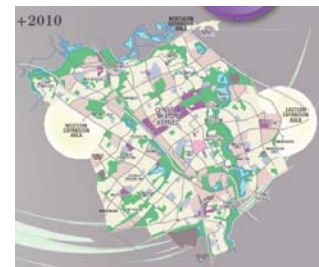


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Further growth to 2026

28,000 new homes
1,750 homes pa
300,000 people



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Economic success

Private sector jobs growth
1998 – 2008

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Transport challenges

- Regional transport hub with excellent connections to national transport networks.
- Grid system a strength
- Car access not universal - around 20% of households without a car.
- Poor public transport accessibility
- Population growth will increase travel demand by 30% by 2016 and 57% by 2031

Example: Newport Pagnell to CMK

- 10 minute peak journey time today not uncommon.
- If do nothing journey forecast to take around 35 mins.

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Low Carbon Living Prospectus

MK uniquely positioned to lead UK in experiments with low-carbon urban living.

Timeline 1: Your part in the future
Community Engagement & Social Development

Timeline 2: A low carbon city
Low carbon buildings, Transport and Urban Design

Timeline 3: Technology
Improving the Present, Protecting the Future, Greening the Grid

Timeline 4: Direction
Clear and Informed Strategies, Policymaking and Masterplanning

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MK Plugged in Places Project

Incentives

- Free Parking £1,825 (£7,700)
- Free Power £300 (£360)
- National subsidy £5,000 per car (£5950)

Extensive Infrastructure

- National & local government funding
- Public charge points
- Subsidy for home & business charge points
- Public information & encouragement

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Local Energy Solutions

Photo voltaics on public buildings

Anaerobic digester: with methane injection to the grid

Neighbourhood solutions in new developments

City Centre CHP

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Smart Homes Retrofit with E.ON

The Smart Home
In the future, consumers may be able to improve their energy efficiency by using smart meters and smart appliances to manage their energy consumption based on personal needs.

Ultra low carbon vehicles
Plug-in hybrid and electric cars (which store energy during off-peak hours when electricity generation is most abundant) are the long term. If battery technology develops, they may be able to use as fueling generators for homes and supplement the grid during peak demand periods.

Smart Meter
Real time pricing (which causes increased uptake in appliances).

Smart Appliances
Smart appliances (such as washing machines) that can communicate with the grid, sense grid conditions like frequency, and turn themselves on and off automatically to help manage supply is demand.

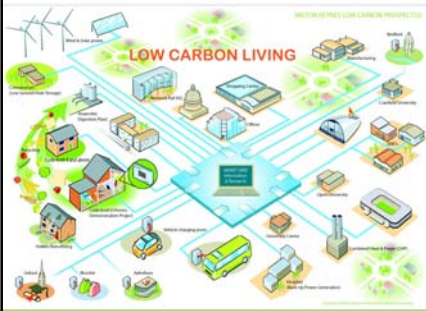
Advanced control
It may be possible to centrally control electricity usage.

High Speed Connections
Broadband services distributed throughout the grid and high speed connections related to the above system together.

Smart Thermostat
Consumers can go to use a smart thermostat, which can communicate with the grid and adjust settings to help optimize energy demand management.

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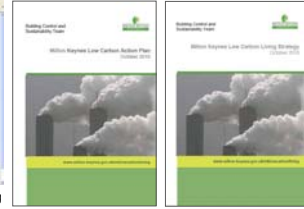
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- Citizen engagement and empowerment
- Centre for low carbon network innovation and learning
- Future-ready electricity distribution network

Milton Keynes – A Low Carbon City?

- Not yet, but with help from cRRescendo and other Concerto cities, we have a way forward.



www.milton-keynes.gov.uk/mklowcarbonliving

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For more information and downloads
www.milton-keynes.gov.uk/mklowcarbonliving
Any Questions?