

Woking Borough Council
Thameswey Limited
Acting Locally, Thinking Globally



9th July 2010

Climate Change: Global issue – Local solutions

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Outline

- Background to Woking
- Woking's Strategy and Policies
- Thameswey and esco business
- Questions

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Savings

Corporate

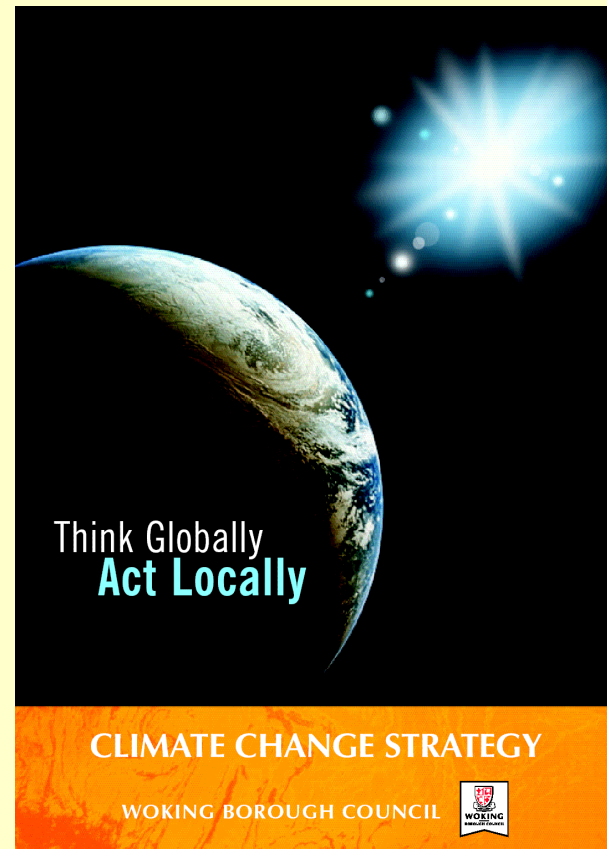
- Energy Consumption Savings (2008) -31%
- CO2 emission reductions (2008) -29%
- Sustainable Energy Self Generation (2008) +41%
- Renewable Energy Self Generation (2008) +2%

Borough Wide

- Energy efficiency of residential property (up to 2008) +35%
- CO2 emission reductions (2008) -21%
- Number of households assisted with energy conservation grants (1996 – 2008) 5,072

Climate Change Strategy

- Three Overarching Aims
 1. Reduction of CO2 equivalent emissions
 2. Adaptation to climate change
 3. Promotion of sustainable development



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Climate Neutral Development Good Practice Guide

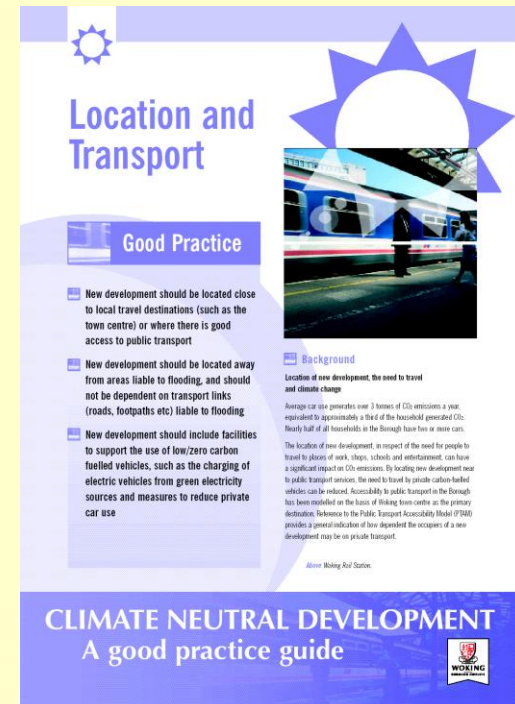
Neutral risk to the climate by not contributing to greenhouse gases and,

Neutral risk from the climate by ensuring development is resilient to changes in climate



Climate Neutral Development Guidance

- Guidance to applicants for Planning Permission
- Believed to be first of its kind in the UK
- Promotes Good Practice
- Aims to achieve 80% reduction in CO2 emissions



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Strategy on Sustainable Construction

Development will be refused unless it:

- Achieves a 40% reduction in CO₂ emissions (against current Building Regulations)
- Is carbon neutral (greenfield sites)
- Adapts to climate change impacts in design of buildings and open spaces
- Provides a sustainable water management system (runoff and potable water)

Household Extensions:

- **Extensions to** existing dwellings to meet best practice standards for energy efficiency

Town Centre CHP

Gas fired 1.3 MW electrical, 1.6 MW heating; 1.2 MW absorption cooling, island generation

- Thameswey Energy Limited Project
- Private Supply network
- Council Buildings & Car Parks
- Businesses
 - Holiday Inn
 - Big Apple



Equipment used in CHP Energy Stations



Above – Absorption Cooler

Left – Gas fired CHP Engine

Woking Park

- Gas fired CHP 1.1MW electrical,
- Hydrogen Fuel Cell 0.2MW electrical, combined 1.6MW heating, absorption cooling 0.5MW,
- Island generation

- Self sufficient in thermal loads
- Exporter of electrical generation to other TW Energy customers



Sustainable and Renewable Energy



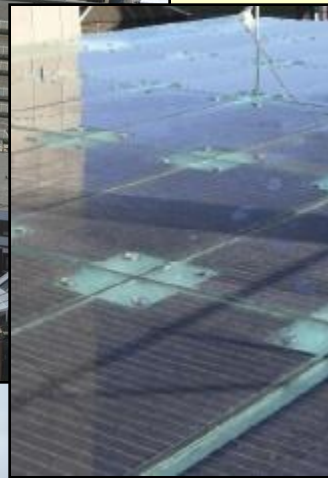
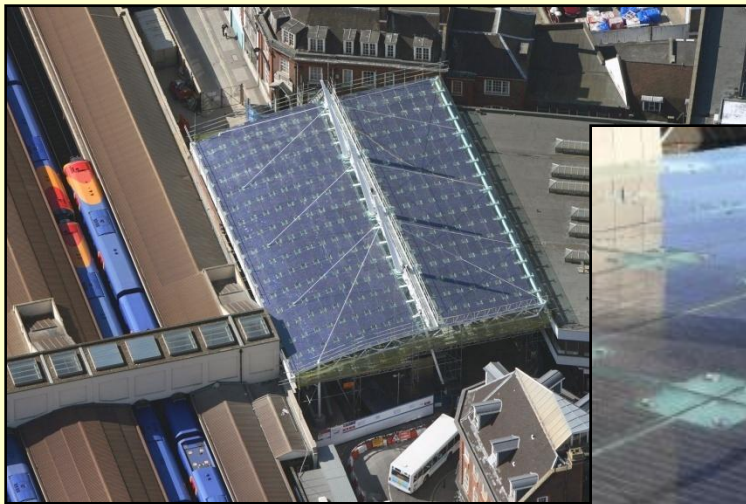
New build by Council Housing Company of six flats incorporating small scale CHP and Photovoltaic roof tiles in a private wire system

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Albion Square Solar Canopy



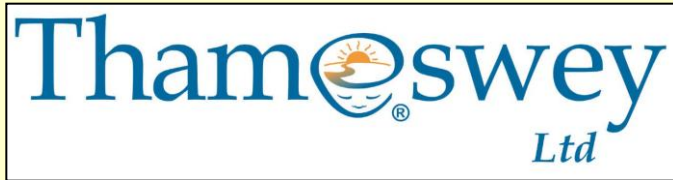
- Woking Borough Council wanted a stunning gateway to the town
- Solar photovoltaic cells use energy from the sun to light the canopy
- 35,000 PV cells laminated in 272 glass panels giving peak electrical output of 81kWp
- Saves 41 tonnes of carbon dioxide emissions per year



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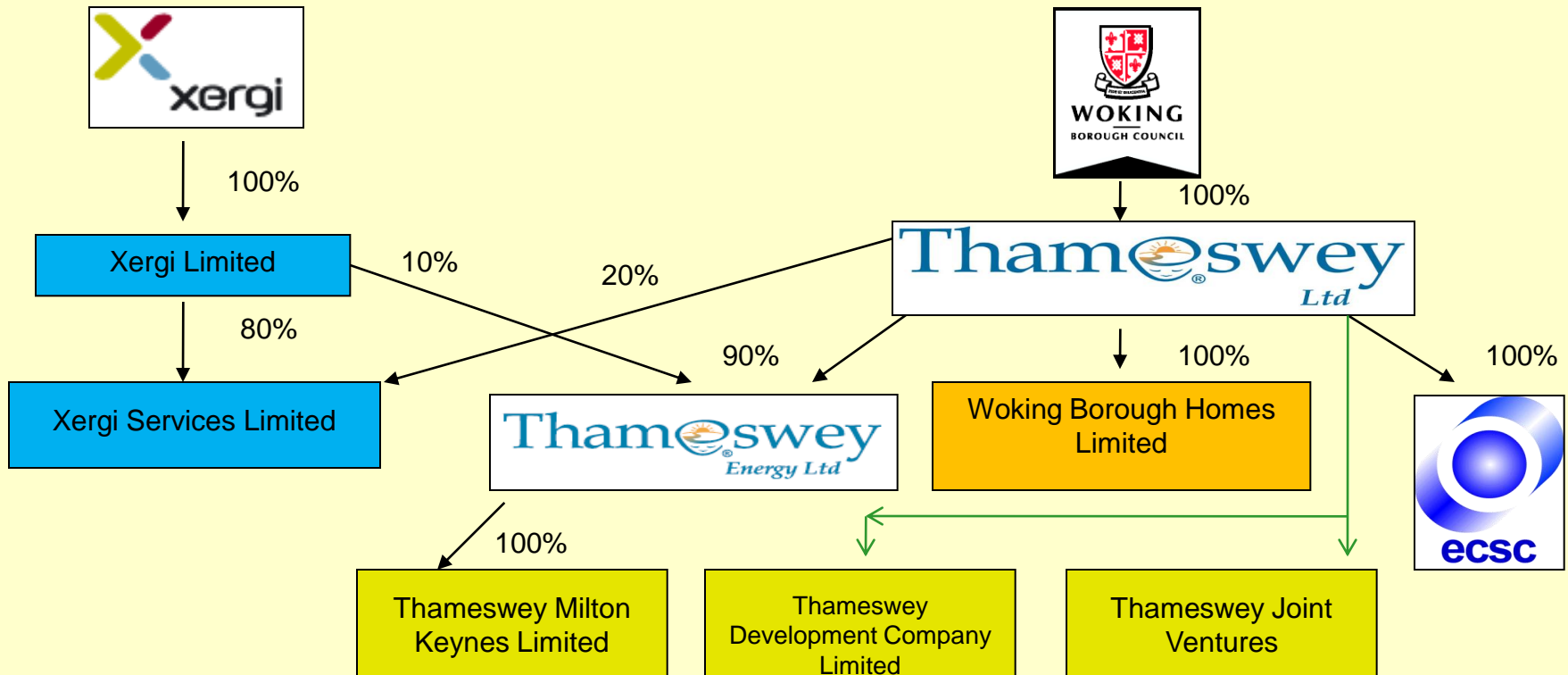


Partnership Working



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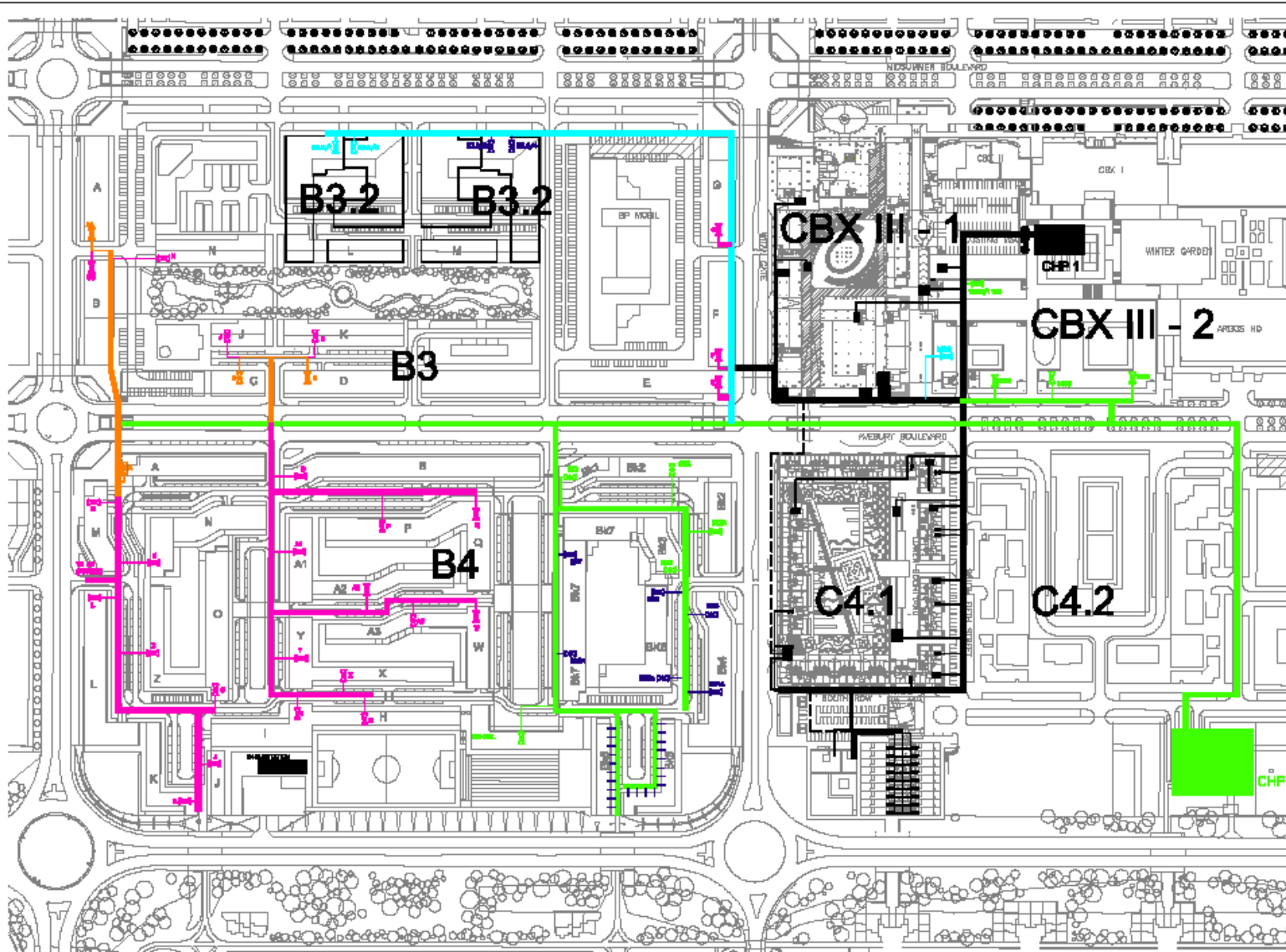
Delivering Energy Generation



- Twenty to Thirty year project business plans.
- Projects progressed on an internal rate of return of circa 8%.
- Economics rely upon being a generator, distributor and supplier of energy.
- Retail sales income (plus renewable energy credits where applicable) critical to financing projects.
- Tracks energy prices to give affordable “market comparable” charges to businesses and 5% below a basket of major energy company dual fuel tariffs to residential customers.

Milton Keynes Energy Station





Code	Description	Area	Volume	Power
A
B
C
D
E
F
G
H

KEY TO GROUP

COLOR	GROUP
Black	CHP 1
Red	CHP 2
Green	CHP 3
Blue	CHP 4
Orange	CHP 5
Pink	CHP 6-2017

- 1. FOR LINE GROUPS REFER TO LGO SCHEDULE FOR LINE
- 2. FOR PIPE SIZES AND SCHEDULES OF PIPING SEE SPEC. SEC. 7-7-701

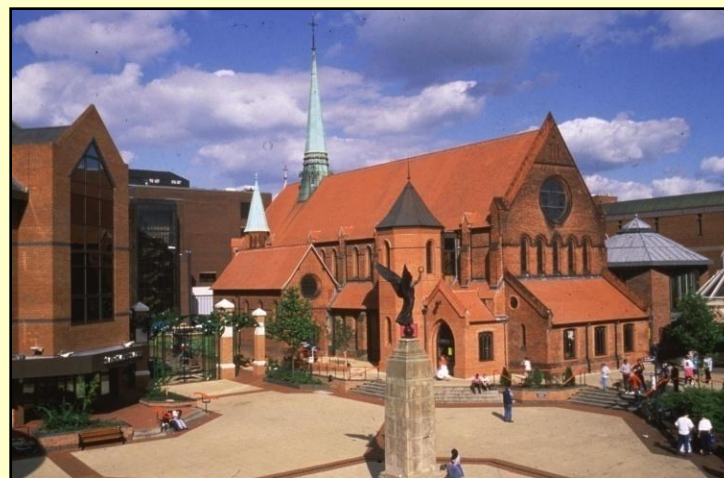
Project
CENTRAL MILKIN BAYNE
COMMERCIAL HEAT & POWER

Phase
PHASE 6
STAGED DEVELOPMENT OF
DISTRICT HEATING SCHEME
2012 - 2014

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Edinburgh, Scotland
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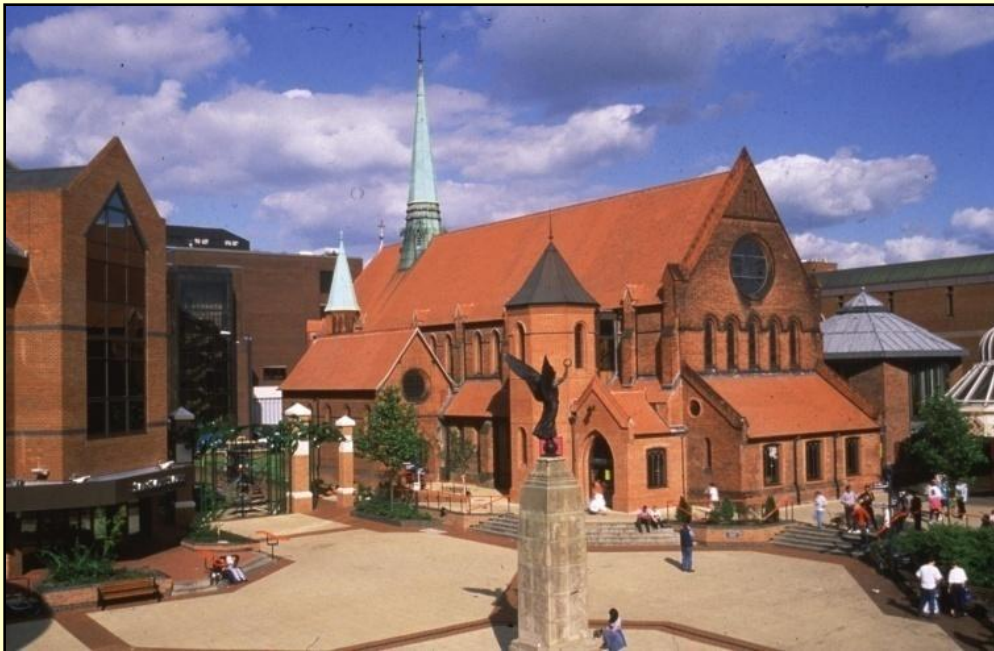
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The Future



- Woking Borough Council aim to integrate renewables and CHP wherever possible
- Wind turbine feasibility study
- 1000 Zero carbon homes project
- Carbon reduction
- Social inclusion and cohesion

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10 Key Issues

- Planning and Regulation
 - Empower your planners
- Energy
 - Concentrate on your own estate
- Waste
 - Reduce and Educate
- Transport
 - Spatial mapping
- Procurement
 - Partnership thinking
- Education and Promotion
 - Be consistent
- Green Spaces, Water
 - Climate effects
- Working with Business, Community and Residents
 - Be business like