

Russell Smith - Estates Manager

THE CHANGING FACE OF THE ESTATE

July. 12. 2013 AECB



INVESTOR IN PEOPLE



FAIRTRADE

Guarantee
a better deal
for Third World
Producers



making sustainability work



The Frank Barile Trust





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Where We Are?



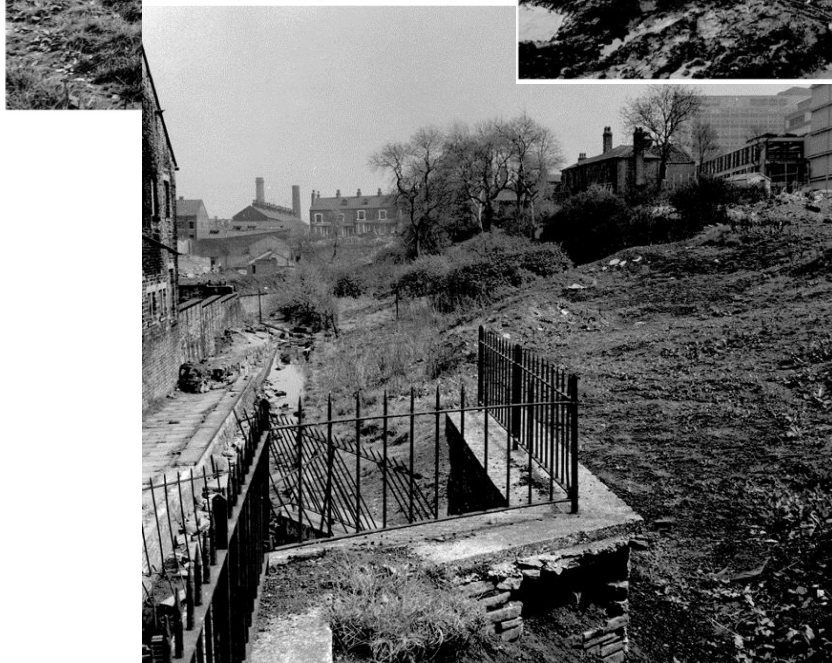


The Estate

- **Size: 124,600m² Gross Internal Area**
- **GIA ratio: 9.5m²/student and staff FTE**
- **Covers: 36.7 hectares over 4 sites**
- **12,000 Students 2,500 staff**
- **Emit 11,000 tonnes Co₂**
- **72,000m³ water consumed**
- **460 Tonnes of waste produced**



The Bygone Estate





The Bygone Estate



2004/5 saw the University embark on an ambitious programme of regeneration





- **Ecoversity:** Our programme of embedding SD across everything that we do
- created change across the whole University.
- Including how we built and operated the estate





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WHY?

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Climate change?

Leaving something for our children?

Government/HEFCE targets?

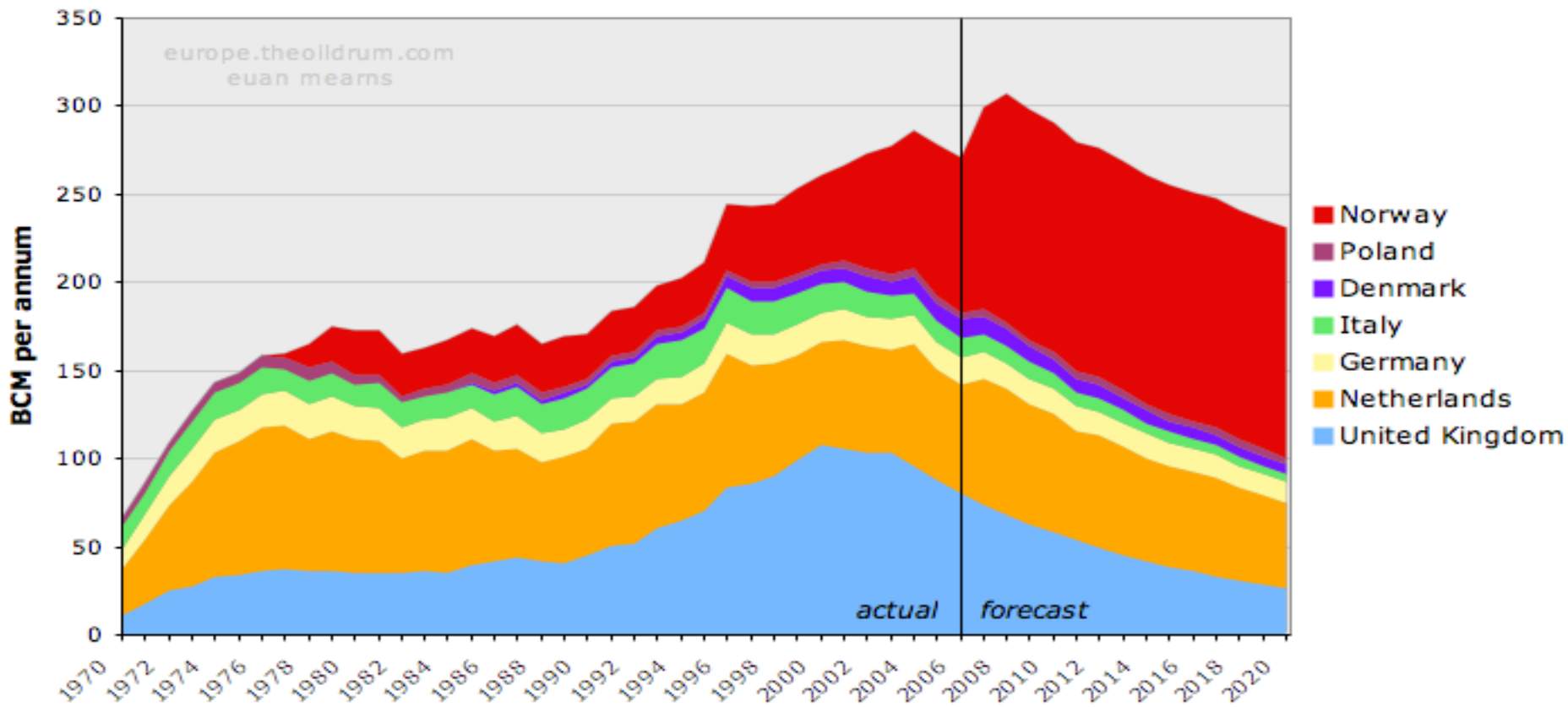
- **Business continuity**
- **E&F contribution to Corporate Plan & social responsibilities**
- **We believe we need and can DRIVE change**

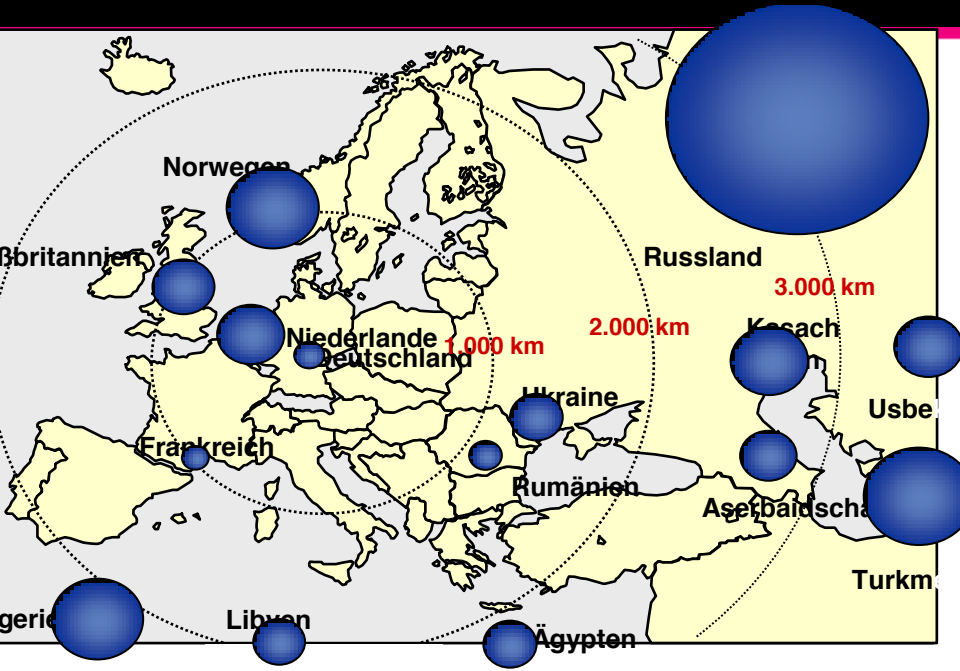


- “*Brown Outs*” are here
- Government are predicting power cuts in the coming years
- A need for energy efficient buildings and plant to reduce our carbon footprint
- Deliver buildings which are not reliant on the grid to ensure business as usual
- Create buildings which adapt to climate change

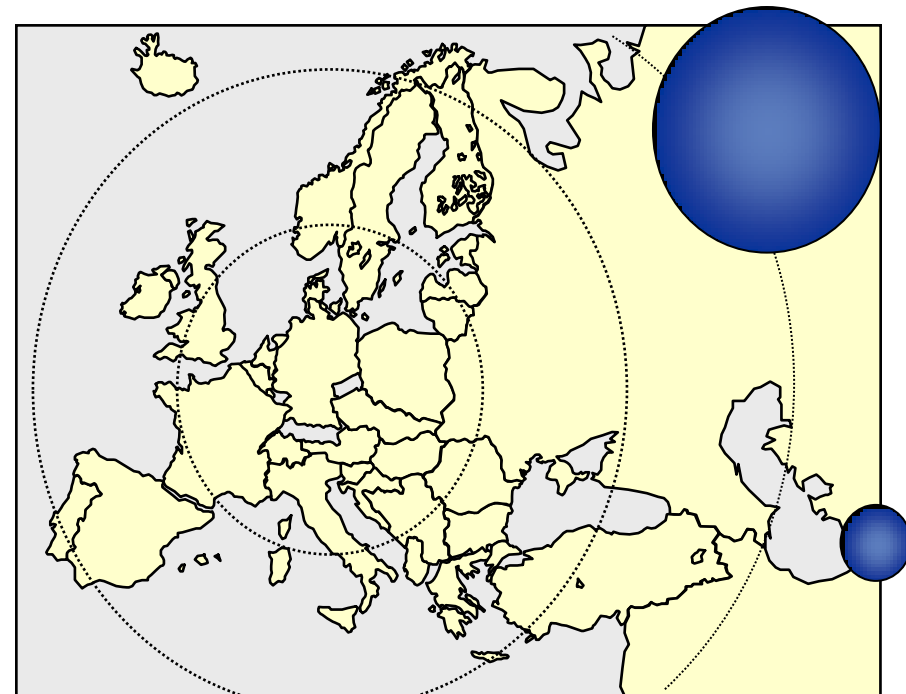
We are past peak oil/gas production

OECD Europe Gas Production and Conceptual Forecast





Sources of Natural Gas in 1999



Sources of natural Gas in 2025: – political issues ?

LASTLY

GOOD BUSINESS SENSE!

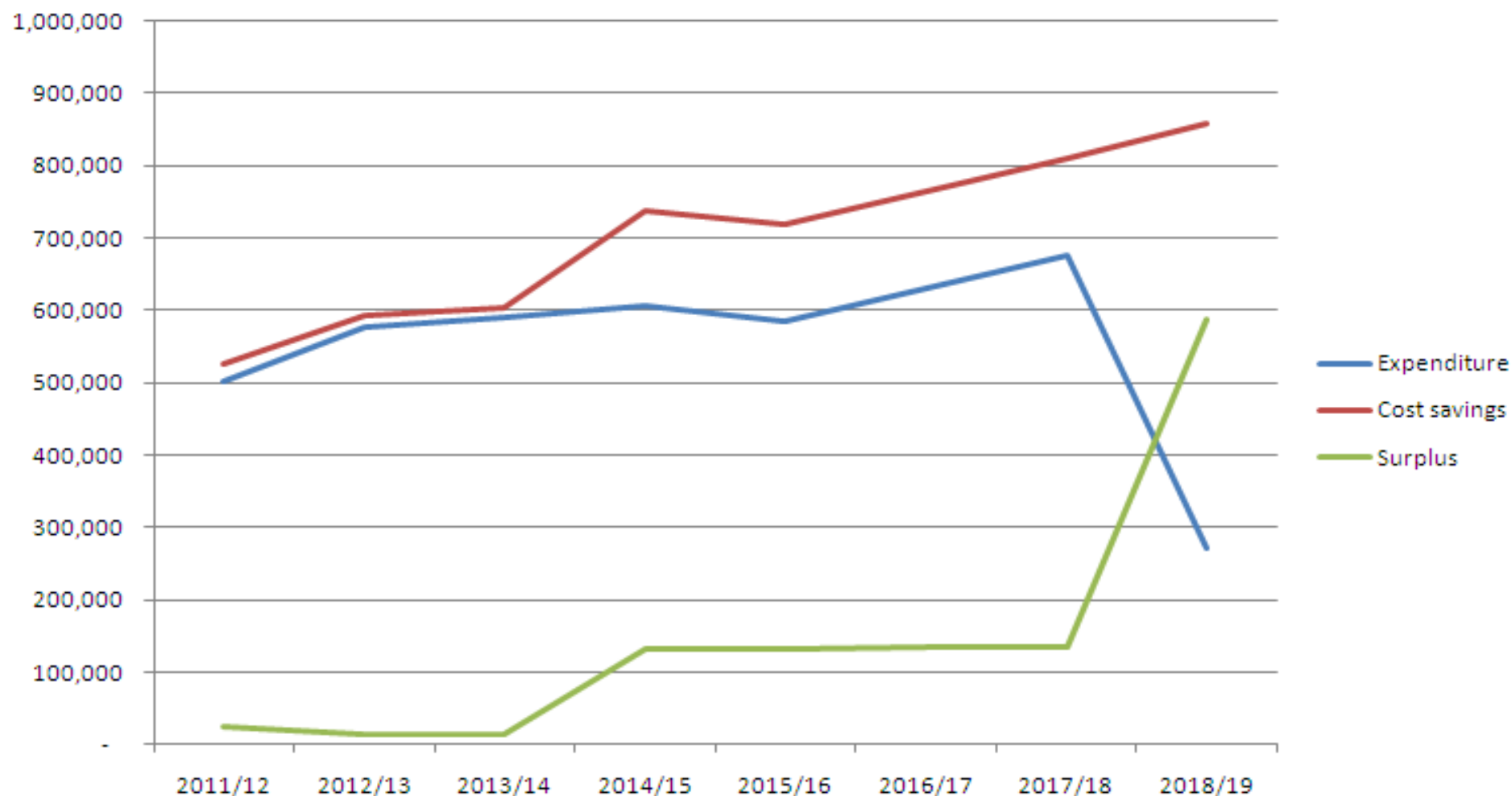


- 2013 carbon reduction is currently at 29% against 2005/6 baseline
- £6m saving over business as usual
- Lower utility costs by 500k pa
- 33% reduction in water consumption since 10/11



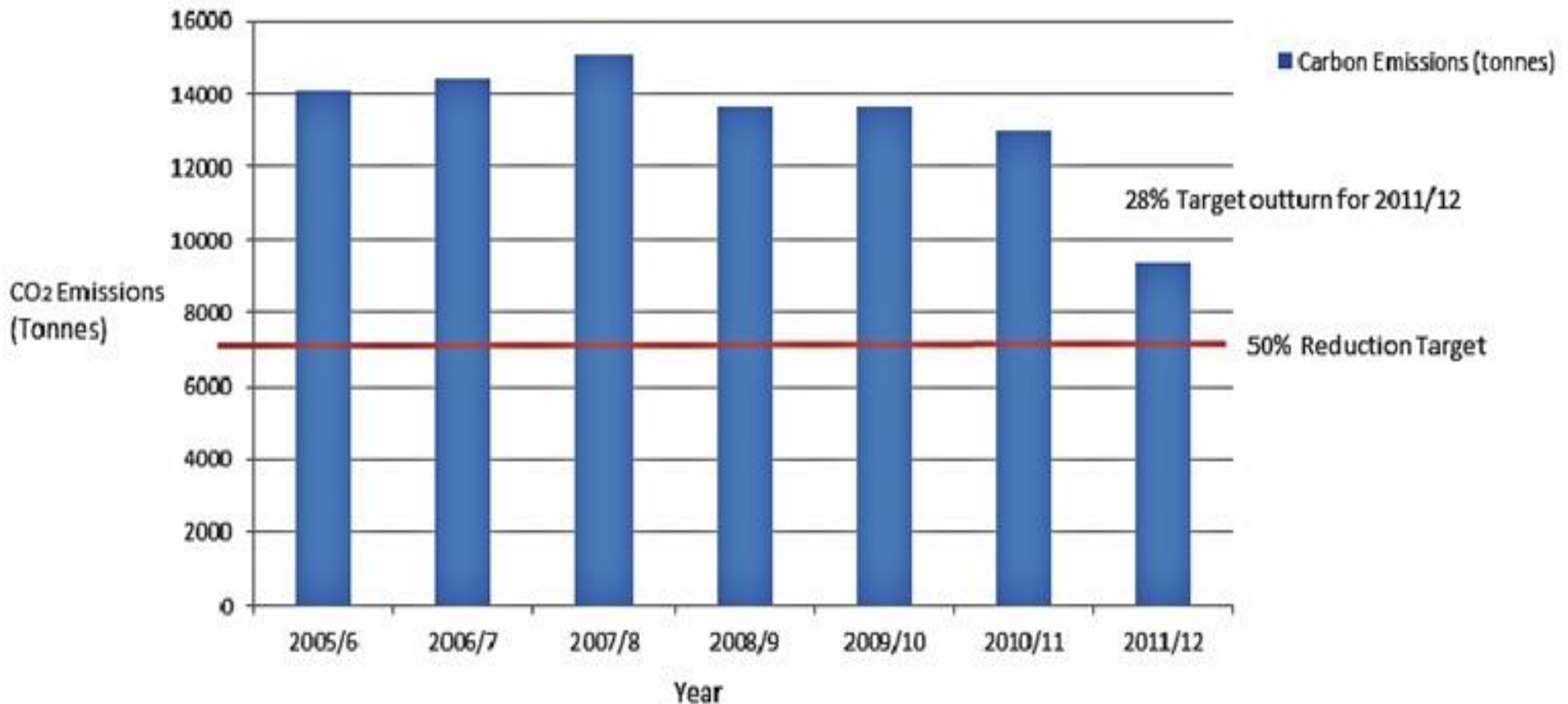
- As of June 13 we purchased 67% less electricity than 2005/6
- Year to Date water usage is down 40% compared with 2009/10 baseline
- JBP Library gas usage is down 80% as a result of the refurbishment.
- 86% of all waste diverted from landfill

Carbon Management Plan: A Road Map to Low Carbon Campus





Carbon Emissions (tonnes)





Our Building Philosophy

“We have recognised a building is not just about aesthetics, space and use of low/zero carbon technologies – it’s about people and how they use the building to maximise the performance and improve the built environment”



Our Sustainable Construction Specification

- **Building physics/engineering led**
- **Renewables only used if they can make a meaningful contribution**
- **Technologies and building features to be visible to as a possible teaching aid**



- **CO₂ Target: 5 kgCO₂/m³/yr.**
- **Overall all average U Value :0.13W/m²/°C**
- **Air permeability to be below 1.5 m³/hr/m²**
- **Design stage EPC: A**
- **Daylight factors of 5% are to be achieved as set out in BRE Good Practice guide 245.**
- **Life cycle costed to BSRIA LCC**



- **Team involvement from the start**
- **User engagement/education programme to get the building to perform as designed**
- **Plug holes in standards**
- **Stick with process that can be arduous and unwieldy at time**
- **Needs dogged determination**
- **Don't leave it to the consultants, take a lead!**



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Sustainable living at the Green





Visible Meters for Competitions



PIR Sensor



A+ Rated Fridge/Freezer



Thermostatic Radiator Valve



Energy Monitor





Gardens for townhouses





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Our experience

What we have learnt





- **Get the building physics right and the rest will follow**
- **Close team working**
- **Encourage environmental design - sustainable, low energy and less grid reliant**
- **It is cost effective**
- **Building users need educating**
- **Plan pre move engagement programmes**

Finally...



**A Building is not
green**

**Unless
The people are**



making a difference together



**...and a huge team
effort**