

Islington's Decentralised Energy Programme

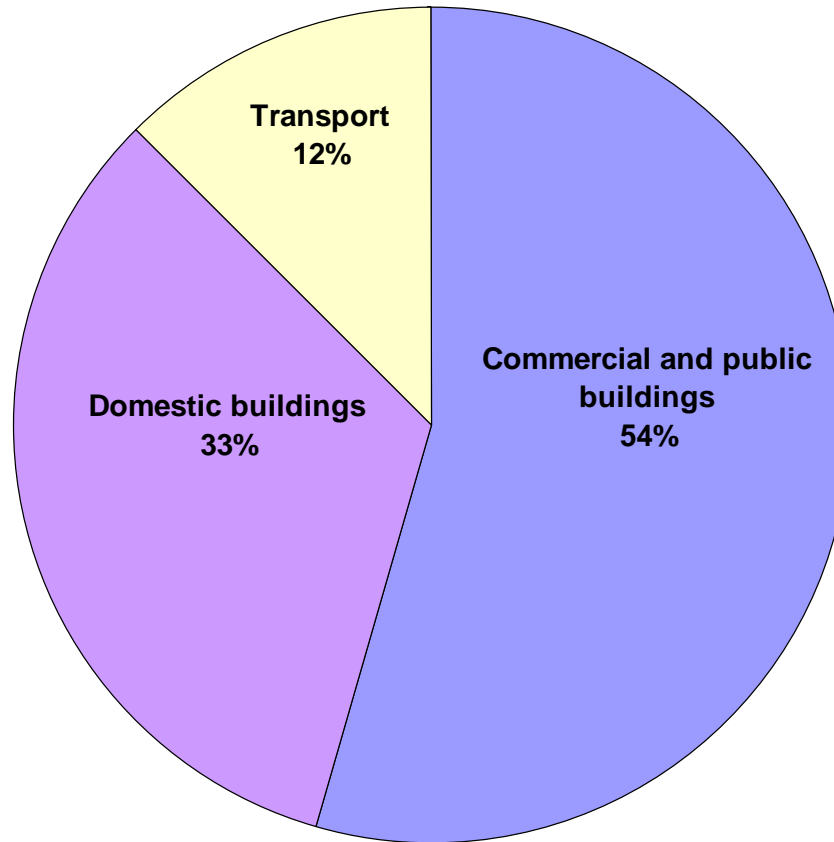
CHPA Public Sector Seminar

15th October 2010

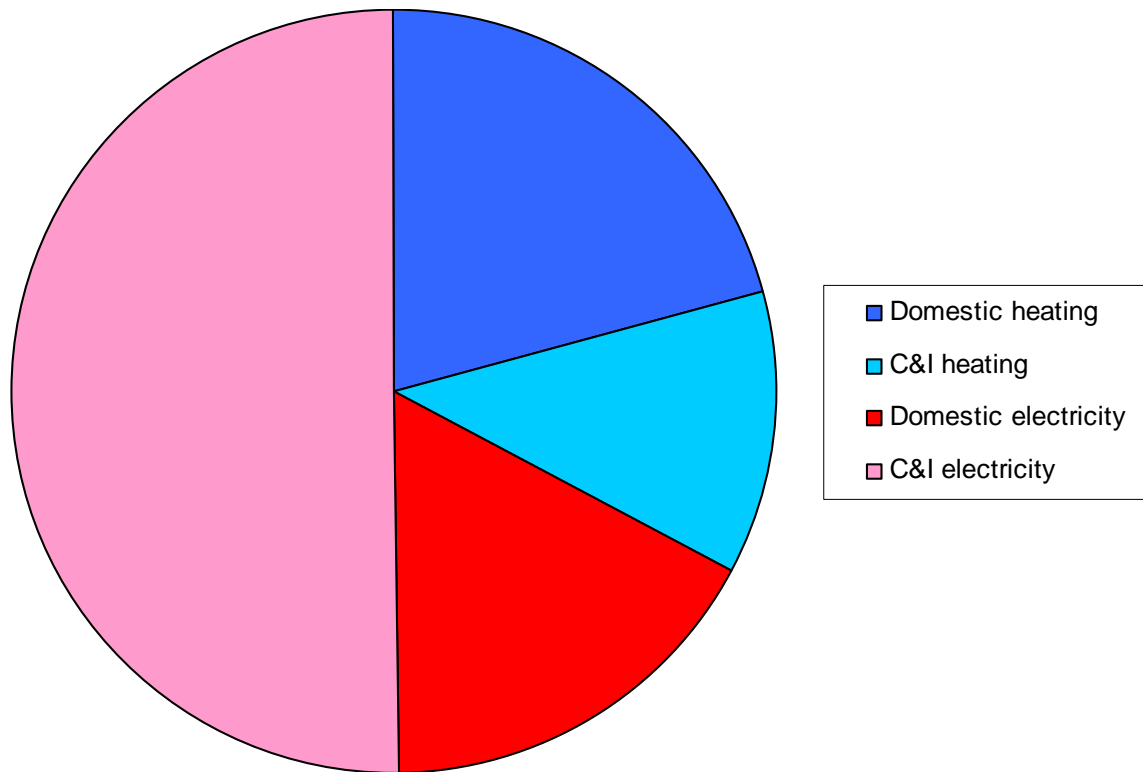
Lucy Padfield

Energy Services Manager, Islington Council

Chasing the carbon...



Heating carbon

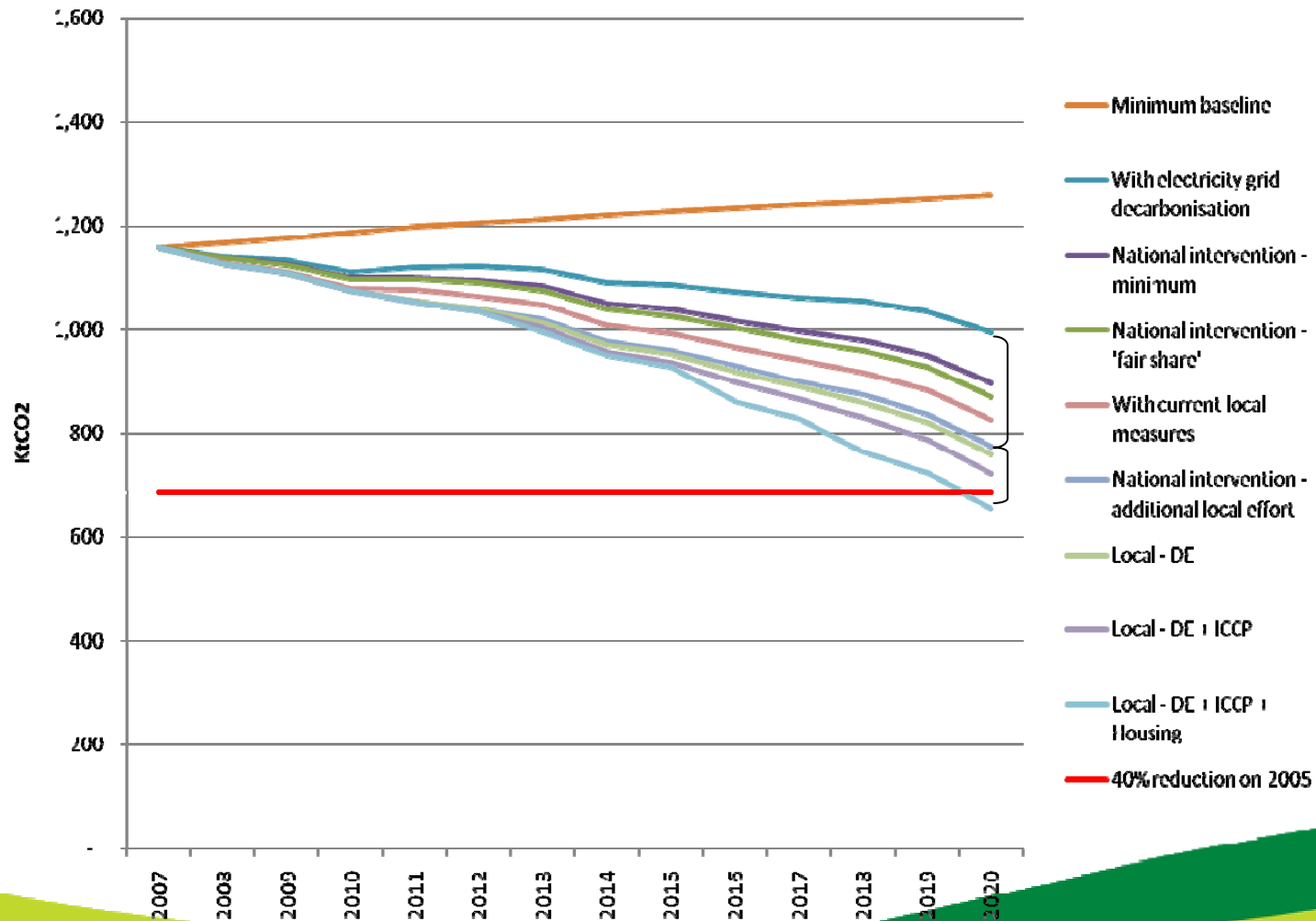


343,000 tonnes from heating / hot water (2008)

Energy and our wider Environmental Sustainability Team

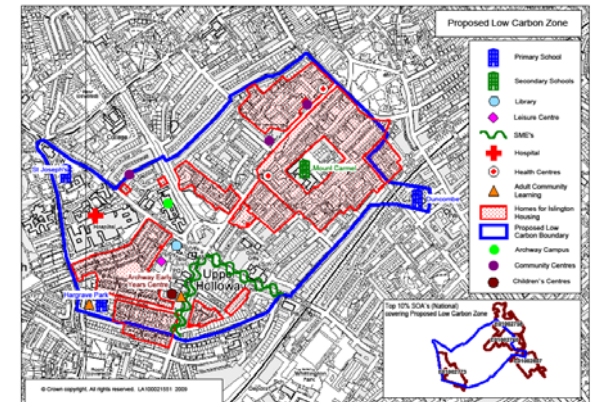
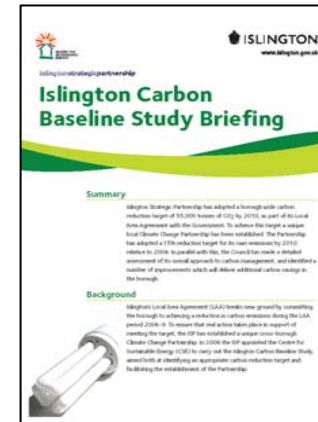
- **Energy Management**
- Environmental Education
 - Residents
 - Schools
- Environmental Performance
 - ISO14001
 - Green procurement
 - Green Champions
- Policy & Projects
 - Sustainable food
 - Green Economy
 - Climate Change Fund
- Monitoring & Targeting
- Utility buying
- Capital investment and project management
- CRCEES; DECS; EPCs...
- **Decentralised energy & CHP**
- Partnerships: ICCP & Low Carbon Zone

New carbon target: 40% reduction by 2020



Carbon management – the big projects

- **Decentralised energy** – LDA funding, ESCO,
- Islington Climate Change Partnership – 200 members, big energy consumers engaged
- Climate Change Fund - £4million – energy efficiency measures and renewable technologies
- Archway Low Carbon Zone – 1 of 10 in London.
- HCA - £5million insulation programme in council estates



How are we doing?

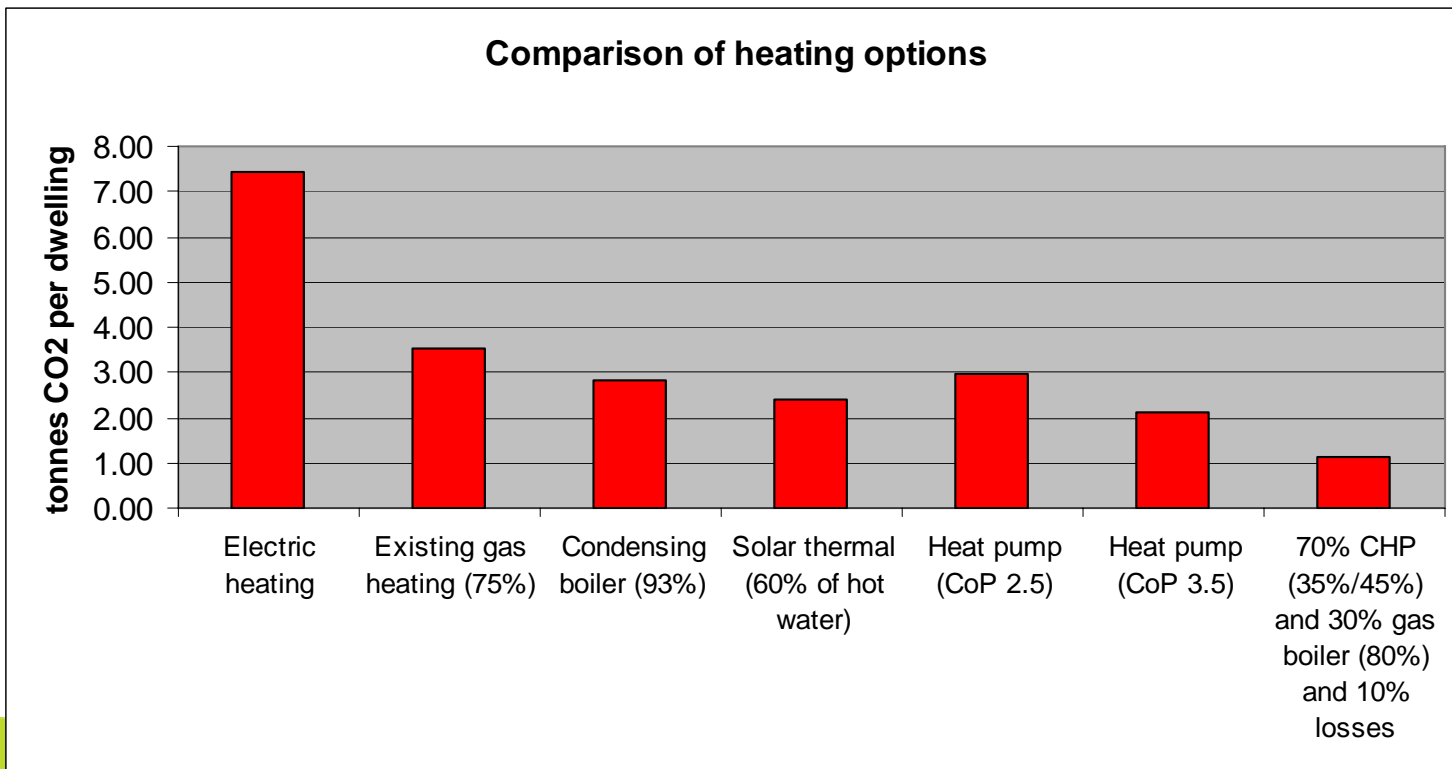
- Current council target to reduce CO₂ emissions from its own estate by 15% by 2010/11 (on 2005 baseline)
- This is our commitment to our LAA borough-wide target (10.8%): lead by our ICCP
- We are at a **18.5% reduction = £2.6million** avoided energy costs

Planning Policy

- All developments must have single heat network and able to connect to a future network.
- All development should achieve an on-site reduction in total (regulated and unregulated) CO₂ emissions of at least **40%** against a 2006 part L compliant building
- Where connection to a decentralised energy network is possible this increases to **50%**
- A requirement to offset all remaining CO₂ emissions associated with the building through a financial contribution towards measures which reduce CO₂ emissions from the existing building stock

Why Decentralised Energy?

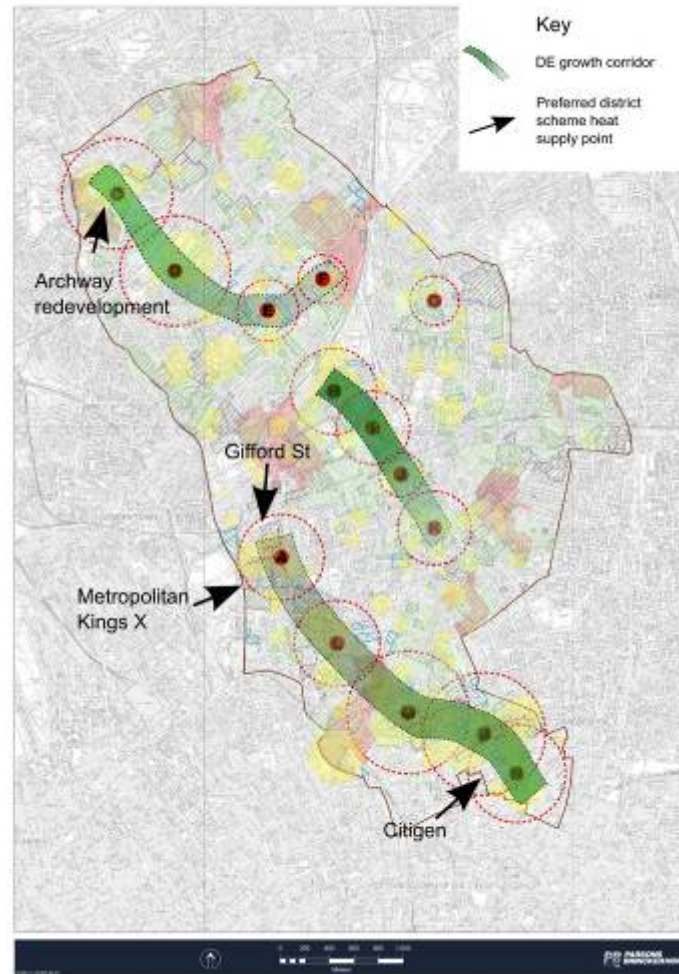
- Comparison of heating systems based on CO₂ emissions for heating an average dwelling (based on emission factors of 523g/kWh electricity and 185g/kWh gas)



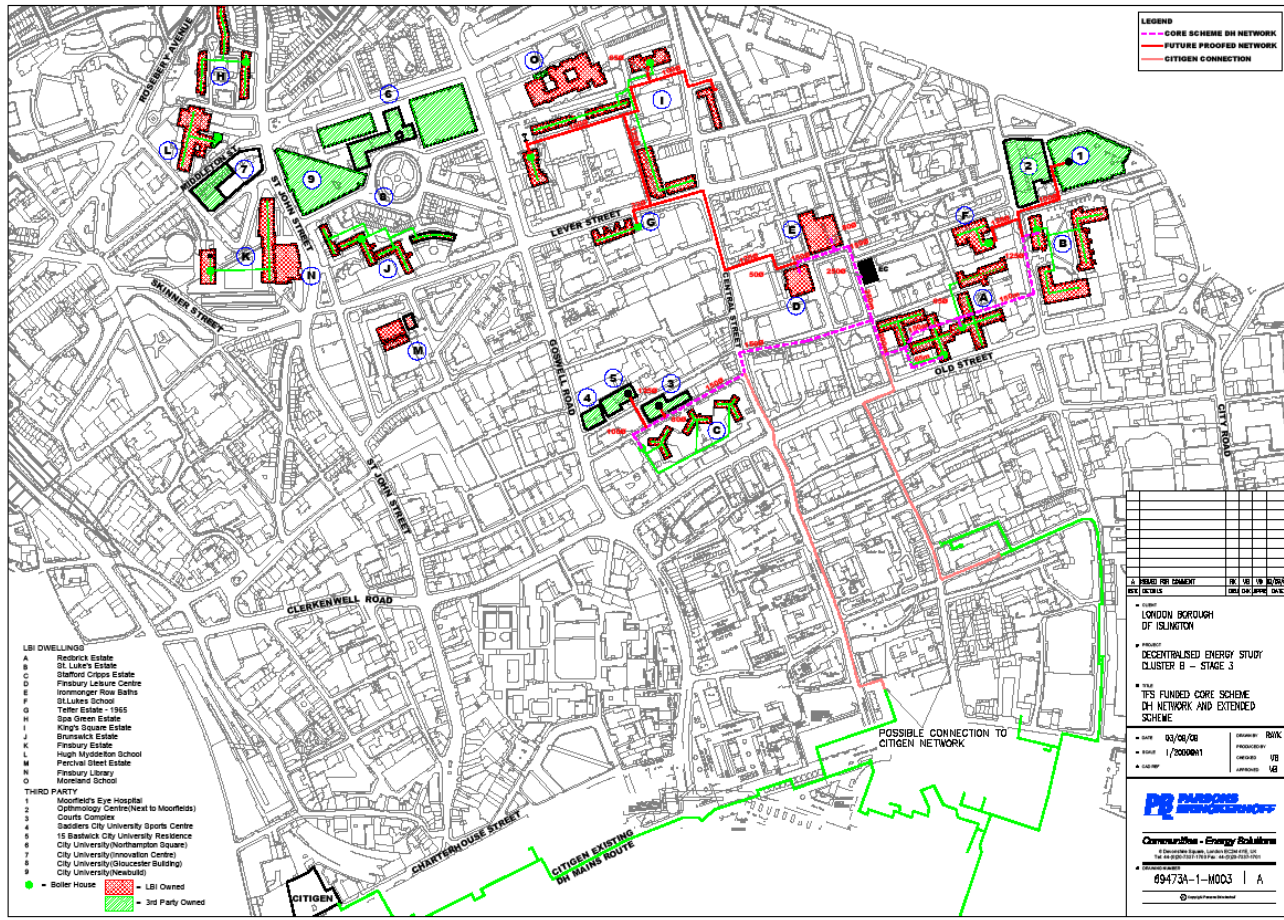
The developing Borough-wide Strategy

- A Decentralised Energy Programme is being developed Borough-wide
- **Started in 2000!**
- Then Community Energy Programme in 2005/06
- Heat load cluster analysis 2008
- Four Clusters identified – all of these can be progressively expanded
- Potential for supply of heat from outside the Borough:
 - From Citigen to the south - ???
 - From Kings Cross to the west
 - From low carbon fuelled CHP to the north and east

Longer-term growth



South Cluster B – Old St CHP/DH Scheme



Phase 1 of Old St Scheme

- Two leisure centres (one wet)
- Three-communally heated housing estates
- 710 dwellings,
- 11,000MWh heat demand
- **1.8MWe** CHP unit plus thermal store
- [Citigen connection]
- 3,000 tonnes CO₂ saving p.a. from Phase 1,
- 5,000 tonnes from extended scheme ≈10% of council's emissions



South Cluster A – Caledonian Rd Scheme



- King's Cross and surrounding area. Delhi Outram estate highlighted in yellow and its plant room is located at the red spot.

Project Organisation

Project Governance:

- Project Board including Councillors and Directors
- Sub-groups for:
 - technical,
 - business delivery,
 - communications,
 - alternative fuels

Final decision on construction phase with Executive

Possible ESCo for Islington

- Private sector brings skills, experience and capital funding
- Public sector brings lower cost finance (potentially limited), anchor customers, strategic view and initial impetus for projects
- Joint working can be achieved in four ways:
 - Contractual arrangements – co-operation agreement, long-term heat supply contracts between Council and private sector ESCo
 - Public ownership of entire system but contracts for construction and long-term operation including risk transfer
 - Public sector participation in public-private ESCo as shareholders
 - Public ownership of DH network, private ownership of CHP/Energy Centre
- Likely to be fully council-owned, in short/medium term

Barriers and Issues to be resolved

- Finance
 - grants,
 - capital programme,
 - prudential borrowing,
 - ESCo finance
 - Procurement of specialist advice:
 - technical,
 - commercial,
 - planning
 - Planning permission for Energy Centres
 - Balancing reducing fuel poverty with commercial viability
 - Complexity ⇨ ⇨ ⇨ ⇨
- Heat price reduction for residents:**
- **Private finance – zero reduction**
 - **Public borrowing – 10-15%**
 - **Grant funding – 45%!**

Stakeholders and Partners

- Lead Department – Environment and Regeneration, LBI
- User Client – Homes for Islington, tenants and leaseholders
- User Client – Aquaterra – Leisure Centre Operator
- Highways Department, LBI
- Funding Partners - London Development Agency, other bodies
- Technical consultants – Parsons Brinckerhoff Ltd and Carbon Descent
- Temporary Project Manager – Paul Woods from AECOM
- Financial Consultant – Ernst and Young
- Metropolitan Kings Cross – potential ESCo provider
- Citigen – potential ESCo provider
- CHP gas-engine suppliers
- DH Network contractors
- Energy suppliers and purchasers

Next steps:

- Final confirmation of 2nd funding pot (GAF funding) – this month
- Planning! – winter 10/11
- Construction tender – spring '11
- Let construction contract – May '11
- Section 50 registration – summer '11
- Build – Sept '11 to Oct '12

- Possible ESCo development