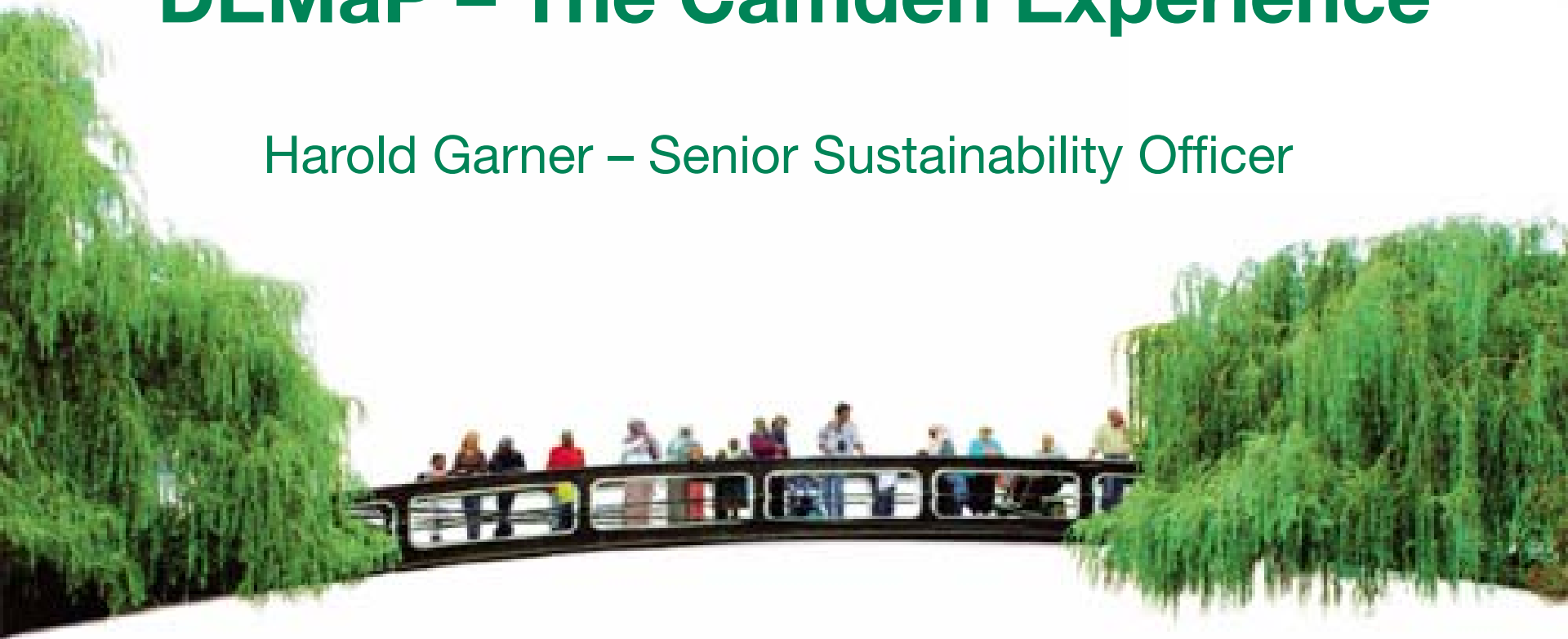
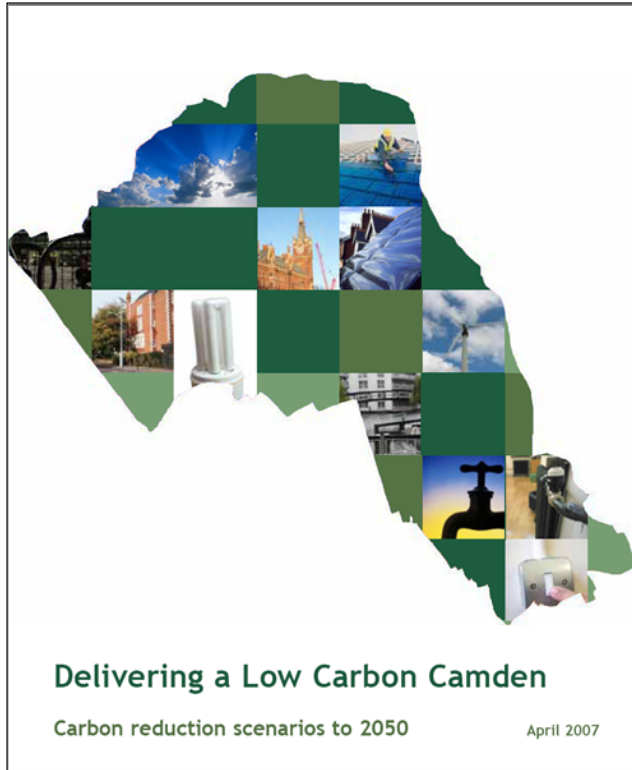


DEMaP – The Camden Experience

Harold Garner – Senior Sustainability Officer



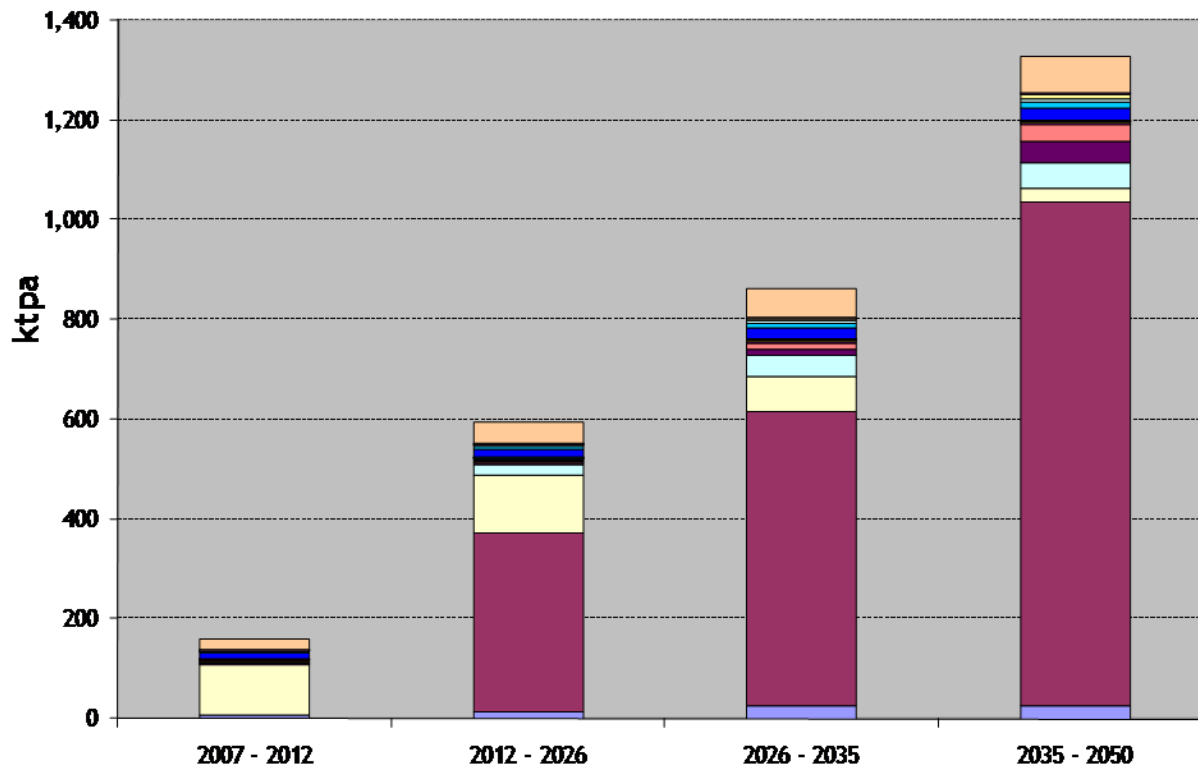
Low carbon vision to 2050



- 2007 analysis of Camden's emission baseline and feasibility study of emissions reduction scenarios
- Crucial role identified for CHP led decentralised energy if Camden is to meet 2050 targets

The role of CHP

CO₂ Savings



- Transport options
- Street Lighting - Efficient Lamps
- Double Glazing - Commercial
- Energy Efficient Lighting - Commercial
- Solid Wall Insulation - Domestic
- Double Glazing - Domestic
- Loft Insulation - Domestic
- Cavity Wall Insulation - Domestic
- Micro-CHP Fuel Cell
- Micro-CHP Stirling
- GSHP - Domestic
- Biomass Boilers - Domestic
- Biomass Boilers - Large
- Solar Thermal - Domestic
- Wind - Domestic
- Medium scale wind
- Wind - Large
- PV - Large
- PV - Domestic
- Heat from Power Station
- CHP Buildings - Gas
- CHP Large - Gas
- CHP - Biomass

Camden's Community Strategy 2007-2012

Camden Together

Camden's sustainable community strategy 2007-2012

**Camden in 2012 will be a
borough of opportunity**

**A sustainable Camden
that adapts to a growing
population**

**A strong Camden
economy that includes
everyone**

**A connected Camden
community where people lead
active, healthy lives**

**A safe Camden
that is a vibrant part of
our world city**

- A vision to make Camden a low carbon borough by 2012
- Commitment to long term carbon reduction targets
- Commitment to explore “how major developments could generate heat and power for surrounding areas”

Taking forward CHP led DE in Camden

Heat Mapping – a key first step

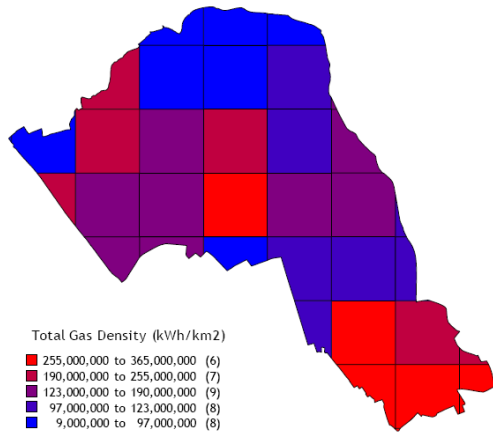
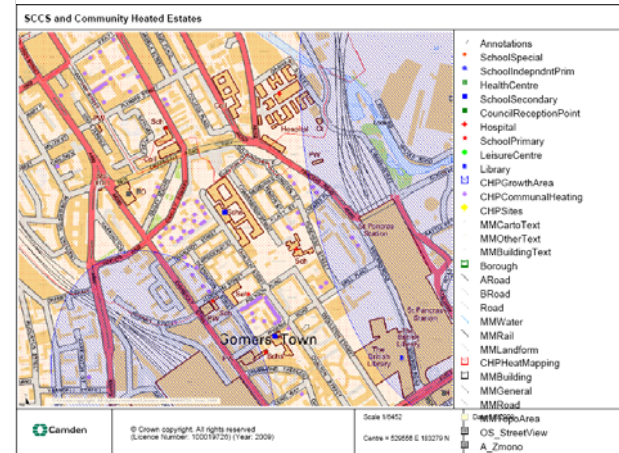
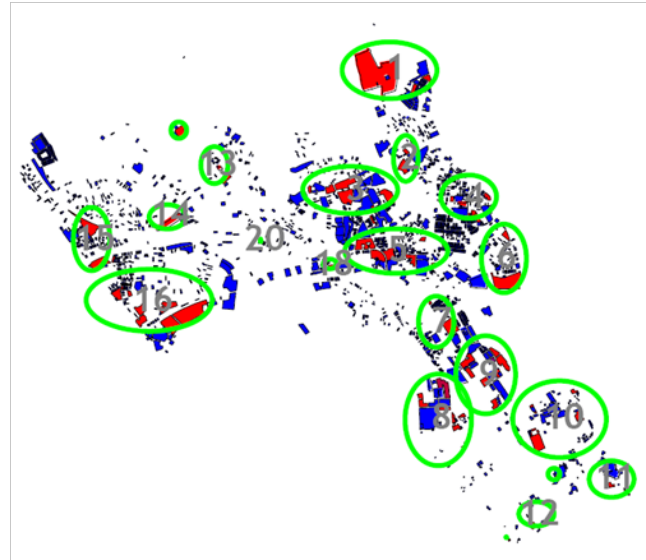


Figure 2 Gas density



High level gas consumption data grid

CHP growth areas identified.

GIS Mapping

Integration into planning



Local Development Framework

- Identified DE growth areas embedded in LDF
- CHP feasibility studies for all major developments
- Planning based DE fund to be established

The London Plan

- Policy 4.6A of the London Plan states
“Developments should evaluate combined cooling, heat, and power (CCHP) and combined heat and power (CHP) systems and where a new CCHP/CHP system is installed as part of a new development, **examine opportunities to extend the scheme beyond the site boundary to adjacent areas.**”

DEMaP – DE Network Support Fund

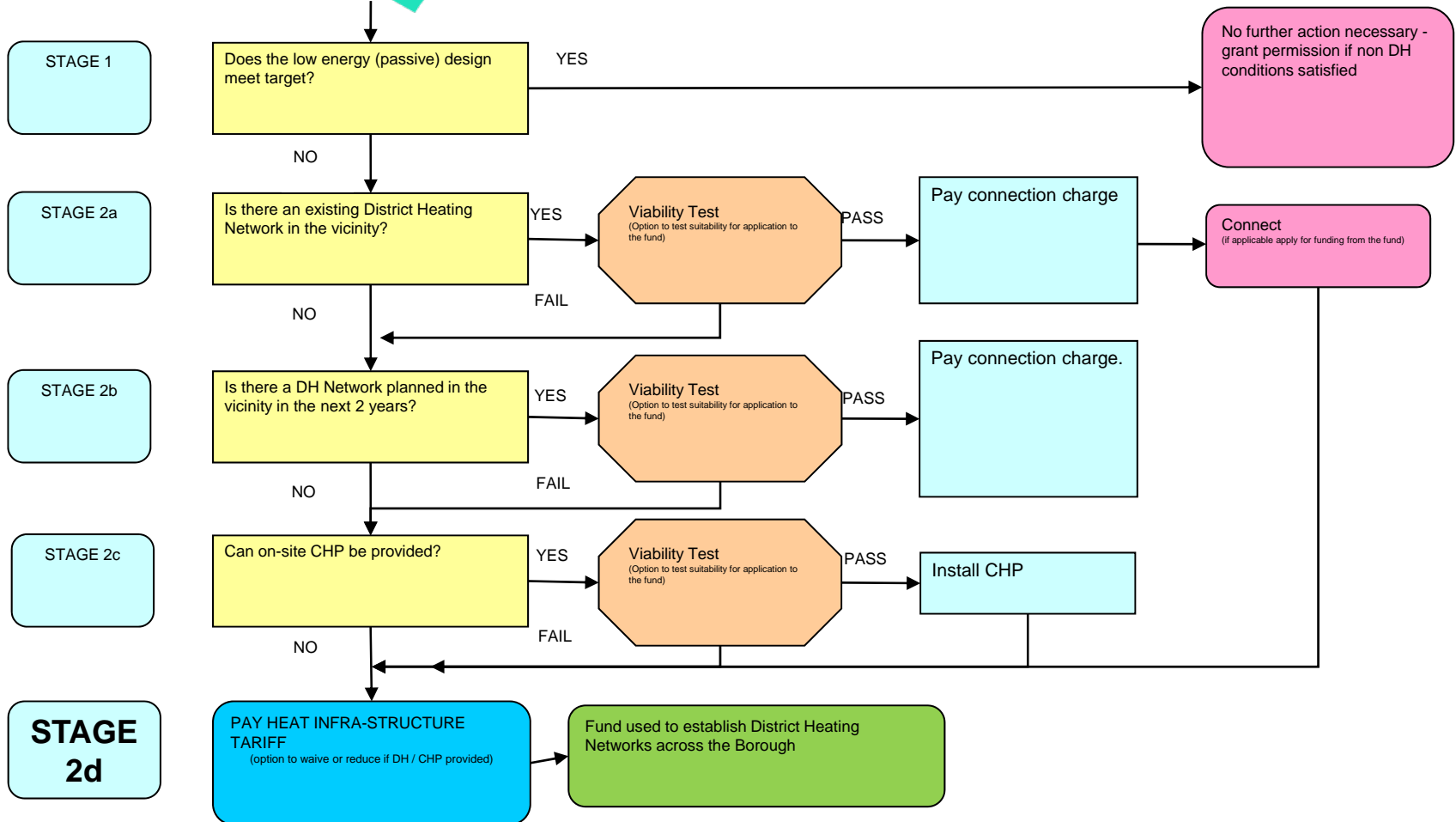
- How can we help projects connect to existing energy centres?
- How can we encourage the extension of site specific energy centres beyond the site boundary?

DEMaP – Heat Infrastructure Tariff

- Developers pay into the fund when connection to existing or proposed DE networks is not considered feasible.
- The accumulated fund is used to fund/subsidise new DE networks and connection to existing networks.



The HIT Process



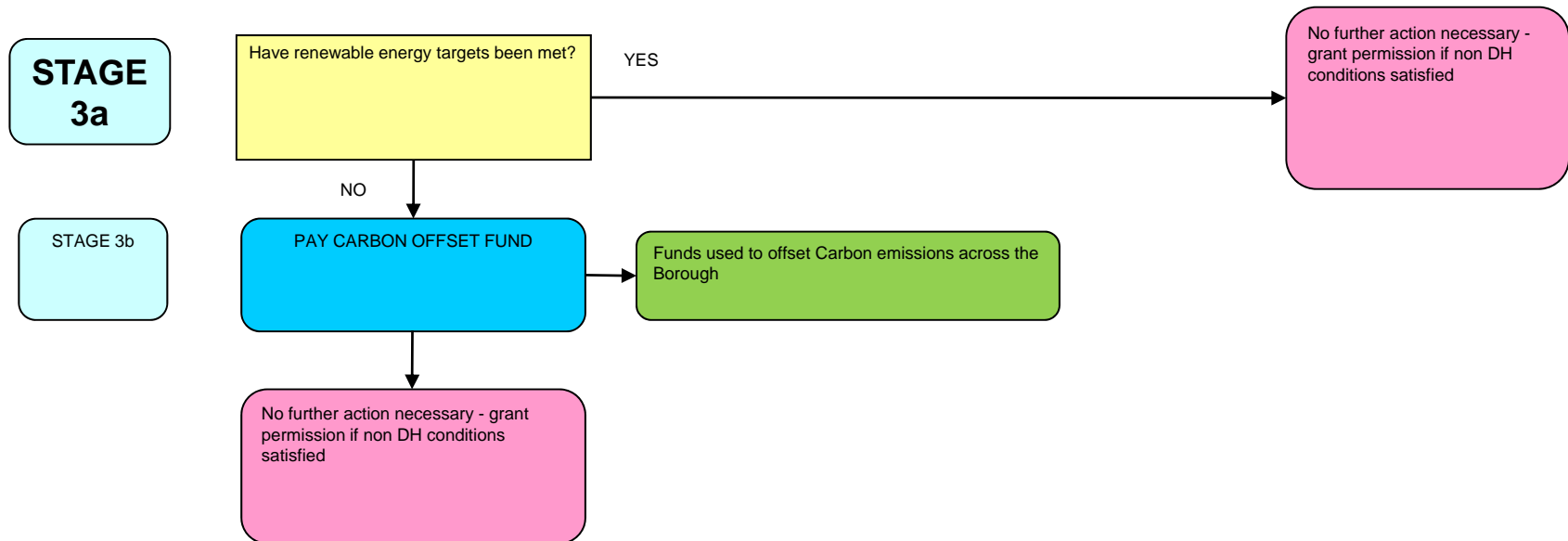
Unresolved issues

- Money's only part of the problem.
- Assumes that there's an entity capable of using the money.
- Who should benefit?
- How much do we charge?
- Will developers pay and can planners enforce?

Offset Fund – A future Allowable Solution?

- Final step in the energy hierarchy - renewable shortfall.
- DEMaP assessed the potential fund value using 2008/9 planning applications.
- Depending on carbon price a fund of circa £600,000 per annum.
- Used to fund Camden energy efficiency programmes.

The Offset Fund Process



Will developers take a double hit?

Electricity Supply License Modification

- EU Court of Justice Citiworks case (May 2008) - “The end of private wire”
- Option to test Ofgem’s “License Light”
- DEMaP supporting the early stages of the process.

	Scenario1	Scenario2	Scenario3
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Capital Costs

Energy Centre	£1M	£1M	£1M
Heat Network	£0.3M	£0.3M	£0.3M
Design & Project Management	£0.2M	£0.2M	£0.2M
Project Contingency	£0.2M	£0.2M	£0.2M
Total Capital Costs	£1.5M	£1.5M	£1.5M

Operating Margin

Revenues	£0.63M	£0.64M	£0.76M
Costs	£0.56M	£0.56M	£0.58M
Gross Margin (EBITDA)	£80,000	£90,000	£190,000
Project IRR	1.6%	2.9%	12.0%
NPV@7.5% (25 years)	-£660,000	-£530,000	£600,000

CO2 savings

Annual CO2 savings (tonnes)	1,442	1,442	1,442
Life time CO2 savings (tonnes)	36,047	36,047	36,047
Cost of CO2	£18	£15	-£17

Outcomes

- Clear Heat Infrastructure Tariff structure.
- The License potentially helps the commercial viability of CHP at Camden housing, but...
- Work in progress.