The Sutton Decentralised Energy Network (SDEN)
1. Strategic Aims

- Delivers the Green Economy strand of Opportunity Sutton
- Reduce carbon emissions and environmental footprint (One Planet Living principles)
- Reduce fuel poverty and increase fuel security
- Ensure new commercial sites are developed with sustainability built in
- Deliver infrastructure investment in the borough
- Raise Sutton’s profile as a sustainability champion
2. Introduction to SDEN

- Borough initiative to use waste heat to supply low carbon energy to homes and business in Sutton for heating and hot water
- Council has set up a wholly owned company, Opportunity Sutton Limited
- Envisaged to establish an Energy Services Company (ESCo) as a subsidiary
- Phase 1 to deliver heat to an “anchor load” at Felnex
- Future phases to expand across the borough and potentially into adjacent boroughs
3. How the scheme will work

- Waste heat produced by Viridor’s proposed Energy Recovery Facility (ERF) and existing Landfill Gas Engines (LFG) will be purchased under a long term contract
- Connection via a pair of heating pipes across Thames Water land to near Hackbridge Station
- Resilience via conventional boilers on the Felnex site
Detailed finances still under review. Principles are:

**Initial Financial Flows**
- Construction costs £4.5m for delivery of the heat network (agreed at S&R in July 13)
- Connection charge to be levied on Felnex developers

**On Going Financial Flows**
- Heat Revenue – the ESCo will have a contract to supply heat to end users on the Felnex site
- Energy Costs – the ESCo will pay Viridor for the heat supplied and purchase gas for back up boilers
- Operating Costs - the ESCo will have a contract with specialist contractor to operate the scheme
5. Contractual Structure

- London Borough of Sutton
- Opportunity Sutton Ltd
- Sutton Decentralised Energy Network (SDEN) Ltd
- Loan Agreements to enable SDEN to purchase assets which it will own
- Heat Sale Agreement to Schroders & Felnex Occupiers including customer service standards etc.
- Land and Asset Protection Agreements with Network Rail
- Land agreements for pipework with Viridor/Thames Water
- Construction Contract for Network
- Operation Contract for Network and Back up Boilers
- Residential Customer Services and Metering and Billing Contract
- Contract with Viridor for heat supply
- Contract for Gas supplies to back up boilers on Felnex Site
- Contract for Electricity supplies to Felnex boilers for pumps etc.
6. Risks and Barriers

- Risks inevitable with project of this scale and complexity
- Risk register reviewed monthly by the Board and Member Steering Group.

**Key risks and issues and mitigation strategies:**
- JR appeal prevents or delays delivery of the ERF
- Agreement of heat price with Viridor – ongoing discussions
- Capital cost insufficient - mitigated by detailed reviews of costs
- Routing of pipes across Network Rail assets – ‘route proving’ undertaken and more detailed work planned
- Delay or reduction in size of the Felnex Development
- Agreement of connection charge and heat price with Schroders – discussions ongoing
7. Phase 2 – the future potential

Phase 1 heat supplies to Felnex are catalyst for the scheme but the real potential for delivery of a large scale scheme with more significant financial returns will be Phase 2.

- There are a number of connection opportunities being considered for Phase 2 including:
  - Lavenders (Durand Close)
  - St Heliers Hospital
  - Carshalton College
  - Developments to the north in LB Merton
  - Developments to the east in LB Croydon
8. Next Steps

- Finalise and agree the financial model
- Secure agreements with Viridor and Schroders
- Undertake detailed route proving for Network Rail crossing
- Seek approval to procure at HEB on 3\textsuperscript{rd} March 2015
- Proceed with project and procure a construction and operation contractor