

MICHAEL KING

**Heatnet
Co-convenor
UK District Energy Vanguards Network
Board Director
Aberdeen Heat & Power Ltd**



Market Potential

Rough estimate for 10 years to 2025:

- **HNDU 25% - 50% conversion** **£400 - 800m**
 - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/305860/DECC_Energy_investment_report_Web_Final.pdf
 - **Scottish target (30,000 x £6k)** **£180m**
 - <http://www.scotland.gov.uk/Publications/2014/03/2778/downloads#res-1>
 - **GLA London Plan** **£300m**
 - <https://www.london.gov.uk/priorities/planning/research-reports/monitoring-london-plan>
 - **Other non-LA projects** **£100m**
- Total** **£980m – 1,280m**

The Potential and Costs of District Heating Networks – DECC 2009

Opportunities

- **Currently 2% market (450,000 h/holds)**
- **At 3.5% discount rate up to 8 m households & up to 26 m sq m commercial space = 33% heat market**
- **25% lower capital costs + 5% discount rate = 10% heat market**

Principal Barriers

- **High upfront capital costs**
- **20% above EU levels**
- **High rate of return required by investors 15% hurdle rate**



FABER MALINSSELL | AECOM

THE POTENTIAL AND COSTS OF DISTRICT HEATING NETWORKS

A report to the
Department of Energy and Climate Change

April 2009

THE POTENTIAL AND COSTS OF DISTRICT HEATING NETWORKS



Procurement

“Although schemes could fail for many reasons, in their view the most common reason was that the local authority did not have enough money to carry out the procurement process. They were advised that the costs for implementing scheme procurements were typically £200 – 250k per scheme”. Research into the barriers to the deployment of district heating networks in suitable locations. DECC 2013

Research into barriers to deployment of district heating networks

Research study by BRE, University of Edinburgh and the Centre for Sustainable Energy for the Department of Energy & Climate Change

Barriers

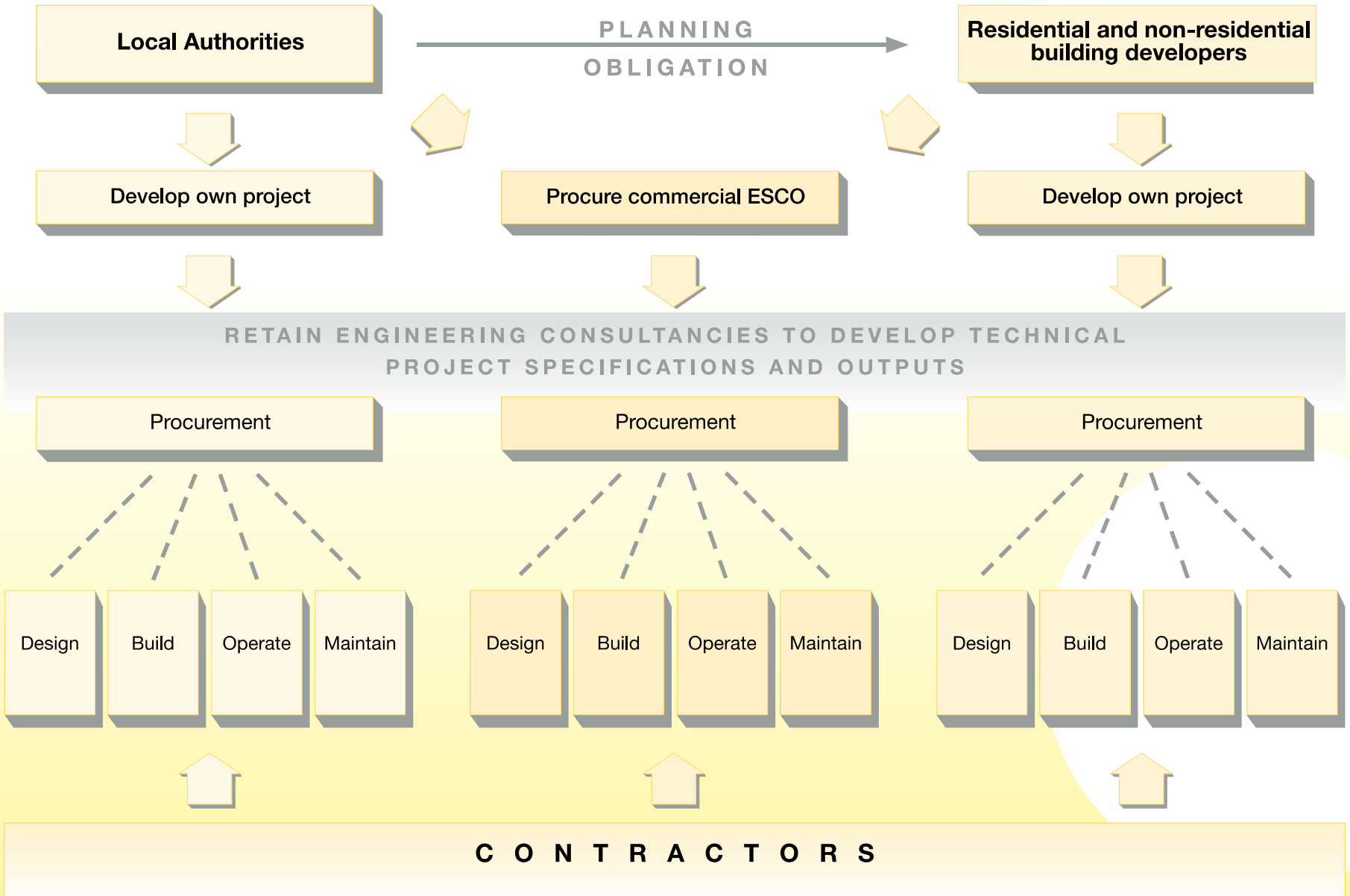
Table 1 Barriers to establishing a heat network at individual stages - impact

	Local Authority Led	Property Developer Led
Objective setting and mobilisation	<ul style="list-style-type: none"> Identifying internal resources to instigate scheme and overcome lack of knowledge (**) Customer scepticism of technology (*) 	<ul style="list-style-type: none"> Persuading building occupants to accept communal heat (mandated by the planning authority) (*)
Technical Feasibility and Financial Viability	<ul style="list-style-type: none"> Obtaining money for feasibility/viability work (***) Identifying and selecting suitably qualified consultants (**) Uncertainty regarding longevity and reliability of heat demand (*) Uncertainty regarding reliability of heat sources (*) Correctly interpreting reports prepared by consultants (*) 	<ul style="list-style-type: none"> Selecting suitably qualified consultants (**) Uncertainty regarding longevity and reliability of heat demand e.g. lack of heat demand in new buildings (*) Uncertainty regarding reliability of heat sources (*)
Implementation and Operation	<ul style="list-style-type: none"> Paying the upfront capital cost (**) Obtaining money for independent legal advice (***) Lack of generally accepted contract mechanisms (**) Inconsistent pricing of heat (**) Up-skilling LA procurement team on DH (*) 	<ul style="list-style-type: none"> Concluding agreement with energy services provider including obtaining a contribution to the capital cost (**) Lack of generally accepted contract mechanisms (**) Inconsistent pricing of heat (**)

Table 2 Barriers to establishing a heat network at individual stages - prevalence

	Local Authority Led	Property Developer Led
Objective setting and mobilisation	<ul style="list-style-type: none"> Identifying internal resources to instigate scheme and overcome lack of knowledge (***) Customer scepticism of technology (**) 	<ul style="list-style-type: none"> Persuading building occupants to accept communal heat (mandated by the planning authority) (*)
Technical Feasibility and Financial Viability	<ul style="list-style-type: none"> Identifying and selecting suitably qualified consultants (**) Obtaining funding for feasibility/viability work (**) Uncertainty regarding longevity and reliability of heat demand (*) Uncertainty regarding reliability of heat sources (*) Correctly interpreting reports prepared by consultants 	<ul style="list-style-type: none"> Selecting suitably qualified consultants (**) Uncertainty regarding longevity and reliability of heat demand e.g. lack of heat demand in new buildings (*) Uncertainty regarding reliability of heat sources
Implementation and Operation	<ul style="list-style-type: none"> Paying the upfront capital cost (**) Up-skilling LA procurement team on DH (**) Obtaining money for independent legal advice (**) Lack of generally accepted contract mechanisms (*) Inconsistent pricing of heat (*) 	<ul style="list-style-type: none"> Lack of generally accepted contract mechanisms (**) Concluding agreement with energy services provider including obtaining a contribution to the capital cost (*) Inconsistent pricing of heat (*)

UK DE Market Structure



Official Journal of the European Union (OJEU)

Basics

- **EU Procurement Directives**
- **Establishes rules for public sector procurement**
- **Designed to ensure free movement of goods & services**
- **Enacted in UK under Statutory Regulations**
- **Thresholds**
 - £172.5k (supplies & services)
 - £4.3m (works)
- **No aggregation**
- **Provides time limits to allow reasonable time to respond**
- **Different timescales according to route selected**
- **Specification**
- **Criteria for awards**
 - most economically advantageous tender (MEAT)
- **Criteria for rejection**
 - legal, financial, technical

OJEU Routes

- **Open Procedure**
 - no pre-qual
- **Restricted Procedure**
 - pre-qual (PQQ)
 - shortlist invited to tender (ITT)
- **Competitive Dialogue Procedure**
 - PQQ
 - shortlist invited to dialogue
 - shortlist invited to tender (ITT)
- **Competitive Negotiation Procedure**
 - PQQ
 - shortlist invited to negotiate
 - open negotiations beyond award of Preferred Bidder
- **Innovation Partnership (new - Jan 2014)**
 - PQQ
 - shortlist invited to negotiate
 - without specified solution

Factors affecting choice of OJEU route

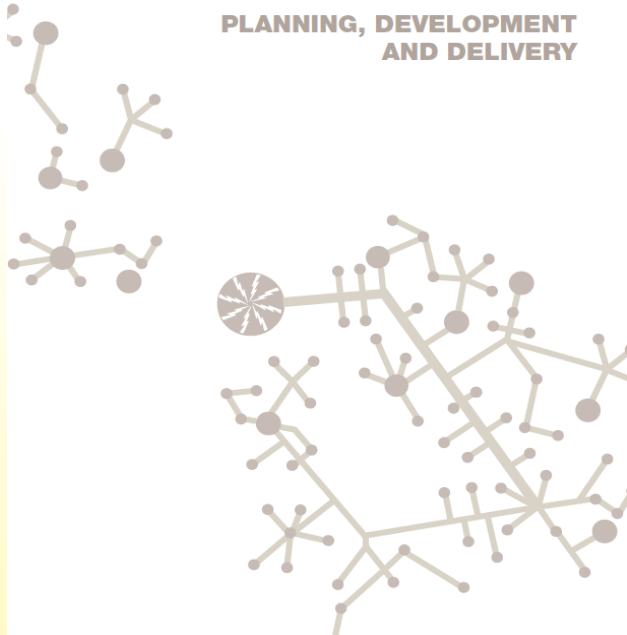
- **Repeatability** – is it a one- off or will it be repeated frequently?
- **Complexity** - is it complex in terms of technical spec or range of services?
- **Risk/ value** - value may be low but the risk may be high?
- **Commonality** – is this something everyone needs or just you?

Low value, low risk, repeatable goods & services in populated markets require less process, governance or expertise in their procurement

High value, specialist one-off purchases in markets with limited suppliers require considerable process, expertise and governance

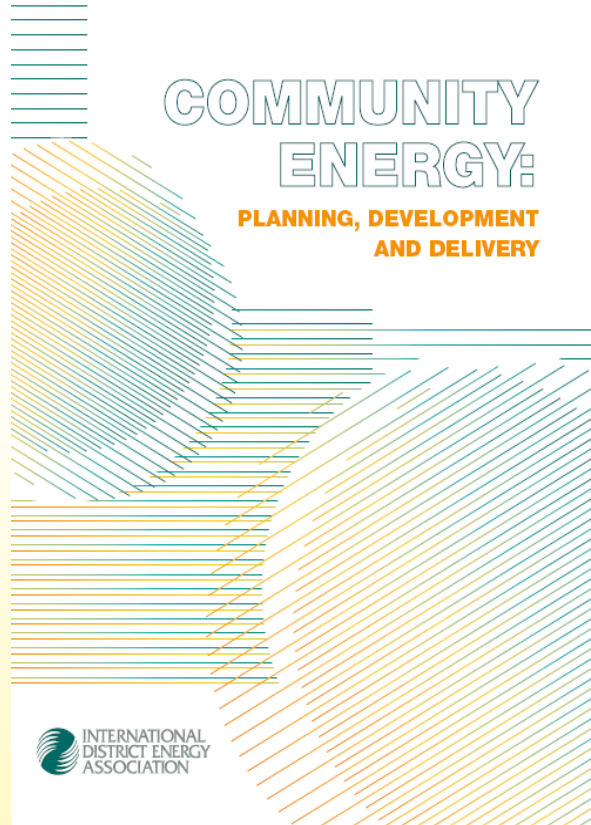
Thank you for your attention

COMMUNITY
ENERGY:
PLANNING, DEVELOPMENT
AND DELIVERY



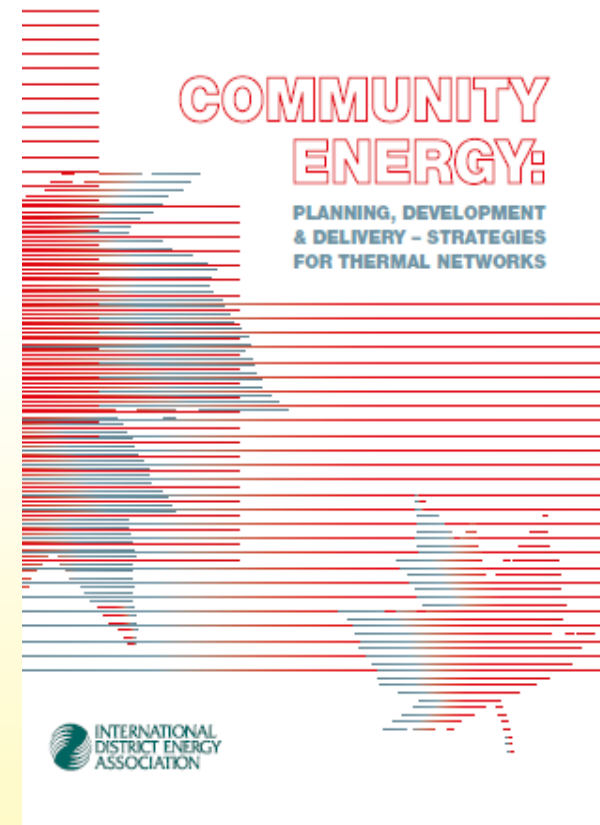
www.chpa.co.uk

COMMUNITY
ENERGY:
PLANNING, DEVELOPMENT
AND DELIVERY



www.districtenergy.org

COMMUNITY
ENERGY:
PLANNING, DEVELOPMENT
& DELIVERY – STRATEGIES
FOR THERMAL NETWORKS



Michael King

mj.king@blueyonder.co.uk