

# HEAT NETWORKS INVESTMENT PROJECT

## RESULTS FROM THE PILOT



July 2017

# Applicant overview

There were 29 pre-applications followed by 25 full pilot applications. Of these:

- 19 were from local authorities; 4 from the wider public sector; 2 from universities
- 19 were for new heat networks; 5 were expansions of existing ones; 1 was an interconnection of existing heat networks
- 16 were gas CHP projects; 4 energy from waste; 2 biomass boilers; 1 geothermal CHP; 1 gas boiler; 1 water source heat pump

Funding:

- £78.5m funding requested by the 25 projects
- £263m total capex
- Project range £0.5-30m capex

# Overview of successful projects

There were 9 projects awarded funding. Of these:

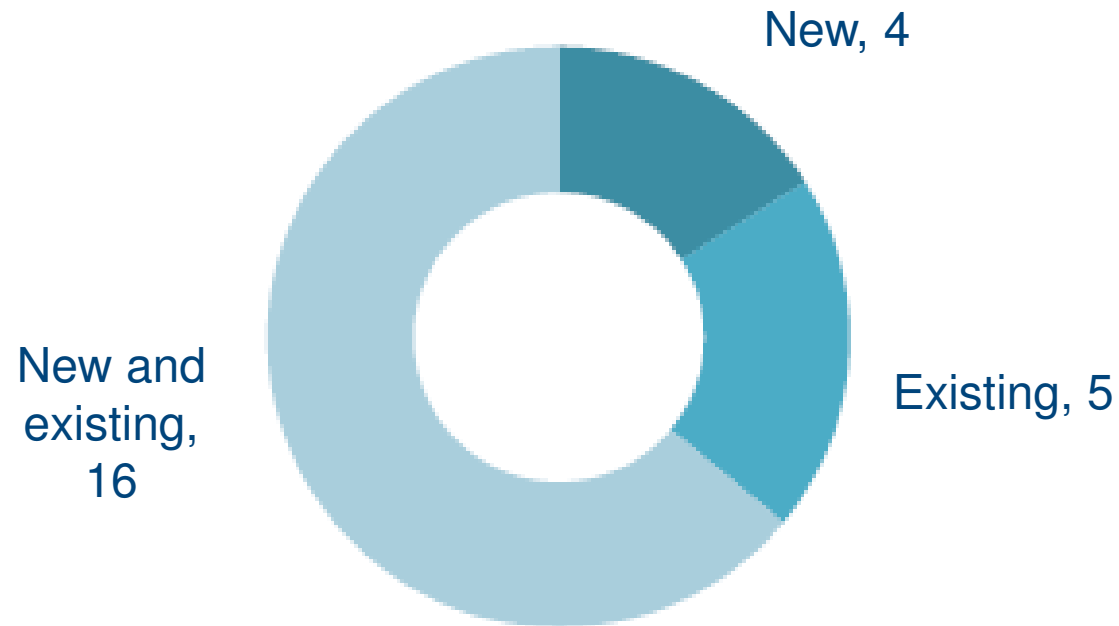
- All 9 were from local authorities
- 7 were for new heat networks; 1 an expansion of an existing network; 1 an interconnection of existing heat networks
- 7 were gas CHP projects; 1 energy from waste; 1 water source heat pump

Funding:

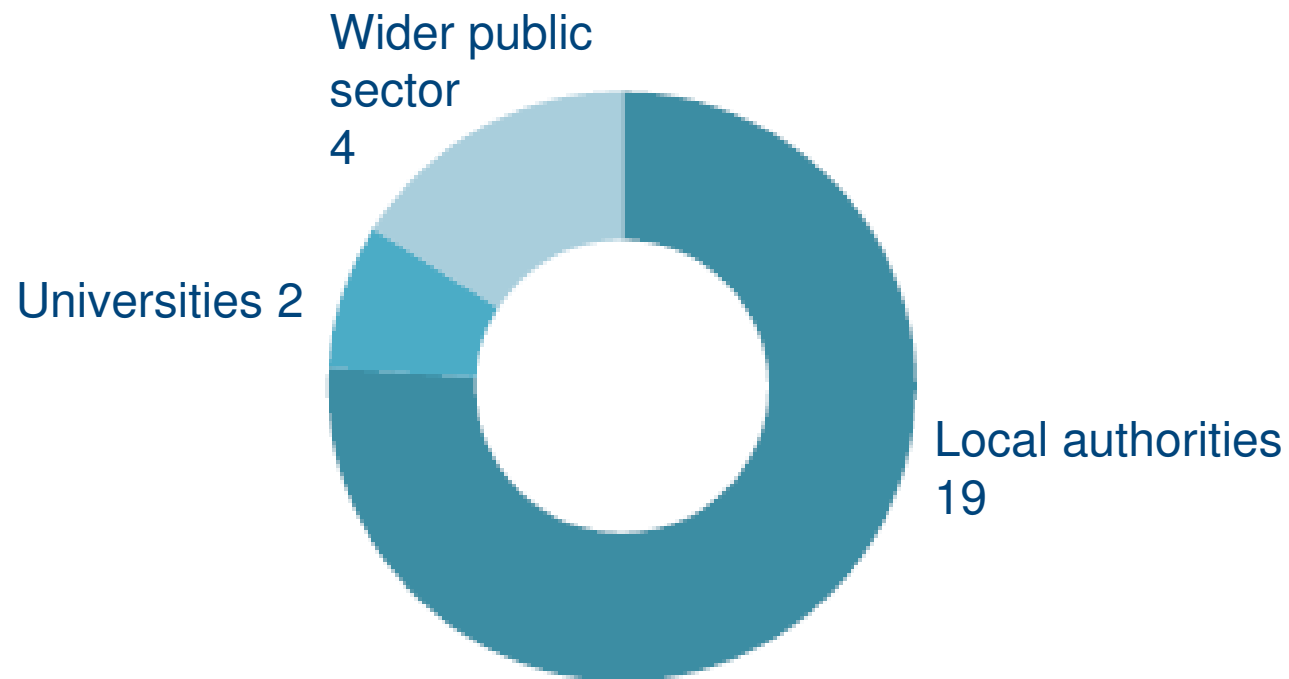
- £24.21m funding awarded to the 9 projects (£15.71m in grants; £8.5m in loans)
- £75.14m total capex
- Project range £1.8-13.6m capex

# Summary of applications

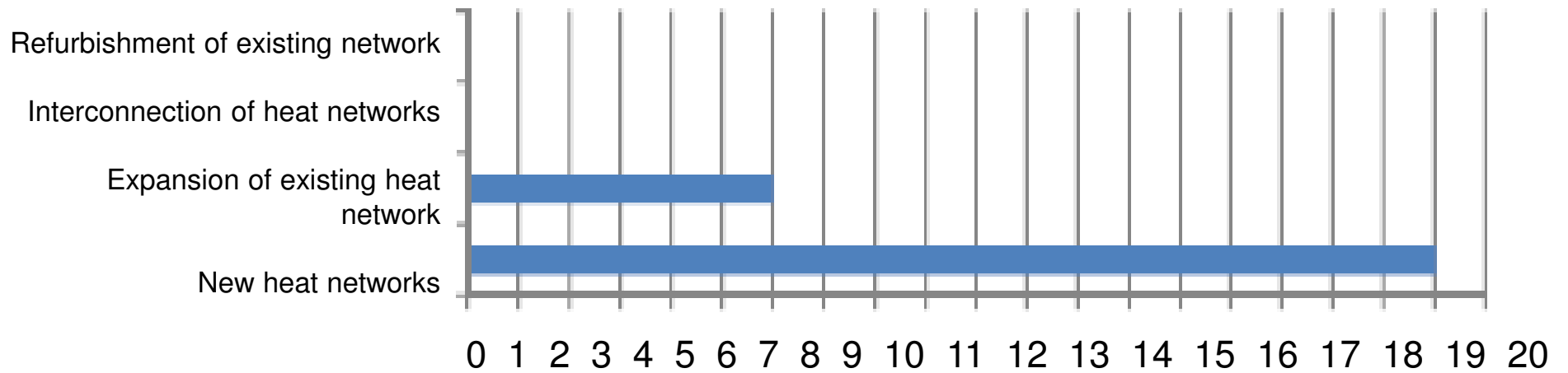
# HNIP pilot applications: Building types served



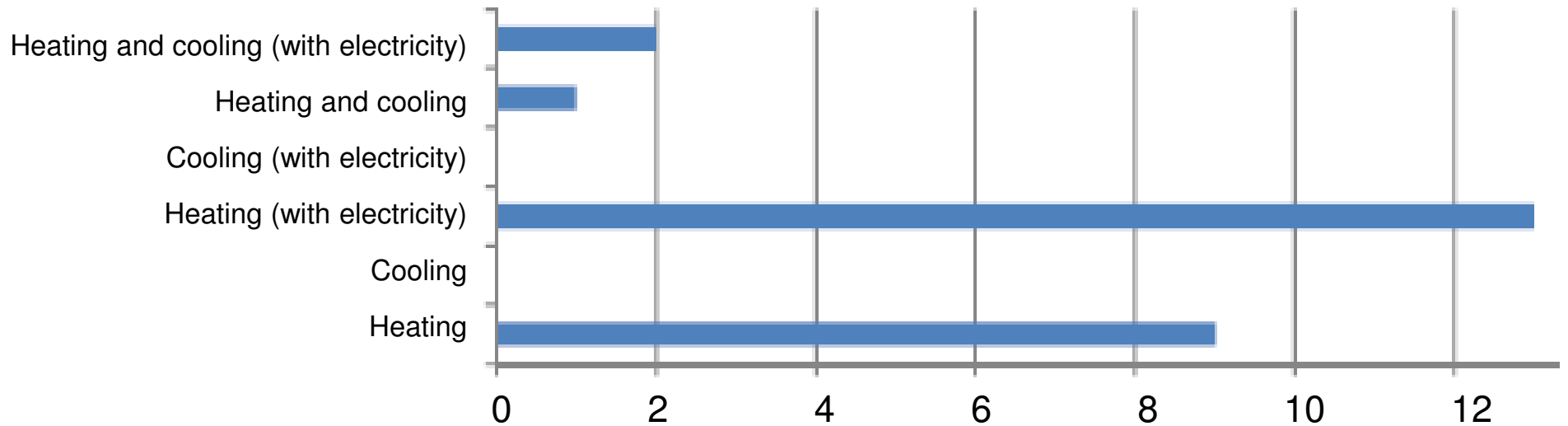
# HNIP pilot applications: Who applied



# HNIP pilot applications: Project type



# HNIP pilot applications: Type of heat network





Progress through application process

## Application process



- Pre qualification



- Deliverability assessment



- Triangulation



- Scoring and ranking

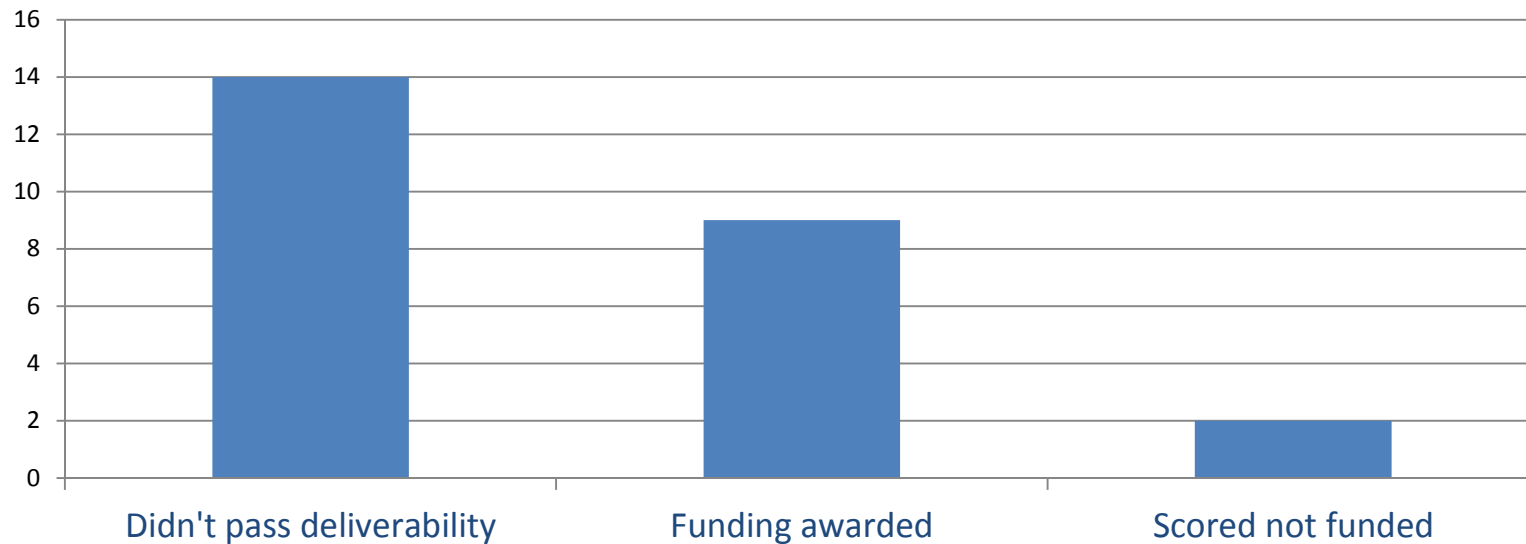


- Awards panel

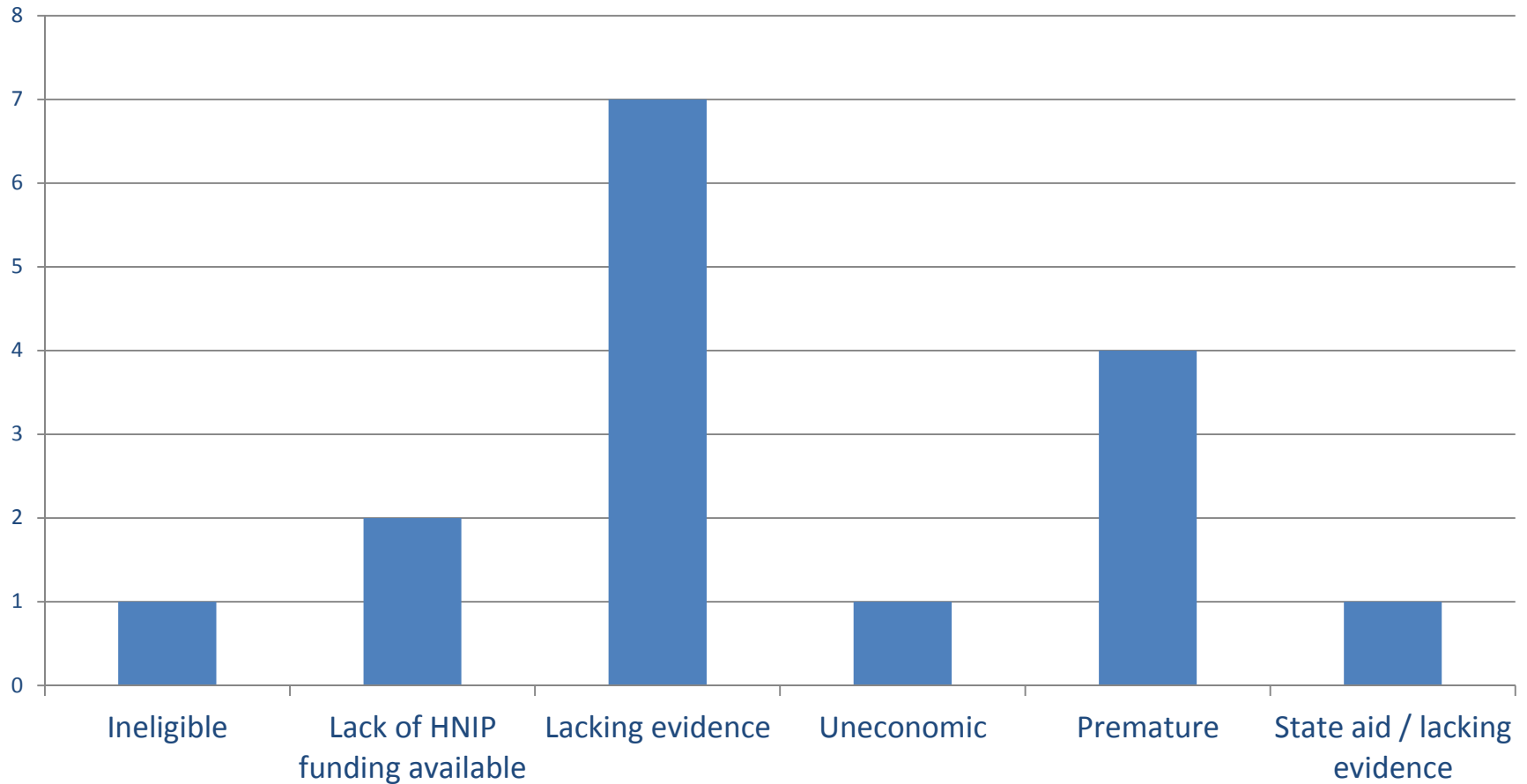
## How far did the pilot applications get?

25 Applications received  
14 Unsuccessful  
2 Scored not funded  
9 Successful

## And through the application process?



# Reason funding wasn't secured



## Examples of evidence gaps in unsuccessful applications

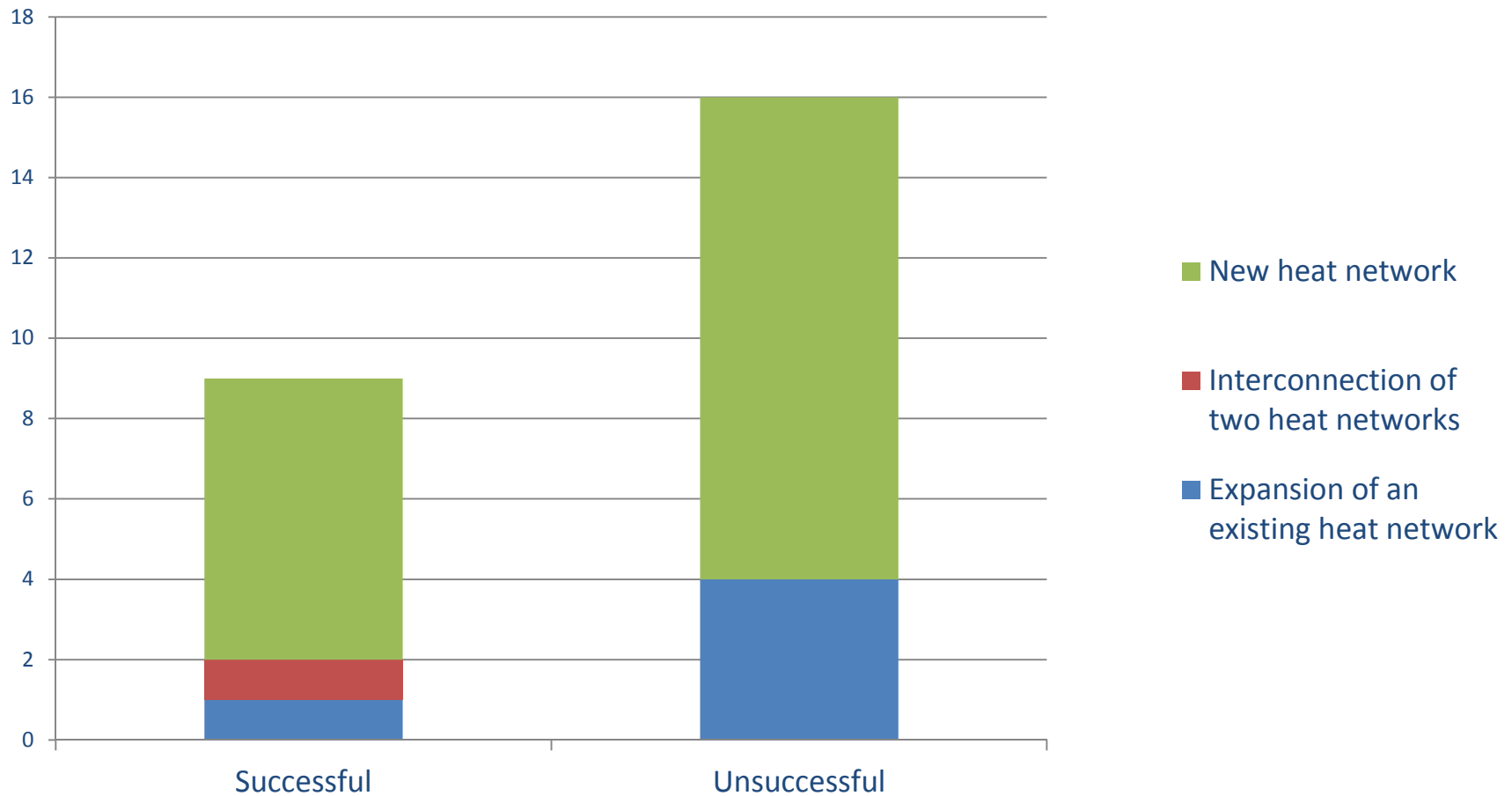
Evidence required in guidance	Examples of evidence gaps
<b>i. Outline business case or equivalent - including strategic rationale, procurement strategy for a delivery partner, anticipated sources of funding and evidence of senior management/executive/cabinet/board approval and long term commitment to the project.</b>	<ul style="list-style-type: none"> <li>• Lack of an outline business case or equivalent with sufficient information in line with the Green Book, with which to assess the project in depth</li> <li>• Outline business provided but lacking detail or clarity on key points e.g. what the project is, the project structure, commercial detail, procurement strategy, delivery programme, timetable</li> </ul>
<b>ii. Technical heat network design documentation:</b> <ul style="list-style-type: none"> <li>• Feasibility studies including options appraisal for the heat network for which application is for:</li> <li>• Technical design of chosen option including drawings/schematics, specifications, and evidence of technical feasibility</li> <li>• Techno-economic energy modelling including detailed energy assumptions and calculations</li> <li>• Carbon savings</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of feasibility study or modelling</li> <li>• Technical documentation does not demonstrate sufficiently that the project is beyond feasibility stage</li> <li>• Lack of clarity in the carbon savings calculation and no clear link to the design of the network as set out in the rest of the project documentation</li> </ul>
<b>iii. Cash flow or financial model - one scenario without HNIP funding and one to demonstrate funding gap</b>	<ul style="list-style-type: none"> <li>• Lack of cash flow or financial modelling with which to judge project returns</li> <li>• Financial data supplied but too high-level and lacking detail</li> <li>• High levels of inconsistency between documents e.g. between financial model and shadow heat model template</li> </ul>
<b>iv. Heads of terms (high level contract or initial agreements) with anchor load heat customers and all other critical revenue sources; this must provide a clear explanation of who the customer is (e.g. location), and revenue/price (standing and fixed charges), duration of contract and status of agreement</b>	<ul style="list-style-type: none"> <li>• Heads of terms lack sufficient detail on agreements with delivery partners</li> <li>• Lack of clear evidence of other funding</li> <li>• Lack of clarity on the financial structure</li> <li>• Lack of evidence to support financial assumptions contained in the data</li> <li>• Lack of heat demand profile</li> </ul>
<b>v. Funding gap evidence demonstrating inability to secure the funding sought from HNIP - possibly showing investor hurdle rates or that for other reasons other funding cannot be accessed (borrowing limits, gearing or requirements of funders)</b>	<ul style="list-style-type: none"> <li>• Lack of clear cost information indicating how the funding gap has been determined</li> <li>• Lack of evidence of other funding options investigated and why these were unsuitable or did not allow the project to meet its hurdle rate.</li> </ul>
<b>vi. HNIP Input Template</b>	<ul style="list-style-type: none"> <li>• Lack of detail or consistency between this and other information supplied in e.g. the financial model</li> </ul>
<b>viii. Supporting documentation (optional)</b>	<ul style="list-style-type: none"> <li>• Lack of evidence with which to determine whether permissions/licences are required or being sought</li> <li>• Lack of evidence that the project for which support is being sought is additional to what is required under e.g. local planning guidelines</li> </ul>

# Examples of evidence supplied in successful applications

Evidence required in guidance	Examples of evidence
<p><b>i. Outline business case or equivalent - including strategic rationale, procurement strategy for a delivery partner, anticipated sources of funding and evidence of senior management/executive/cabinet/board approval and long term commitment to the project.</b></p>	<ul style="list-style-type: none"> <li>• An outline business case in line with the Green Book 5 case model, containing e.g. a strategic case, objectives and benefits, risks and assumptions, options appraisal, procurement methods, financial highlights (e.g. estimates for design and build/operation and maintenance, other funding), area coverage, draft plans</li> <li>• Framework Project Agreement</li> <li>• Project Implementation Plan</li> <li>• Procurement framework</li> <li>• Evidence of Senior Management/Council committee Approval</li> <li>• An economic Appraisal</li> <li>• Letters of Support with confirmed offers of funding</li> <li>• Documents setting out the strategic background to the project</li> </ul>
<p><b>ii. Technical heat network design documentation:</b></p> <ul style="list-style-type: none"> <li>• Feasibility studies including options appraisal for the heat network for which application is for:</li> <li>• Technical design of chosen option including drawings/schematics, specifications, and evidence of technical feasibility</li> <li>• Techno-economic energy modelling including detailed energy assumptions and calculations</li> <li>• Carbon savings</li> </ul>	<ul style="list-style-type: none"> <li>• Specific feasibility studies for individual elements of the project</li> <li>• Demand Profile Details/loads</li> <li>• Technical reports and studies prepared by consultants and other contractors</li> <li>• Heat/demand mapping and modelling plans</li> </ul>
<p><b>iii. Cash flow or financial model - one scenario without HNIP funding and one to demonstrate funding gap</b></p> <p><b>iv. Heads of terms (high level contract or initial agreements) with anchor load heat customers and all other critical revenue sources; this must provide a clear explanation of who the customer is (e.g. location), and revenue/price (standing and fixed charges), duration of contract and status of agreement</b></p>	<p>Alongside cash flows showing scenarios with and without support:</p> <ul style="list-style-type: none"> <li>• Copies of balance sheets adjusted for the different scenarios</li> <li>• A financial Model Dashboard</li> <li>• Heads of terms showing details of agreements</li> </ul>
<p><b>v. Funding gap evidence demonstrating inability to secure the funding sought from HNIP - possibly showing investor hurdle rates or that for other reasons other funding cannot be accessed (borrowing limits, gearing or requirements of funders)</b></p>	<ul style="list-style-type: none"> <li>• Financial data showing costs and revenues over the life of the project, with and without HNIP support, and how this affects the hurdle rate</li> </ul>
<p><b>vi. HNIP Input Template</b></p>	<ul style="list-style-type: none"> <li>• General Input Template complete and consistent with other project documentation</li> <li>• Shadow Heat Model Template complete and consistent with other project documentation</li> </ul>
<p><b>viii. Supporting documentation (optional)</b></p>	<p>Examples of other documents supplied by applicants:</p> <ul style="list-style-type: none"> <li>• Residential/non domestic customer heat agreements</li> <li>• Other financial data, such as heat costs broken down by customer groups</li> <li>• Letters of support from key stakeholders other than those that confirm offers of funding.</li> <li>• Any published documents the applicant may have produced on the project</li> <li>• Home Energy Conservation Act reports, if relevant</li> </ul>

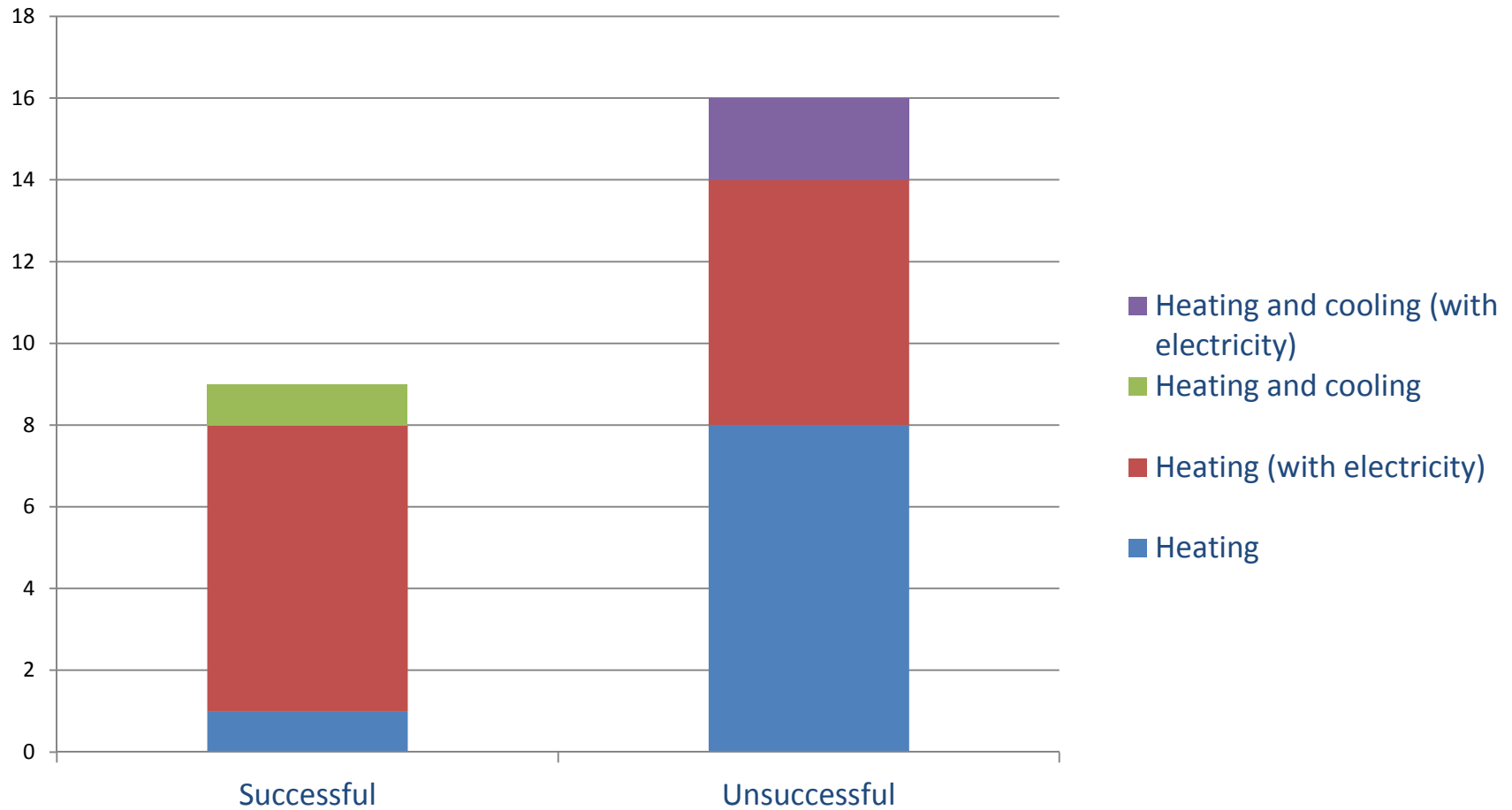
Comparison of characteristics of  
successful and unsuccessful projects  
in the pilot

# Project type

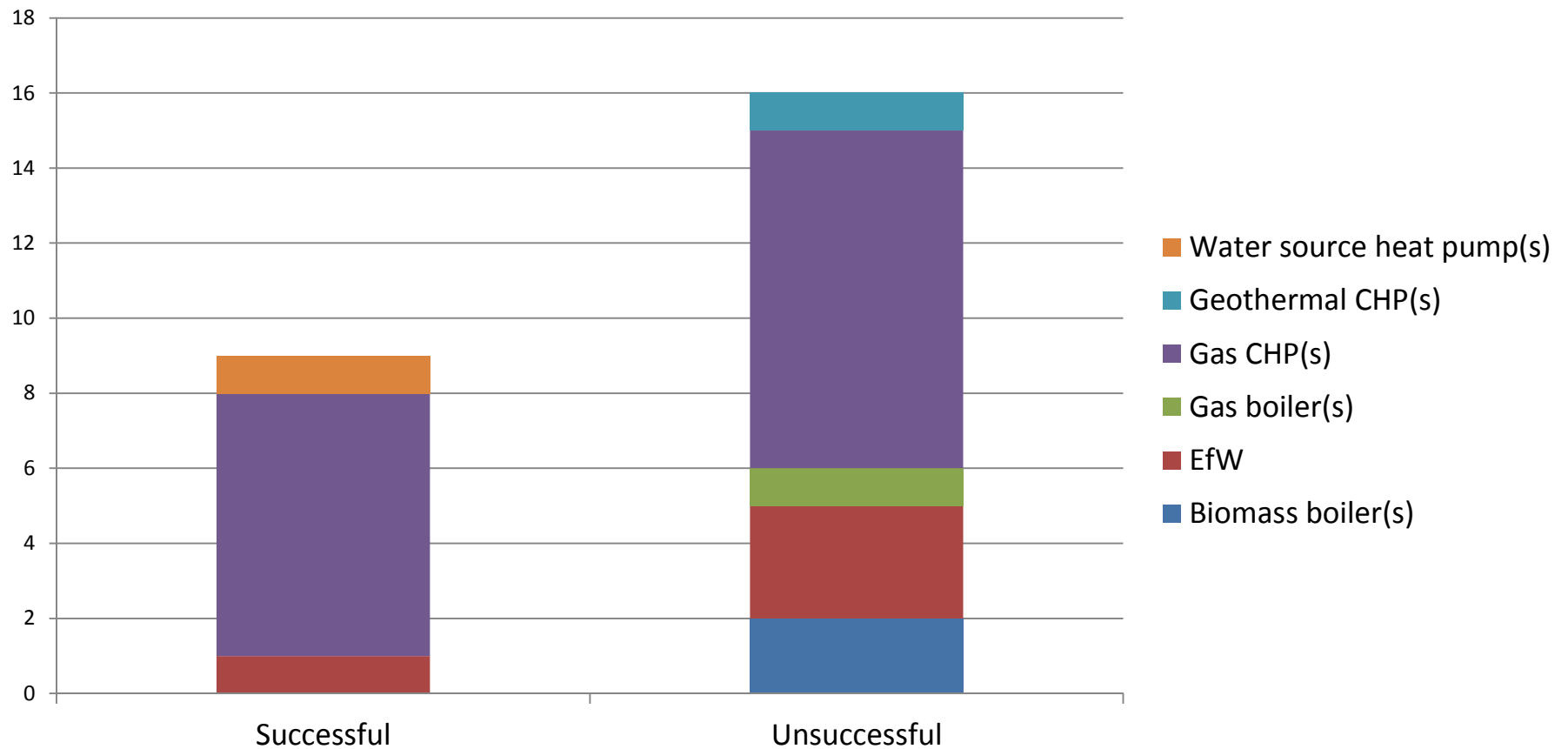




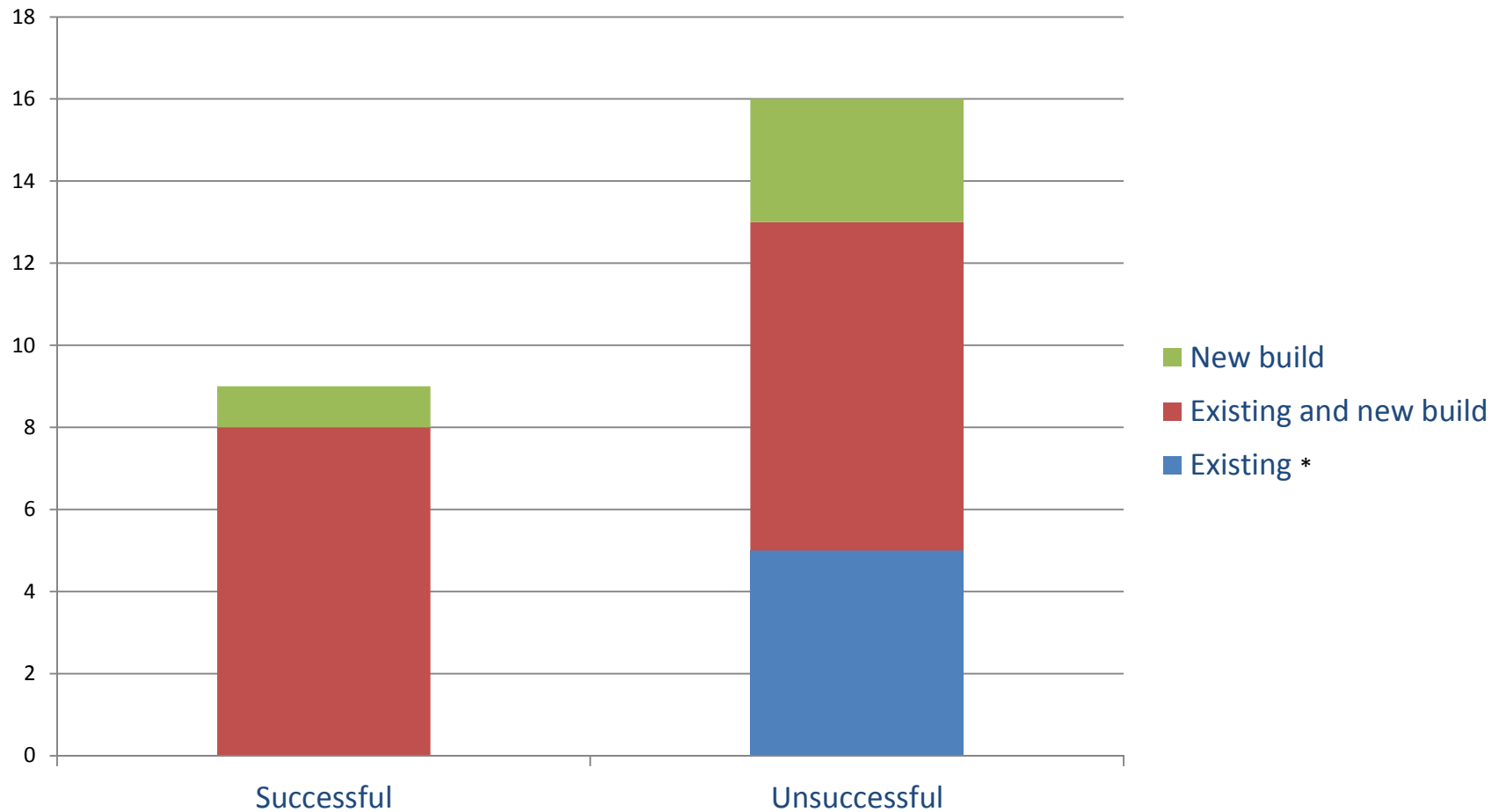
# Utilities



# Primary heat source

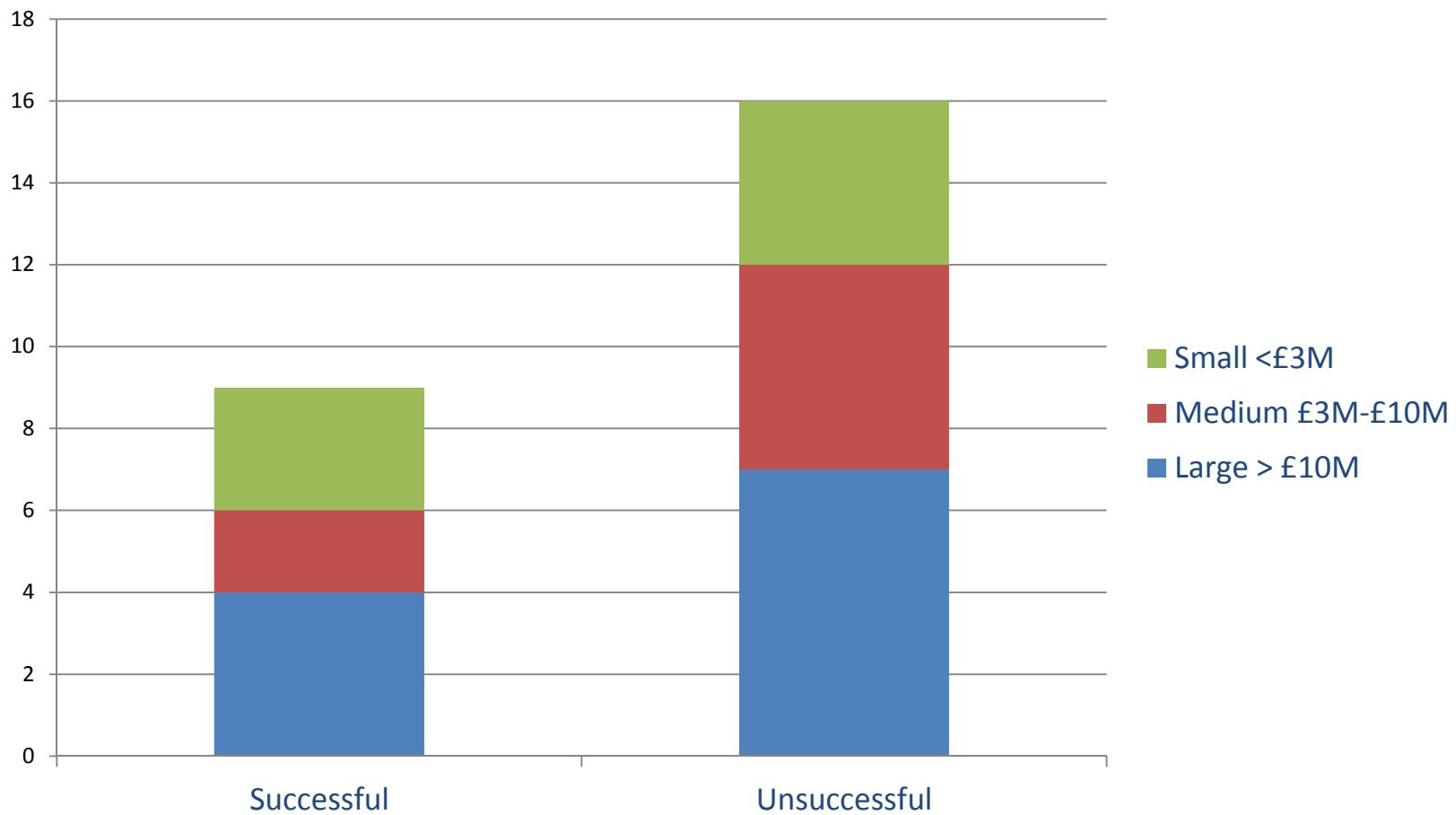


# Building type supplied

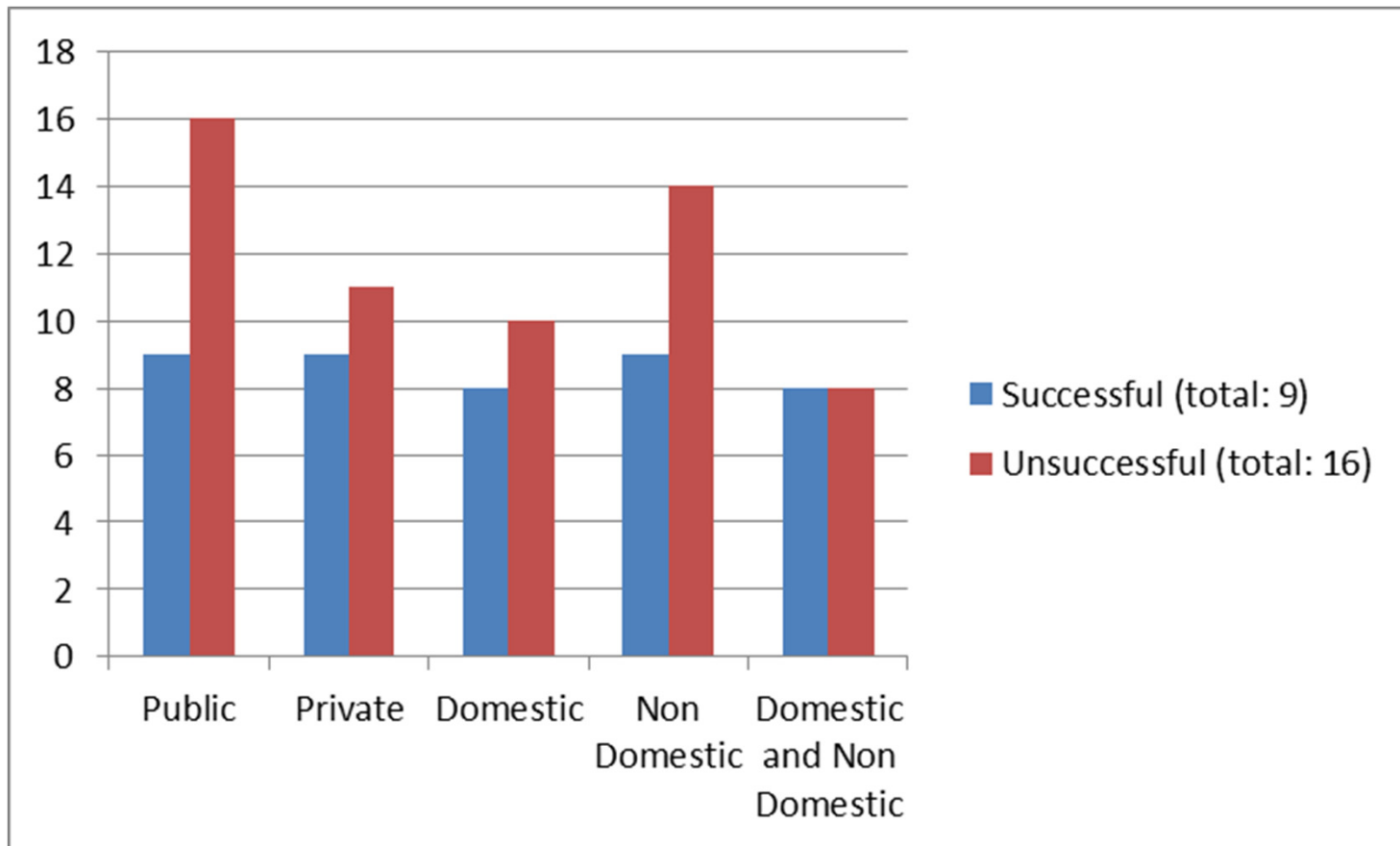


\* Of the projects involving purely existing buildings, two did not secure funding due to prematurity, two due to lack of evidence and one due to economic grounds rather than because of they scored poorly under the scoring system.

## Size: as defined by capex

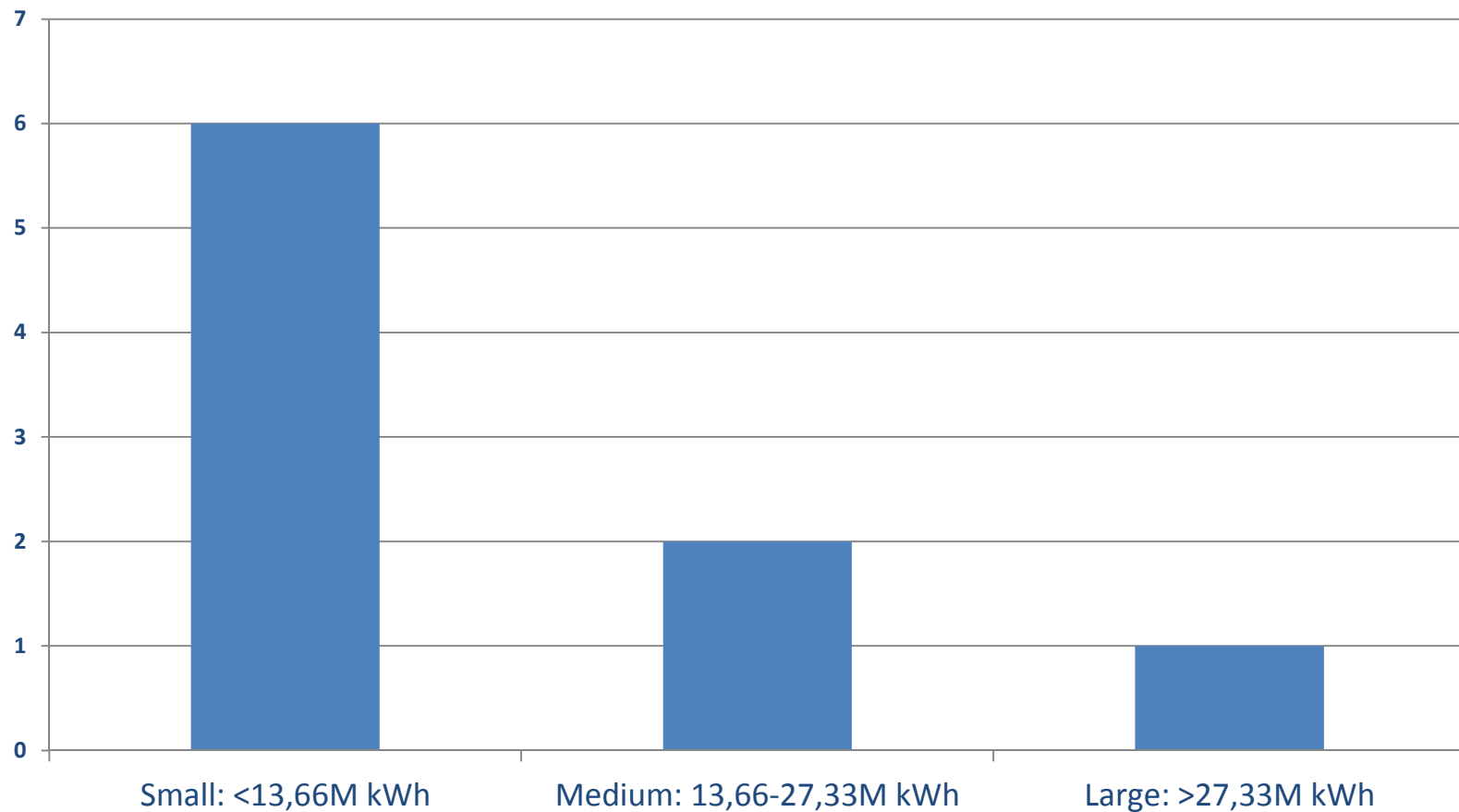


# Customer breakdown : Successful and Unsuccessful projects

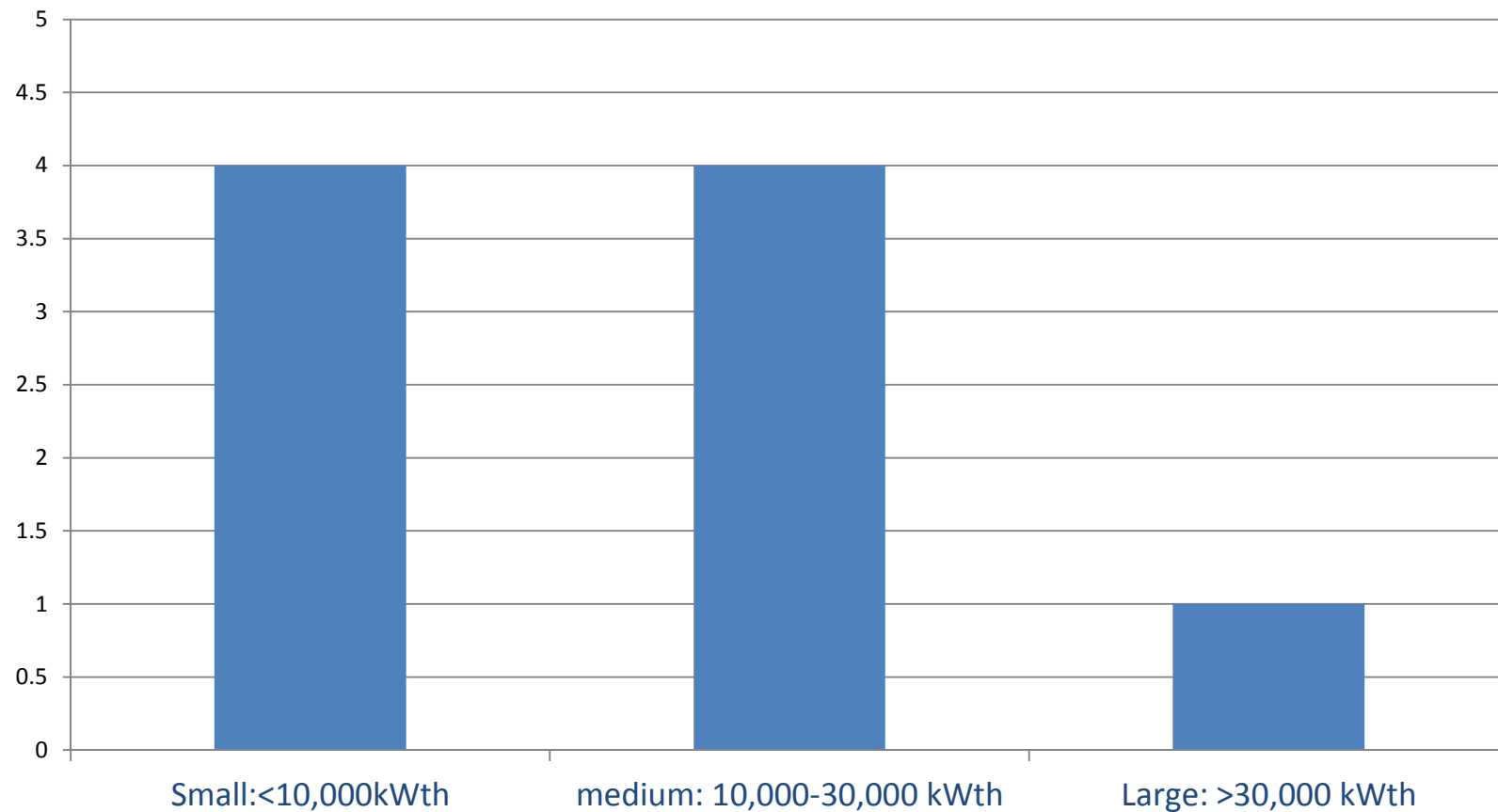


# Characteristics of successful projects in the pilot

## Size: As defined by heat delivered (kWh per year)

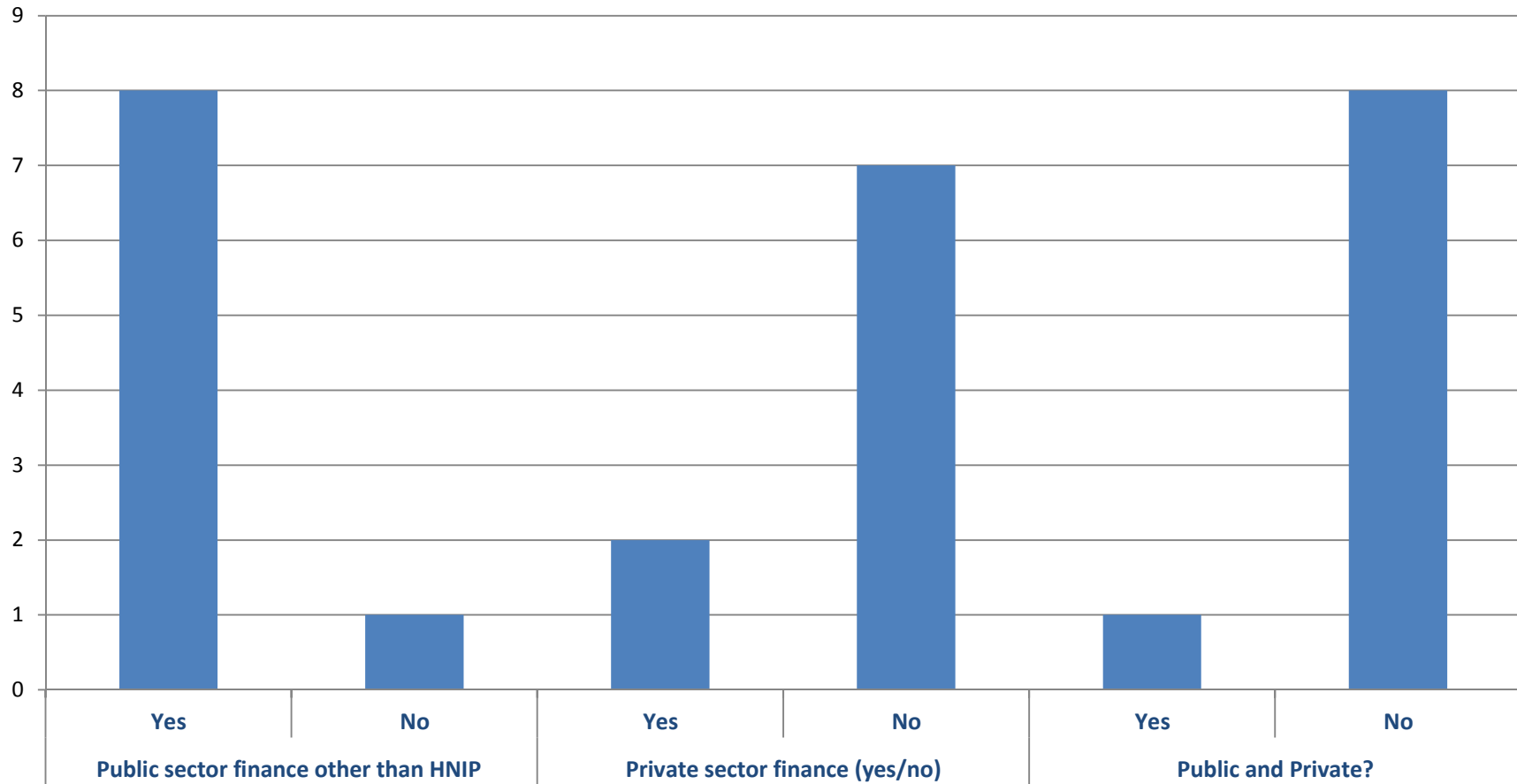


## Size: As defined by combined installed thermal capacity (kWth)





# Sources of funding



Of the two projects which had private sector finance, one is being financed by an energy supplier and the other will have local authority/private sector co-financing by a developer.

# The successful projects

Recipient	Project Name	Amount Awarded	Technology	Project type
Sheffield City Council	Sheffield District Energy Network development	£5.73m (£2.23m grant & £3.5m loan)	Energy from waste plant	Expansion and interconnection of two heat networks
Camden Council	Somers Town Energy (Phase 2)	£1.05m grant	Gas CHP	Expansion of an existing heat network
Manchester City Council	Manchester Civic Quarter Heat Network	£2.87m grant	Gas CHP	New heat network
Colchester Borough Council	Colchester Northern Gateway	£3.51m grant	Heat Pump	New heat network
London Borough of Waltham Forest	Wood Street South	£1m grant	Gas CHP	New heat network
London Borough of Barking & Dagenham	Becontree	£1.08m grant	Gas CHP	New heat network
Westminster City Council	Church Street District Heating Scheme	£2.56m grant	Gas CHP	New heat network
Crawley Borough Council	Crawley Town Centre Heat Network	£1.4m grant	Biomass & Gas CHP	New heat network
Manchester City Council	St Johns heat network	£5m loan	Gas CHP	New heat network
<b>Total</b>		<b>£24.21m</b>		<b>Total Capex: £75.14m</b>