



NHH Basingstoke heat network Heat network feasibility study


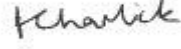

Update summary

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Revision	Date	Prepared By	Checked By	Approved By
Update summary	27/03/2019	Name Ewan Frost-Pennington, Kirsty Smyth	Helen Charlick	Thomas Briault
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This report has been prepared specifically for and under the instructions of Basingstoke and Deane Borough Council under an appointment dated February 2019.

This report may be provided to third parties solely to inform any such person that our report has been prepared and to make them aware of its substance but not for the purposes of reliance. No third party is entitled to rely on this report unless and until they and we sign a reliance letter in the form attached to our appointment. We do not in any circumstances accept any responsibility or liability to retail investors whether via bond issue or otherwise and no such party is entitled to rely on this report.

In preparing this report we have relied on information provided by others and we do not accept responsibility for the accuracy of such information.

We emphasise that the forward-looking projections, forecasts, or estimates are based upon interpretations or assessments of available information at the time of writing. The realisation of the prospective financial information is dependent upon the continued validity of the assumptions on which it is based. Actual events frequently do not occur as expected, and the differences may be material. For this reason, we accept no responsibility for the realisation of any projection, forecast, opinion or estimate.

Findings are time-sensitive and relevant only to current conditions at the time of writing. We will not be under any obligation to update the report to address changes in facts or circumstances that occur after the date of our report that might materially affect the contents of the report or any of the conclusions set forth therein.

In preparing this report we have relied on information supplied by others. We have relied in particular on the accuracy and completeness of such information and accept no liability for any error or omission in this report to extent the same results from errors or omissions in the information supplied by others.

NHH Basingstoke heat network feasibility summary Update summary

Overview

In February 2019, Arup produced a report exploring options for a heat network around North Hampshire Hospital for Basingstoke and Deane Borough Council. Arup's analysis compared the relative economic and carbon saving benefits of different heat sources, network extents, energy centre locations and private wire connections to suggest an optimum route for the design.

Arup has since been commissioned by Basingstoke and Deane Borough Council to extend the analysis to include an economic appraisal over 10 years and to calculate the payback period for each scenario. The purpose of this update summary is to communicate findings. This document is designed to be read alongside the main report.

Results

Table 1 shows the updated NPV and IRR rates for each of the scenarios explored. It also highlights how long it will take for each project to pay back.

Figures 1 and 2 (overleaf) show graphically how NPV and IRR vary across 10, 15, 25 and 40 year periods for the proposed initial stage of design (scenario 6) and the proposed full network extent (scenario 5).

Scenario No.	Scenario	NPV at 3.5% discount rate (£k)				IRR (%)				Payback (years)	
		10yr NPV	15yr NPV	25yr NPV	40yr NPV	10yr IRR	15yr IRR	25yr IRR	40yr IRR	Undiscounted payback period	Discounted payback period
2	Gas CHP full network (ECB)	-£6,786	-£4,376	-£1,992	£815	-12.6%	-3.0%	1.6%	4.0%	20	34
3	Biomass pellet boiler full network	-£15,350	-£15,806	-£16,791	-£17,881					40	40
4	Biomass woodchip boiler full network	-£12,915	-£11,521	-£9,619	-£7,874	-28.1%	-13.2%	-4.6%	-0.7%	40	40
5	Hospital, Hotel and Parklands cluster	-£3,856	-£1,412	£1,020	£3,874	-7.7%	1.0%	4.7%	6.4%	14	20
6	Hospital and Hotel cluster	-£2,598	-£636	£1,133	£3,335	-5.9%	2.1%	5.2%	6.8%	13	19
7	Hospital and Hotel cluster (with hotel private wire)	-£2,611	-£454	£1,588	£4,059	-5.3%	2.5%	5.7%	7.2%	12	17
8	Hospital cluster	-£175	£1,752	£3,605	£5,828	2.6%	8.9%	11.1%	11.8%	8	10
9	Gas CHP full network (ECA)	-£6,328	-£3,918	-£1,534	£1,273	-11.9%	-2.5%	2.0%	4.3%	19	32
10	Gas CHP full network (ECC)	-£5,030	-£2,621	-£236	£2,570	-10.1%	-0.9%	3.2%	5.3%	17	26
11	Hospital cluster (No new network)	£2,095	£3,845	£5,422	£7,376	20.4%	23.7%	24.4%	24.4%	5	5
12	Hospital, Hotel and Parklands cluster (with hotel and hospice private wire)	-£4,166	-£1,463	£1,332	£4,543	-7.4%	1.1%	4.9%	6.6%	13	20

Table 1: Updated economic appraisal for each of the explored scenarios

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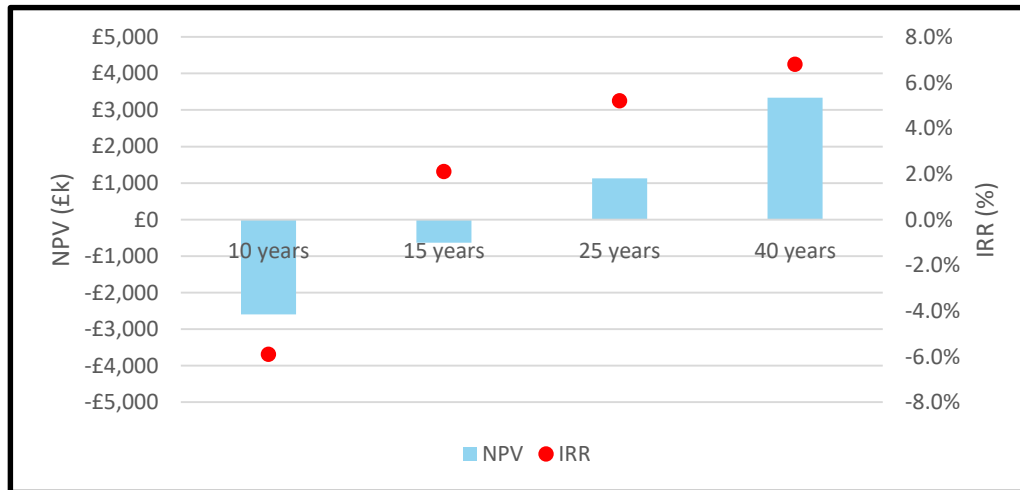


Figure 1: Economic appraisal for initial extent of network including Apollo Hotel and North Hampshire Hospital clusters with private wire connections to all buildings excluding the Ark and Apollo Hotel (scenario 6).

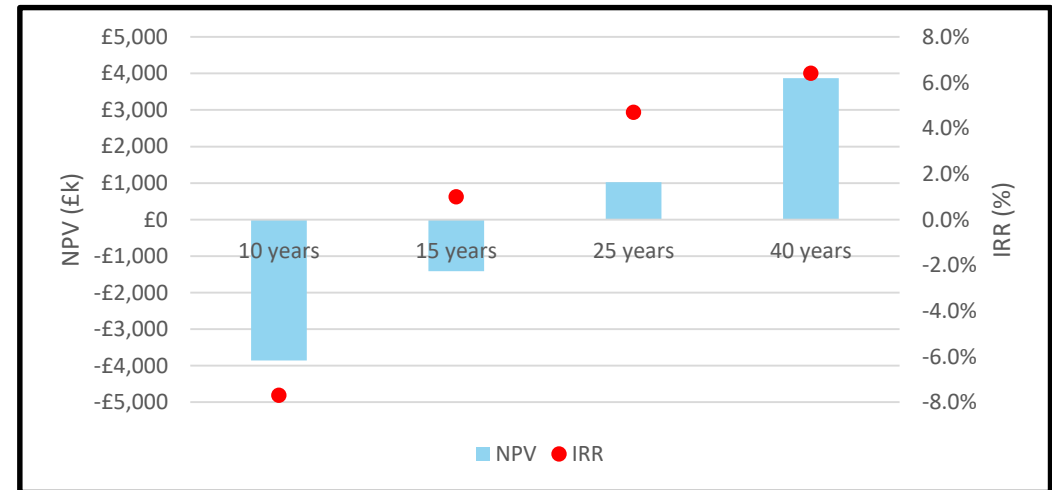


Figure 2: Economic appraisal for full extent of network including Apollo hotel, North Hampshire Hospital and Parklands clusters will private wire connections to all buildings excluding the Ark, Apollo Hotel and St. Michael's Hospice (scenario 5).