

MUNICIPAL YEAR 2019/2020 REPORT NO. 74

MEETING TITLE AND DATE:

Cabinet -
11 September 2019
Council
18 September 2019

Agenda – Part: 1

Item: 10

Subject: Energetik - Tranche 2
Investment Decision

REPORT OF:

Director – Commercial

Wards: All wards

Key Decision No: KD4642

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Cabinet members consulted:

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1. EXECUTIVE SUMMARY

- 1.1 Energetik, the Council's heat network company, received approval of its business plan and initial funding of £15 million in January 2017 (Ref: RE 16/068 C - Parts 1 & 2), to allow it to commence operations on its 'satellite' heat networks, continue the design to planning stage of its largest heat network at Meridian Water and to complete various outstanding activities required before the full investment could be made.
- 1.2 All activities have now been completed and the company is now seeking its second tranche of funding to deliver the remainder of its business plan which includes building the heating infrastructure required to serve Meridian Water.
- 1.3 Energetik was created to design, build and operate heat networks within Enfield that supply better value energy that's reliable and environmentally friendly. A wholly owned energy company allows the Council to realise the multiple advantages of managing heat networks from start to finish, with a customer focused approach that delivers wider benefits within the borough. These benefits include:
 - 1.3.1 **Helps tackle the climate change emergency** – the carbon footprint of heating homes connected to Energetik's heat networks is reduced by up to 80% compared to individual gas boilers. The total CO2 offset by the Council through Energetik's 40-year business plan is forecast to be over 200,000 tonnes – the equivalent of 400,000 trees being planted today and absorbing carbon for the next 45 years. This contributes to the Council's target to be carbon neutral by 2030 in accordance with its recent climate emergency declaration (*see Response to Climate Change Emergency PL 19/024 C*).

- 1.3.2 **Improvements to air quality and health** - residents of North London will benefit from the avoidance of harmful Nitrous Oxides (NOx) being released into the environment which would otherwise be emitted from individual gas boilers. NOx and particulates are harmful to people's health and cause thousands of deaths per year in the capital. By the time the 10,000 new homes are built at Meridian Water, the networks will be saving 2,175 tonnes of NOx from being added to the atmosphere, the equivalent of taking 2000 cars off the road each year, every year.
- 1.3.3 **Helps to alleviate fuel poverty** – fair heating charges, no penalty for using pay as you go (prepayment is often charged a higher tariff in electricity and gas markets) and smart in-home technology helps Energetik's customers to see and manage their spending in real time, helping them to manage their budget better. Flexible payment options for customers in financial difficulty, as well as links to charitable organisations who can offer support strikes a balance between prudential debt risk for the company and supporting the most fuel poor customers. Further, some of the interest premium paid by Energetik to the council can ring-fenced for fuel poverty projects.
- 1.3.4 – 1.3.5 See part 2 report
- 1.3.6 **Robust, expandable infrastructure** – future-proofed, with resilience built in, Energetik's heat networks have the capacity and ability to be expanded to supply more homes in the future, sharing the outline benefits with more customers whilst generating equitable income for the Council. The company can supply high quality, reliable and resilient heat networks - built to a bespoke technical specification that exceeds the standard of most UK heat networks.
- 1.3.7 **Returning benefits to Enfield's economy** – Energetik's low carbon infrastructure supports the borough's regeneration ambitions, helping to create a positive environment to attract new business to Enfield.
- 1.4 As a result of the due diligence undertaken in 2016, and before the remaining funding could be released to realise the remainder of Energetik's business plan, the company was required to ascertain greater certainty on the following (3.33 RE 16/068 C - Parts 1 & 2):
- 1.4.1 The construction and phasing programme for Meridian Water, and the appointment of a development partner.
- 1.4.2 A timetable for the delivery of the Meridian Water train station.
- 1.4.3 The timetable for the replacement of the North London Waste Authority's replacement Energy Recovery Facility (ERF).

- 1.4.4 The company's suite of legal documents.
- 1.5 Since 2017, more certainty on all items has been established:
 - 1.5.1 A development partner is in place at Meridian Water for the first phase, and the Council is controlling the pace of development since its change of delivery strategy.
 - 1.5.2 The Meridian Water train station is now open.
 - 1.5.3 The timetable for the new ERF is known, and the NLWA has received approval from government to proceed via the Development Consent Order (DCO).
 - 1.5.4 The company has successfully concluded negotiations and executed the majority of its legal agreements, including with three separate developers on its four active heat networks (Alma Road, Electric Quarter, New Avenue and Ladderswood). It expects to execute the Heat Supply Agreement (HSA) with the North London Waste Authority (NLWA) by the end of September 2019.
- 1.6 Since entering heat agreements with developers at all four of its satellite heat networks, the company has commenced operations to provide its customers with heat and hot water and all associated metering, billing and maintenance services. It has received positive recognition in the industry, being included in various national publications and receiving mention in Westminster hall as an example of best practice.
- 1.7 Its designs for the main energy centre at Meridian Water are complete and currently in the town planning process, which is expected to be determined later in 2019.
- 1.8 See part 2 report

RECOMMENDATIONS

- 2.1 - 2.7 See part 2 report

3. BACKGROUND

Overview and context

3.1 - 3.2 See part 2 report

3.3 In the 2017 cabinet report, it was noted that tranche 2 funding would be applied for once more information was known in relation to:

3.3.1 The construction and phasing programme for Meridian Water.

3.3.2 Network Rail's programme for the new Meridian Water train station.

3.3.3 NLWA's timetable for the replacement Energy Recovery Facility (ERF).

3.3.4 What is required to be delivered under the suite of contract documents, including the On-Lending Agreement from the Council to the business, and works required under Phase 2 of the Meridian Water Design Build Operate (DBO) contract.

3.4 It is now considered that the above items have been progressed, and given the timing and updated position, sufficient information is available to enable the Council to approve investment in and the second phase of loans to Energetik. Taking each item in turn:

3.4.1 An updated construction and phasing plan has been established for Meridian Water following the revision of the delivery strategy. The company works closely with the Meridian Water delivery team via the interdependency board to ensure it is appraised of the latest information.

3.4.2 Network rail's Meridian Water train station is now complete and open to the public.

3.4.3 The NLWA's ERF programme is forecast to commence operations in 2026. Joint preparatory works have commenced on utility diversions across the site, following the NLWA receiving approval of their DCO in 2017.

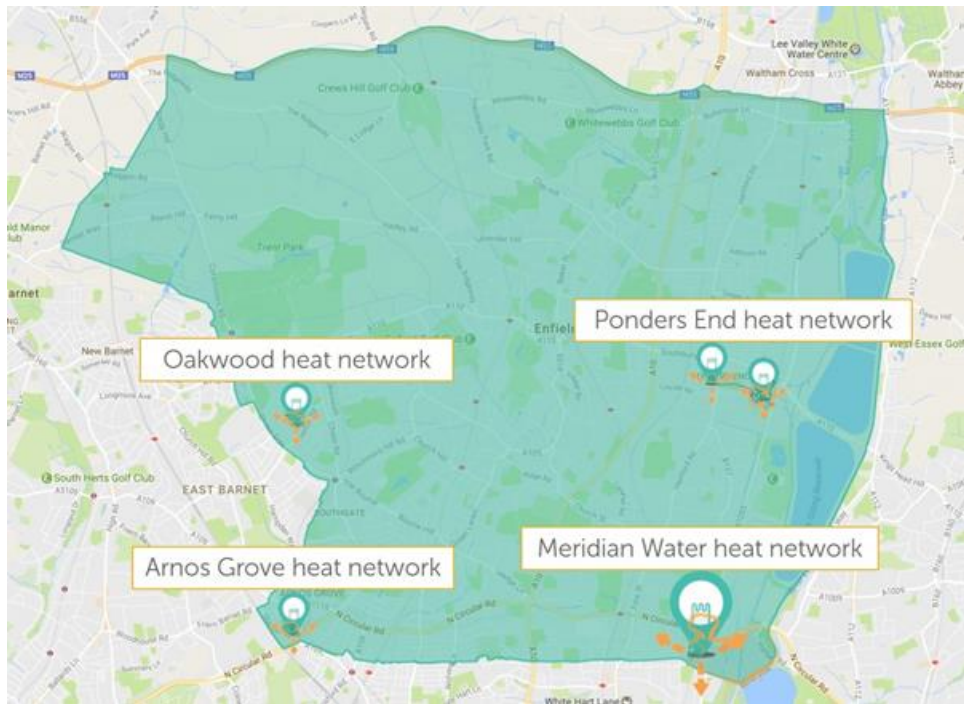
3.4.4 See part 2 report

3.4.5 Energetik's suite of heat agreements has been tested on each of the company's four active development sites, where they have been agreed and executed with a number of different developers, proving they are a balanced set of legal agreements. An On-lending agreement is in place for Tranche 1 that governs Energetik's drawdown of capital and the design to planning phase of Energetik's DBO contract is practically complete.

3.5 Since 2017, Energetik has made significant progress in the delivery of its business plan, adopting customers on four separate heat network

developments at Ladderswood, Electric Quarter, Alma Road and New Avenue, and has progressed with the town planning phase of the Meridian Water heat network and infrastructure that will serve the Meridian Water development. Now that the approach has been determined, a developer has been selected to build the first phase and a phasing plan for the remaining delivery is in place, Energetik are seeking from the Council to apply for the second tranche funding.

Map of Energetik Heat Network locations:



- 3.6 In October 2018 in preparation for the request for the second phase of funding being sought, Cabinet asked Energetik to review alternative funding sources to be ensure they were fully appraised of the funding options available to the Council as shareholder, which was undertaken. This included approval to explore the Mayor’s Energy Efficiency Fund (MEEF) and to establish the details of such alternative funding arrangements that may be available (see Cabinet Report entitled ‘Energetik Funding Options’ – October 2018).
- 3.7 In March 2019, a further Cabinet report provided an update on the progress made with the various funding options and sought to establish a co-ordinated view of the current shareholder position in terms of investment options, so that the favoured option could be developed further ahead of a final decision. on the company’s Tranche 2 investment decision.

Progress to date

3.8 The initial £15 million of funding (Tranche 1) approved by Enfield Council, allowed Energetik to establish itself as a functional heat network utility provider. Tranche 1 funding has enabled Energetik to:

3.8.1 Complete its suite of legal documents including:

- a) The Heat Supply Agreement with the North London Waste Authority (finalised, execution expected September 2019)
 - b) Lease and Agreement for Lease with the North London Waste Authority/London Energy (awaiting final NLWA chair sign off, execution expected December 2019)
 - c) Execution of connection and supply agreements with developers at all four of Energetik's 'satellite' heat network developments at:
 - i) Ladderswood,
 - ii) Electric Quarter,
 - iii) Alma Road, and
 - iv) New Avenue
 - d) The Portfolio Agreement between Energetik and the Council (DAR signed, execution August 2019)
- 3.8.2 Adopt the energy plant and commence heat network operations at Ladderswood on the Arnos Grove Heat Network.
- 3.8.3 Procure, manufacture and commission a pre-fabricated boiler plant to serve Electric Quarter until connection to the permanent energy centre as part of phase 2 of the Alma Road development.
- 3.8.4 Procure, manufacture and commission a pre-fabricated boiler plant unit to serve Alma Road development until connection is achieved to the permanent energy centre as part of phase 2 of the Alma Road development and commence heat network operations at the Alma Road development.
- 3.8.5 Adopt the energy plant and commence heat network operations at New Avenue on the Oakwood Heat Network.
- 3.8.6 Commence the heat service and customer services operations to residents on all four 'satellite' heat networks.
- 3.8.7 Complete the design to planning stage of Energetik's energy centre and heat distribution infrastructure on the Meridian Water heat network (due for decision Oct 2019).
- 3.9 In addition to its core activities, the company has established itself as an example of best practice in the industry in relation to its stringent technical requirements and its focus on customer service and protection, and has gained positive recognition at both the local and national level, receiving mention in Westminster Hall debate¹ and inclusion as a case study in a government document on financing heat networks in the UK, prepared by

¹ <https://hansard.parliament.uk/Commons/2018-11-28/debates/18112839000003/HeatNetworksRegulation?highlight=heat%20networks%20regulation#contribution-B1E56981-505C-455A-B6C7-D313E63F8201>

Grant Thornton². Additionally, OFGEM, the future regulator of the heat industry has recently requested a visit to Energetik's Arnos Grove heat network to view a scheme that is performing efficiently, to a high design specification, whilst delivering excellent customer service at a reasonable price. For further information on Energetik's progress, please refer to the company's Business Plan Addendum 2019.

(For a summary of progress on each of Energetik's heat networks, see Appendix A).

Connection numbers

- 3.10 At the time of writing Energetik has four live developments connected to its heat networks with 113 customers receiving service from Energetik. An additional 400 customers are estimated to be connected by March 2020 (subject to developer delivery programmes), bringing the total to over 500 + a commercial heat and power agreement with the Premier Inn at Ladderswood.
- 3.11 Connection figures vs. forecast have seen a variance from the 2017 business plan, primarily due to development programme slip outside of Energetik's control. The most significant delay to Energetik's revenue income has been at Meridian Water due to a change in the delivery strategy for this development (see below). However, commensurate with the delay is a reduction to Energetik's capital expenditure requirements as it has not had to commence construction of its energy centre and distribution network.
- 3.12 Therefore, whilst the company is not receiving revenues, it is also not incurring significant build / operating costs to run a large heat network with minimal / no demand. Reduced capital requirements have meant interest payments have been significantly reduced as a result.
- 3.13 Delays on the satellite heat networks do not have a significant impact on the financial returns to the company. Additionally, due to a delay in the execution of the portfolio agreement, Energetik is yet to make adoption payments to the HRA and has therefore not incurred interest expenses from borrowing to make these payments, although the company has accrued the payment in the company's accounts to reflect the charge once the agreement is signed.

Revised total connection forecast

- 3.14 The table below provides an update on the forecast number of connections to Energetik's heat networks for known developments. It should be noted that some Council developments connected to the satellite heat networks (Arnos Grove, Oakwood, Ponders End) may increase in size however these are

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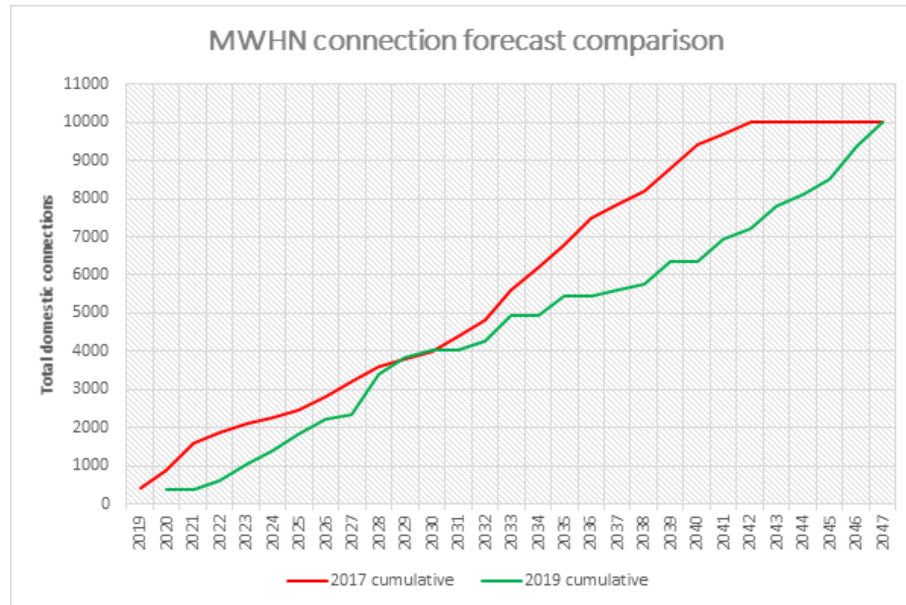
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subject to revised planning applications and therefore have not been included in conservative forecasts.

Site	2017 connection assumptions	2019 updated connection assumptions	Note / comment
<i>Meridian Water area</i>	10,000	10,000	No change
<i>Meridian Water North / West extension</i>	3,500	2,850	Updated forecast now only includes Joyce and Snells estate renewal. Extension to Edmonton has been removed from forecast as presently no guaranteed connections
<i>Arnos Grove (Ladderswood)</i>	517 + hotel	517 + hotel	No change
<i>Ponders End – Alma Road</i>	992	992	No change
<i>Ponders End - Electric Quarter</i>	167	167	No change
<i>Oakwood (New Avenue)</i>	402	657	Greater number of properties at New Avenue planned plus new development connection of 200 homes to the south.
Total	15,578	15,183	

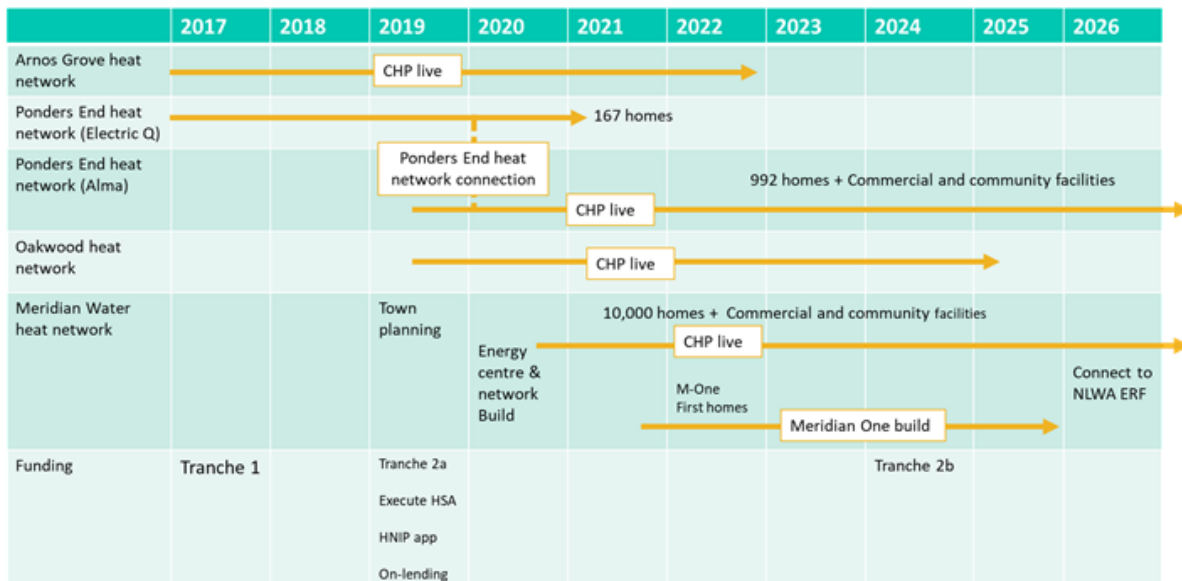
- 3.15 The overall forecast connection figures have reduced marginally since the 2017 business plan forecast and these are reflected within the financial modelling. However, there appears to be significant potential for greater numbers to connect as the developments where Energetik has its heat networks look to increase housing density via revised planning applications and new private planning applications commit to connect such as at New Avenue. The company has not included these increases in its modelling as they are not yet certain, so any increase is considered upside to the forecast returns.
- 3.16 A potential large-scale bulk heat supply is being discussed with a neighbouring borough which could add a heat demand of the equivalent of up to 8,000-10,000 homes but this is not included within the financial models as it is not certain.

3.17 The table below shows how the Meridian Water heat network connection forecast has changed since 2017, as this represents the bulk of Energetik’s connection income. The overall connection numbers remain unchanged at 10,000 but a profile that reflects a delayed and longer delivery programme as advised by the Meridian Water project team has been shown and is now reflected in the financial model:



Summary of Key milestones:

The diagram below provides an overview of the estimated programme timescales and key milestones Energetik expects over the coming years. As the company is not in control of developer programmes, specific development phases have not been included, but rather an overall expectation of programme delivery with expected development numbers. It should be noted that there is an expectation that these numbers will increase, as developers look to increase density on each site, however these are subject to separate planning applications out of Energetik’s control.



Industry changes towards a regulated market

3.18 Since Energetik commenced its operations in 2017, there has been significant policy and financial support from Government at both local and national level, with heat networks being prioritised as a way to deliver the country's carbon reduction targets (space heating in buildings accounts for nearly half of all the UK's carbon emissions), provide a secure energy supply for the future, all whilst improving local air quality through the reduction of nitrous oxides being emitted into the atmosphere.

3.19 It is expected that the industry will be regulated in the next 2-3 years to implement minimum service standards and provide those living on heat networks with customer protection, much like the gas and electricity markets are regulated through OFGEM. Energetik welcomes this move to regulation and is actively involved / contributing to the consultation process with government and through industry trade bodies.

(For a summary of the main policy changes since 2017, see Appendix B)

Tranche 2 investment

Funding requirements

3.20 - 3.23 See part 2 report

Updated funding strategy – Tranche 2A and 2B

3.24 - 3.29 See part 2 report

Forecast impact of reducing the on-lending rate

3.30 - 3.33 See part 2 report

Fuel Poverty – Energetik’s contribution to the borough

3.34 Ensuring that all residents can afford to heat their home is not a task that any organisation can accomplish alone, nor can it be tackled quickly. Eradicating fuel poverty in Enfield will require sustained effort and cooperation over a long period of time. Community groups and organisations that already work with vulnerable residents - such as Enfield Council, Enfield Citizens Advice Bureau, Enfield Age UK, Enfield CCG and local GPs – need to work together to tackle fuel poverty.

3.35 There are three main aspects to tackling fuel poverty which yield the best results:

1. Using national statistical data to identify areas of concern
2. Maximising income and raising awareness of those effected
3. Making homes more energy efficient

3.36 By combining and cross referencing, several publicly available data sets, it is possible to identify areas where Enfield residents are most affected by fuel poverty. This will allow targeted interventions in areas and for individuals that need it the most.

3.37 With the headroom provided by the improved borrowing rates and the uplift in the interest rate premium charged to Energetik, the Council is now able to ring fence some of this new benefit, to be specifically used to address fuel poverty in the borough. The value and application of this ring-fenced fund will be the subject of an additional report to Cabinet.

Heat Tariff reduction

3.38 Energetik already offers competitive heat tariffs to its customers via a fixed charge and a unit charge for consumption. The Council has requested that the company aims to reduce the unit charge for its heat (tariff), to be comparable or below that of natural gas when compared with the ‘big 6’ energy providers. Whilst it is challenging to compare heat with gas like-for-like, gas is still currently the traditional benchmark with which heat is compared. Therefore, the company has amended its financial models to reduce its unit charge for heat consumption from 5.44p/kWh to 4.44p/kWh to meet this objective, a reduction of 1p/kWh. As the unit charge is only part of the tariff, (the fixed charge being the other part), whilst this reduction requires the Council to accept a lower rate of return on investment in the company, the reduction in the rate of return is modest.

3.39 Energetik forecast that an average customer consumption would be 3,500kWh of heat energy in one year, costing £410.77* in total for social tenants based on a two-bedroom home. On the Arnos Grove heat network,

customers used an average of 3289 kWh, meaning the average total annual cost for a social tenant was £408.11 (*includes the daily availability charge + VAT, and a tariff change in the period*).

- 3.40 In comparison, the estimated annual heating and hot water cost for the traditional gas central heating alternative in this type of property is £566.97 based on Heat Trust's cost calculator, a difference of over 30%.
- 3.41 It should be noted that for new build properties, gas central heating is not a realistic option in multi-storey developments, due to health and safety risk and as such gas central heating is quickly becoming redundant, with government recently announcing that there will be no new gas boiler installations in homes after 2025. Therefore, moving forwards, comparisons with gas will become less realistic.
- 3.42 Energetik is currently contributing to a consultation on an electricity version of the Heat Trust calculator, which looks at electric heating as a more realistic 'traditional' alternative heating method, due to be released in 2019.

Council tenants on Energetik networks

- 3.43 Energetik has agreed that for Enfield Council tenants living on one of its heat networks it will undertake an annual price comparison with a basket of the three lowest prepay electricity tariffs available. If Energetik's prices are found to be higher, the company will reduce its tariff to be equal to or less than the available electricity tariffs at the time.

White label electricity supply

- 3.44 Energetik is reviewing the potential to expand operations into electricity supply via a 'white label' arrangement with a licensed energy supplier. A lower-risk, low-investment alternative to a full supplier license is the 'white label' arrangement; offering electricity from another supplier under the Energetik brand to Enfield customers. It is not economically or resource feasible to obtain a full energy supply license directly, as it is high risk, requiring significant investment and time and no guarantee of success.
- 3.45 This model has seen success in other boroughs across the UK and can allow creative, lower cost electricity tariffs to be offered to customers that may not normally be able to access them (such as electricity prepayment customers that are often charged a premium tariff to protect suppliers from risk). This in turn can help contribute to alleviating fuel poverty, thereby spreading Energetik's benefit to customers not connected to one of its heat networks.
- 3.46 The company is investigating the options surrounding electricity supply, and a separate paper will be provided to Energetik's board and the Shareholder board when this proposition has been researched in detail.

Funding plan and financial projections (company side)

3.47 - 3.49 See part 2 report

Anticipated sources of funding

3.50 See part 2 report

Key assumptions

3.51 See part 2 report

Key financial data

3.52 - 3.55 See part 2 report

Sensitivity analysis

3.56 See part 2 report

Programme/key milestones

- 3.57 **Execution of Heat Supply Agreement** – agreement with the North London Waste Authority (NLWA) governing the terms of the heat offtake from the NLWA’s waste facility (existing and new). This agreement incurs costs once executed, and therefore has been delayed until it is required and certainty gained before executing. It is expected to be executed by the end of September 2019. The Lease and agreement for lease will be appended to the Heat Supply Agreement in template form for reference as the documents must be read together, but the lease and agreement for lease will not be entered into immediately, as the lease terms are still being discussed and the company is reviewing alternative sites with the Meridian Water team to potentially co-locate the Energetik energy centre with Meridian Water electrical infrastructure.
- 3.58 **Energy Centre and heat network construction** – following Tranche 2 approval and the successful conclusion of Energetik’s planning application, Energetik will commence activities to build out its heat network and energy centre to serve Meridian Water.
- 3.59 **Enter contracts with Meridian One Developer** – included within the tender to deliver Meridian One, the company’s framework supply and connection agreements will be entered with the developer, expected in 2020.
- 3.60 **Delivery of Energetik pipe infrastructure as part of Meridian Water Housing Infrastructure Fund** – to share synergies and cost and to ensure a coordinated approach to infrastructure delivery, Energetik is working with the Meridian Water team to ensure its pipework is installed at the same time as

other services, covered under the Council's Housing Infrastructure Funding bid.

- 3.61 **Commencement of heat supply at Meridian Water** – anticipated to be in 2022, dependent on delivery of Meridian Water first homes.
- 3.62 **Ladderswood Phase 2 adoption (September 2019)** – 135 additional residential units and hotel connection, which will see the CHP commence operation and the sale of private wire electricity to the Hotel.
- 3.63 **Alma Road phase 2 adoption including energy centre (through to March 2020)** – a total of 228 properties are expected to be delivered at Alma Road, including the delivery of the energy centre which Energetik will adopt once complete.
- 3.64 **Connection of Electric Quarter to the Ponders End heat network** (April – May 2020) - programmed to take place following completion of the permanent energy centre at Alma Road as part of phase 2, which will supply both Alma Road and Electric Quarter. The pipe route will extend from Alma Road along South Street, turn into and travel across Ponders End park and connect to the pipework already installed under Ponders End High Street.
- 3.65 **Extension of Oakwood heat network to Southgate** – via planning, Energetik has identified a connection opportunities in Southgate. Subject to commercial negotiations and a viable network route being established, the development will allow Energetik to extend the Oakwood network south toward Southgate.

Business development / expansion opportunities

- 3.66 **Oakwood** – route between New Avenue and Southgate – any additional connections identified along the route (schools, leisure centre etc.) will be approached to establish appetite and compatibility with the network.
- 3.67 **Arnos Grove** – adjacent to Ladderswood is the Highview Gardens estate, owned by the Council, consisting of high and low-rise Council blocks. The company has undertaken initial desktop feasibility studies and will look to establish if it is commercially feasible to retrofit the estate with a district heating solution in the coming years, potentially applying to HNIP to fund any shortfall between capital expenditure and forecast revenue income.
- 3.68 **Meridian Water** – the company has engaged in talks with Haringey to establish if a heat offtake agreement can be agreed to provide their various developments with heat. The ability to commit to and achieve a connection is based on the development of Energetik's energy centre and heat network infrastructure. The company has also held early talks with the GLA to look at the strategic development of the Meridian Water Heat Network to serve a greater catchment area in North London. These discussions will continue as Energetik develops its Meridian Water heat network.

- 3.69 **Stratford Olympic Park** – early talks have been held with the scheme operators of the Olympic Park and Stratford heat network to establish whether a long-term connection to Energetik’s heat network would be possible. There is appetite to make this connection, however costs to reach the development would be ca. £25 million. Any future connection would be dependent on additional connections being picked up along the route (Haringey, Waltham Forest) and potentially strategic support from the GLA. Further, funding, potentially from HNIP or subsequent funding rounds, could be used.

Due diligence

Tranche 1

- 3.70 Given the significant investment required for Tranche 1, it was prudent to seek external review and due diligence of the investment decision and the company’s business plan. In autumn 2016, PWC undertook a review of the value for money statement and security package and KPMG undertook a review of the business plan and Cabinet report.
- 3.71 The review on the business plan was positive with minor recommendations. However, the review carried out by PWC on the security packages (i.e. risk to the Council of sensitivities on the business plan) concluded that a two-phase investment approach (i.e. Tranche 1 and Tranche 2) was recommended to limit the Council’s risk exposure at that time, since the developer at Meridian Water had not been appointed with a MDFA and various legal agreements had not been agreed.
- 3.72 The reviews recommended a set of actions. With the exception of the Master Developer Agreement, all of the actions from both reviews have been completed.

Tranche 2

- 3.73 The Council’s Treasury Strategy requires due diligence to be completed on the Tranche 2 investment. Accordingly, KPMG were commissioned in May 2019 to review the updated Energetik financial model and business plan addendum that the financial figures within this cabinet report are based on.
- 3.74 The first draft of the KPMG report was received on 24th June; comments were returned by the Council (in conjunction with Energetik) and the report was finalised on 12th July. The report identified a number of issues requiring attention (i.e. 13 high priority, 12 medium priority and 7 low priority) and the Council is currently working closely with Energetik to resolve the issues raised. The recommendations have been put into an action plan and their implementation is being closely monitored. Immediate attention is being given to those of a high priority which will be closed off before the decision is taken.
- 3.75 The KPMG review looked at three key areas:

Review of the business case

3.75.1 The objective was to assess the overall financial viability of Energetik as this is key to the Council's decision to make further investment in Energetik. This comprised a financial overview, high level SWOT analysis and observations on the business plan addendum document.

Review of the financial model

3.75.2 This comprised basic integrity checks, key input and assumption changes, reconciliation of the consolidation process, reconciliation of the total spend to funding requirement, accuracy review involving tracking of input to outputs and comparison of key project assumptions 2019 vs 2017.

Requirements of the lending proposal

3.75.3 Given the Council's role of shareholder and funder, there is a range of information that is required to support the evaluation of the proposal.

State aid

3.76 See section 6.2 - Legal Implications.

Meridian Water

3.77 Following decisions to stage Meridian Water developments in phases as opposed to appointing a single master developer, Cabinet approved the appointment of Galliford Try as Phase 1 development partner on 24 April 2019. This is projected to deliver 725 homes by 2022. The Council is currently seeking a development partner for phase 2.

3.78 The change in structure of development – and any concurrent change in the build profile – will affect Energetik's connection programmes, which may require adjustment of the company's financial projections. This will be addressed within the company's financial model and rolling three-year operating plan projections. The three-year operating plan will be considered and approved by the Shareholder Board.

Governance and risk management

3.79 **Council side** - The company is subject to regular scrutiny from the Council and reports quarterly on progress to the shareholder board as well as reporting regularly through various other channels. The summary below provides an overview of Energetik's governance arrangements. For further information, please refer to Energetik's business plan addendum.

3.80 **Interdependency board** - A recommendation of the due diligence undertaken as part of the first approval to fund Energetik, the interdependency board was set up to monitor the Council's key projects to ensure that any proposed changes in one project that may have a material impact on another (material

changes to programme, dwelling numbers etc.) are considered holistically to avoid any potential conflicts/unintended impacts. Energetik attends and contributes to this board, along with Council colleagues responsible for the other Council projects.

3.81 Corporate Governance - In 2018 the Council reviewed and decided to change its governance arrangements with each of its trading companies. The changes impacting Energetik were:

- Amendment to company corporate structure, removing the holding company (HoldCo) to ensure no conflicts arose from directorship (cabinet members and senior officers made up the board).
- Replacement of HoldCo with the Council's newly formed shareholder committee to undertake the oversight function of Council companies.
- Appointment of a single councillor director and the two Non-Executive Directors to the Energetik operating board to ensure suitable challenge and oversight
- Adoption of new Articles of Association by Energetik to align with the governance changes requested (new board structure, replacement of references to HoldCo, merging of delegated authority limits)
- The company and Council are currently working to agree a new list of shareholder reserved matters and shareholder agreement, to be finalised once agreed between the parties.

3.82 Shareholder Board – previously reporting to the HoldCo, the company now reports to the Shareholder board on a quarterly basis. The Shareholder Board is a sub-committee of Cabinet and is made up of cabinet members.

3.83 External audit - although not a legal requirement due to the company's size/turnover, Energetik's is subject to an annual external audit of its finances.

Environmental and green credentials

3.84 Helps tackle the climate change emergency – the carbon footprint of heating homes connected to Energetik's heat networks is reduced by up to 80% compared to individual gas boilers. The total CO2 offset by the Council through Energetik's 40-year business plan is forecast to be over 200,000 tonnes – the equivalent of offsetting 100 million trees' worth of carbon. This contributes to the Council's target to be carbon neutral by 2030 in accordance with its recent climate emergency declaration (see Response to Climate Change Emergency PL 19/024 C).

3.85 Improvements to air quality and health - residents of North London will benefit from the avoidance of harmful Nitrous Oxides (NOx) being released into the environment which would otherwise be emitted from individual gas boilers. NOx and particulates are harmful to people's health and cause thousands of deaths per year in the capital. By the time the 10,000 new homes are built at Meridian Water, the networks will be saving 2,175 tonnes of NOx from being added to the atmosphere, the equivalent of taking 2000 cars off the road each year, every year.

4. ALTERNATIVE OPTIONS CONSIDERED

Funding options explored

4.1 - 4.3 See part 2 report

Delay build out of key infrastructure

4.4 - 4.8 See part 2 report

5. REASONS FOR RECOMMENDATIONS

- 5.1 Energetik has already had a positive impact on the customers living on its heat networks, with fair pricing and a high quality of service. The second investment in Energetik will allow the company to realise the remainder of its business plan, to serve over 10,000 homes and businesses in Enfield and beyond.
- 5.2 The company's aims and objectives are aligned with the Council's key strategic goals, and will contribute significantly to the Council's carbon reduction targets, improve air quality in the area and provide environmentally friendly energy to Enfield residents at a fair price.

6. COMMENTS OF OTHER DEPARTMENTS

6.1 Financial Implications

6.1.1 – 6.1.10 See part 2 report

6.2 Legal Implications

Vires

6.2.1 The Council has power under Section 1(1) of the Localism Act 2011 to do anything which individuals generally may do provided it is not prohibited by legislation and subject to public law principles (the 'general power of competence'). Further statutory powers exist to establish and invest in Energetik, and Section 1 of the Local Government Act 2003 permits the Council to borrow and lend (subject to complying with the Prudential Code for Finance in Local Authorities). The recommendations detailed in this report are in accordance with legal justifications previously reported to Cabinet (June 2015) for establishing and implementing the business, and the decisions taken.

- 6.2.2 Local authorities are also permitted to sell electricity under the general power of competence under the Localism Act 2011, as well as the Local Government (Miscellaneous Provisions) Act 1976 (as amended) but subject to the limitations under the 1976 Act (restricting sales to electricity generated with heat or from renewables) and under the Electricity Act 1989 (requiring distribution and supply to be under a distribution or supply licence, as applicable, or to fall within a number of exemptions under the Electricity (Class Exemptions from the Requirement for a Licence) Order 2001 (as amended)). These restrictions will apply to Energetik, and any future arrangements for the supply of electricity will need to have a legally-compliant structure.
- 6.2.3 In relation to any provision of parent company guarantees by the Council, the general power of competence referred to above enables local authorities to explore innovative solutions to deliver more with less, generate income by charging and trading and to provide indemnities and guarantees. The legislation provides that “*a local authority has power to do anything that individuals generally may do.*” This includes giving guarantees. However, other restraints of public law still apply. The most relevant of these is that local authorities have a fiduciary duty to act prudently with public monies entrusted to them and must establish (and maintain a full audit trail to support) that the underlying transaction being guaranteed by the Council is itself ‘*intra vires*’ and that it has been given due and proper consideration in accordance with the normal public law considerations.
- 6.2.4 In taking the decision to approve the next stage of investment, the Council must take into account the risk factors described in this report, so that the Council takes its decisions with proper regard to its fiduciary duties (see section 7 ‘Key Risks’ below).

Procurement

- 6.2.5 The ongoing procurement activity in relation to the business must continue to remain compliant with EU procurement law, and appropriate legal advice taken on an ongoing basis.

State Aid

- 6.2.6 The proposed further funding will be provided on broadly the same basis as the initial tranche of funding which was confirmed to be state aid compliant at the time. The Council’s external financial and legal advisers have confirmed that the proposed further funding can be deployed in compliance with the rules on state aid. None of the arrangements set out in this report, or the recommendations flowing from it, are intended to give rise to unlawful state aid.

On-lending

- 6.2.7 Providing the additional funding required to deliver the Business Plan requires an additional loan agreement to be put in place for the Council to deploy necessary funding into the business. Such agreement will need to include provisions reflecting conditions attached to the original funding source(s) and/or to help ensure compliance with state aid rules. Provisions will also be required to address draw down profiles, details on eligible expenditure, interest and principal repayment profiles, cover ratios, security provisions and step-in rights. These remain to be developed. It is recommended that these terms are agreed and included in any financial modelling ahead of the Council releasing further investment to Energetik, and the final agreements must be in a form approved by Legal Services on behalf of the Director of Law and Governance. Similarly, any parent company guarantees that the Council may be asked to provide must be in a form approved by Legal Services on behalf of the Director of Law and Governance.
- 6.2.8 The Council, as lender, is exposed to the potential failure of Energetik, as borrower, and Energetik's inability to repay the money it owes to the Council. Irrespective of the performance of the Council's on-lending to Energetik, the Council will have a requirement to meet its repayment obligations to its own lenders. In addition, the provision of any parent company guarantees by the Council will also entail direct financial exposure.
- 6.2.9 The above will be mitigated to a large degree by the terms of the on-lending agreements, the oversight the Council has over the running of the business as sole shareholder, and the governance measures implemented through the shareholder reserved matters.

6.2.10 - 6.2.11 See part 2 report

6.3 Property Implications

6.3.1 - 6.3.3 See part 2 report

7. KEY RISKS

HNIP funding not successful before March 2020

7.1 – 7.3 See part 2 report

Risks of Delay to Tranche 2 on Regeneration Projects

7.4 See part 2 report

NLWA delivery of heat network supply and/or location of energy centre

7.5 See part 2 report

Customer connections at Meridian Water may increase too slowly

7.6 - 7.10 See part 2 report

Opportunity – expansion beyond Enfield

- 7.11 Energetik has engaged with potential heat customers outside the borough, in the neighbouring borough of Haringey as well as further afield at the Olympic Park and Stratford scheme. There is interest to take a connection, subject to suitable commitments from both parties around timing and delivery. Energetik requires its tranche 2a drawdown in order to commit to heat connection dates for potential customers so programmes can be designed accordingly.
- 7.12 In addition to neighbouring boroughs, Energetik is in talks with the GLA about their interest in becoming a stakeholder in the company, and how such a deal might help the strategic vision of both Energetik and the GLA to deliver large scale, city-wide district heating networks. Talks are ongoing to establish how the GLA could positively contribute to Energetik from a strategic perspective.

Preferred pipe route found to be impractical

- 7.13 The preferred route for the Meridian Water Heat Network has been surveyed using sophisticated ground penetration radar techniques and potential obstacles have been identified, together with utility searches to mitigate the risk of it being necessary to re-plan the route.
- 7.14 A further risk is associated with any requirement to cross private land. Unlike other utilities, district heating companies lack the statutory rights to require landowners to deal with them on reasonable terms. To minimise the risk, the preferred route avoids private land where possible. Where crossing private land is unavoidable, the company is arranging with planning authorities to include its requirements in Section 106 agreements; this has been achieved already in respect of part of Advent Way.
- 7.15 There is a patchwork of land ownership at Meridian Water. Since 2017, Enfield Council has acquired a significant proportion of the land it requires to deliver Meridian Water and has opted to deliver the infrastructure itself. Energetik is working with the infrastructure team to ensure its pipe route along the proposed line spine of the development is installed at the same time to save on cost/disruption.
- 7.16 Particular issues arise when railway lines or waterways have to be crossed. Network Rail, the Canals and Rivers Trust and the Environment Agency require extended lead times for giving permission to cross their land. Engagement with them has commenced, in order to mitigate any potential delays relating to the route of the Meridian Water Heat Network.
- 7.17 In every instance of potential obstruction or inaccessibility, contingencies have been built into the financial model to support mitigation activities.

Costs higher than expected

- 7.18 Significant construction and operational cost overruns have the potential to undermine the viability of the business and can occur due to unforeseen variations to contract during construction or subsequent operation. Energetik procured its DBO contractor on a fixed term, lump sum contract, using the team's extensive experience in construction projects of this nature to create a suite of contract documents for the design, installation and operation of the Meridian Water Heat Network that reflects a balanced risk and reward for the contractor via bonus and penalty payments tied to key performance indicators.
- 7.19 The cost allowances within the financial model were market tested via the competitive tender process, and the tendered costs from the DBO contractor were used to develop the costs within the financial model. The fixed term, lump sum contract has an expiry date of December 2020, after which prices will be linked to certain specified indices within the contract that will determine price change. The financial model includes an allowance for this indexation.

Energy price rises

- 7.20 In general, a higher gas price benefits the project as it raises the benchmark against which prices to customers are set. But a significantly higher price for electricity poses a risk because the price of heat obtained from the EcoPark depends on the wholesale price of electricity. A substantial rise in the price of electricity, in absolute terms or relative to the price of gas, might make it uneconomic to serve commercial customers unless a cheaper heat source could be identified.
- 7.21 The response to this would be an increase in tariffs to customers, as the pricing is benchmarked against gas. In general, though, the relative price of electricity and gas (termed the "spark spread") moves up and down within a relatively narrow band. This is because gas is used to generate electricity; it is therefore unlikely that Energetik's fuel costs would increase greatly without its being able to increase its charges for heat.

Heat losses across the network

- 7.22 The base case assumes heat losses on the Meridian Water Heat Network start out high but fall below 20% as the volume of heat delivered increases. If heat losses were to be 50% higher than expected (e.g. 30% instead of 20%), then the rate of return would be reduced by around half a percentage point. The Meridian Water Heat Network is not particularly sensitive to heat losses because of the inclusion of large thermal stores and low cost of its energy compared to standalone CHP or biomass boilers. Nonetheless, Energetik has specified stringent standards based on extensive project experience, to which network pipework must be designed and installed by both developers and contractors.

- 7.23 Business development activities targeting a diverse customer base with a more balanced heat demand across the day than pure residential will increase the efficiency of the networks, mitigating this risk and protecting profitability.

Bad debt

- 7.24 The financial model assumes that bad debt will run at 1% of revenues. For most district heating systems, this is usually 10%-15%; however, Energetik has mitigated the risk by inclusion of pay-as-you-go payment systems and smart meters in each property to manage debt as the main form of contract with residential customers.
- 7.25 Keeping bad debt under control requires the formulation and effective implementation of debt management policies, which is the primary responsibility of the customer services contractor, via Key Performance Indicators (KPIs) and financial penalties built into the contract. Further, close monitoring of debt via exception management processes allows Energetik and its customer services contractor to manage and mitigate any bad debt before it becomes significant. In the two years of operation to date, the company has not incurred bad debt across its residential service on its heat networks, other than one property abandonment which amounted to £140 before due process was followed and the supply agreement was terminated and liability transferred back to the Registered Provider.

8. IMPACT ON COUNCIL PRIORITIES

8.1 Good homes in well-connected neighbourhoods / Sustain strong and healthy communities / Build our local economy to create a thriving place

- 8.1.1 In line with Enfield Council's Vision to make Enfield a better place to live and work, delivering fairness for all, growth, sustainability and strong communities, Energetik provides the Council with the opportunity to reach and exceed its 60% carbon reduction target as businesses and properties connect over time.
- 8.1.2 Energetik follows the same values and principles as the Council: working to improve Enfield for the long term. The company's activities play a key role in creating good homes in well-connected neighbourhoods: Energetik provides an essential service to residents in an innovative way, whilst supporting the borough's ambitious regeneration and housebuilding programme.
- 8.1.3 Its supply of environmentally friendly energy to the 15,000 homes and businesses that will be connected over Energetik's agreed business plan will help to sustain strong and healthy communities by delivering real improvements to the lives and wellbeing of local people; directly as a result of living in warmer, healthier homes and through improvements in air quality.
- 8.1.4 Energetik's futureproofed energy infrastructure forms an attractive secure low-carbon platform for energy-intensive businesses who are considering relocating to this area. With an active focus on investigating connection

opportunities with existing local businesses as well as potential new entrants, Energetik is already working with local partners to build Enfield's local economy and create a thriving place.

- 8.1.5 **Intangible benefits** - In the 2017 approved business plan, PWC were asked to monetise the strategic importance of the Energetik business to the Council. This took into consideration both tangible and intangible benefits being derived from the delivery of Energetik's heat networks. The table below sets out potential monetary value of the sustainability benefits assessed by PWC:

Identified Benefit	Gross monetised benefit up to £x million over 40 years	Net Present Value (£ Million)
Reduction in carbon emissions and public health benefit	£14.1	£6
Reduction in Nitrogen Oxide and public health benefit of better air quality	£2.9	£1.2
Direct GVA impact (from Energetik)	£128.6	£50.1
Potential inward investment impact	£64.6	£33.3
Reduced cost to end users	£15	£4.1
TOTAL	£225.2	£94.7

- 8.1.6 PWC forecast that up to £225 million of benefit may be delivered over a 40-year period, based on the Energetik Business Plan, with a Net Present Value of £94.7 million and cost benefit ratio of 3.4.

- 8.1.7 In addition, there are other non-financial benefits that PWC could not quantify in value terms. These included strategic benefits of delivering a Council-owned heat company to underpin the Council's regeneration ambitions; the ability to provide cleaner air; and the benefits of providing state of the art smart metering to customers. The low carbon energy infrastructure to be delivered by Energetik also underpins the Council's ambitious regeneration agenda and housing aspirations.

9. EQUALITIES IMPACT IMPLICATIONS

- 9.1 Due to the subject nature of this Report, there are no Equality Impact Implications. However, an EQIA and EQIA Action Plan have been created for the overall project and is regularly reviewed and updated. An example of a high-level action, its implementation and the outcome for customers is given in 9.2.

- 9.2 A fair and sustainable pricing policy for customers has been implemented which means that Energetik contributes to the alleviation of fuel poverty and has a positive impact on people facing socio-economic disadvantage in the borough. A single tariff for all customers ensures there are no discriminatory penalties.

10. PERFORMANCE AND DATA IMPLICATIONS

- 10.1 The company reports to the Council regularly and interfaces closely through various channels. It reports quarterly to the Shareholder Committee on financial performance and key performance indicators.

11. HEALTH AND SAFETY IMPLICATIONS

- 11.1 Heat networks are inherently safer than traditional gas supplies as there is no risk of fire or explosion associated with gas supplies within residential dwellings as there is no gas entering the properties.
- 11.2 In addition, heat networks are healthier than individual gas alternatives, thanks to reduced nitrous oxides being distributed into the atmosphere from every residential boiler. Efficient, well maintained central plant, utilising a waste product to provide heat, means carbon dioxide emissions are reduced compared to the alternatives.
- 11.3 The majority of Energetik's works are carried out by sub-contractors. Contractors working for Energetik are required under the terms of their agreements to manage health and safety (H&S) in accordance with all applicable law with respect to all works carried out.
- 11.4 The Energetik management team has the responsibility to ensure it takes appropriate advice and carries out the required audits of contractors to ensure they are adhering to all H&S requirements. Energetik's project manager is responsible for the day to day management of this function and reports directly to the Technical Director. Both team members have approximately 30 years' experience delivering large scale construction projects in line with all H&S requirements.

12. HR IMPLICATIONS

- 12.1 Subject to investment, HR advice should be sought when staff resource is considered. At that point, the Council's policies and procedures should be followed.

13. PUBLIC HEALTH IMPLICATIONS

- 13.1 The delivery of Energetik's Business Plan will create substantial carbon savings due to the avoidance of gas being installed in residential dwellings across its heat networks. It is estimated that over the business plan, Energetik will save over 200,000 tonnes of CO₂. Over the same period, 65 tonnes of harmful NO_x will be avoided, which is the equivalent of taking 2,000 cars off the road each year. This intervention will improve local air quality, contribute to public health, reduce fuel poverty and help meet the UK's net zero carbon emission target by 2050.
- 13.2 Any reduction or mitigation in exposure to either CO₂ or NO_x is most welcome. In Enfield, 5.4% of all mortality is attributable to air pollution. The biggest contributors to air pollution in Enfield are domestic CO₂ emissions which this scheme will directly reduce/replace.

Background Papers

None

Appendices

- Appendix A – Heat network update summary
- Appendix B – Policy update
- Appendix C – see part 2 report
- Appendix 1 – see part 2 report
- Appendix 2 – see part 2 report

Appendix A - Heat network update summary

The information below provides a brief summary on each of Energetik's heat networks, in order of 'go-live' dates:

Arnos grove Heat Network

The Ladderswood development, an estate renewal project currently being developed by New Ladderswood LLP (the Council, its developer, and its selected registered provider) completed and handed over the first 40 properties to Energetik in October 2017. Completion of phase 2 (135 dwellings and a hotel) is expected in September 2019, with subsequent phases programmed to be handed over annually until 2023. This development has expansion potential with additional connection opportunities to the north, east and west; accordingly, the energy centre has been designed with capacity to allow further plant to be installed to serve more developments in the area as required.

Key assumptions / information:

- *Energetik's first live heat network – October 2017*
- *A 517 home, Enfield Council estate renewal scheme to be completed from 2017 to 2023*
- *On-site hotel connection with heat and power offtake agreement from 2019*
- *Designed with ability to extend in future*

2017 Business Plan assumptions	2019 Business Plan assumptions
Adoption of the heat network and supply of heat is based on the present developer's phasing programme	No change
Energetik supplies properties with heat via the installed gas boilers from 2016 to 2017 with the CHP being operational from 2018	Heat supply commenced from gas boilers in October 2017 due to programme delay. CHP will be operational from 2019 to serve second phase and hotel
All figures are indexed each year by a range of relevant indices, ranging from CPI to DECC predicted gas prices	No change
Electricity generation by CHP is supplied to the hotel under a private wire arrangement	No change – agreement being negotiated for September commencement
There are no capital build costs	No change
The agreed adoption fee for the heat network is payable to the HRA	No change
Operating costs are based on: <ul style="list-style-type: none"> • Customer services contract tendered costs • Quoted costs for operation and maintenance • Predicted overheads for Energetik 	Operating costs are now based on known tendered market rates O&M costs are known and contracted

<ul style="list-style-type: none"> • Utility prices based on DECC forward looking indices • Business rates being payable in full • Insurance advice received from AON and previous operating schemes 	<p>Business rates have been removed</p> <p>Insurance costs are known and contracted</p>
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Ponders End Heat Network

Electric Quarter

Electric Quarter has completed and handed over phase A of the development, consisting of 40 private and 21 social rented properties. Energetik successfully negotiated and agreed connection and supply agreements with the developer and will connect this development to the Alma Road development in 2019/2020 to form the Ponders End heat network. Phase A, consisting of 61 homes, was completed in November 2018, with the remaining properties on the development to be handed over by December 2020. Electric Quarter required heat prior to Alma Road to serve phase 1; Energetik therefore designed, built and supplied a temporary plant solution in December 2017 in line with programme requirements. Enabling works for the future connection to the main Ponders End heat network have been completed; pipework was installed across Ponders End High Street in August 2017.

Key information:

- *A 167 home, private developer led scheme*
- *Energetik's first successfully negotiated connection agreements with private developer*
- *Currently supplied by Energetik's temporary heat source, the development will be connected to Alma Road to form the Ponders End heat network in early-2020*

Alma Road

Forming the bulk of heat connections on the Ponders End heat network, development on phase 1 is well underway on the estate renewal scheme at Alma Road, which once built will serve over 1000 homes. Low carbon heat will be supplied by gas fired Combined Heat and Power (CHP) engines, which will become operational in phase 2 of the development. Phase 1 is served by temporary plant provided by Energetik in January 2019, and first customers were received in March 2019. The energy centre will be built and delivered in early 2020 and soon after the Electric Quarter development will be connected.

Key information:

- *Over 1000 homes, part of Enfield's estate renewal programme*
- *Will connect to the Electric Quarter development to supply heat from 2020*
- *Will comprise a mixture of private residential and Enfield Council homes*

2017 Business Plan assumptions	2019 Business Plan assumptions
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Adoption of the heat network and supply of heat is based on the developer's phasing programme	No change
Energetik supplies properties with heat via the installed gas boilers from 2018 to 2019 with the CHP being operational from 2020	Heat supply via temporary gas boilers from March 2019 until energy centre completed in April 2020. CHP commences operation from 2021
All figures are indexed each year by a range of relevant indices, ranging from CPI to DECC predicted gas prices	No change
Electricity generation by CHP is sold to the local electricity distribution system at wholesale prices	No change
Capital costs are included to extend the heat network to 167 homes at Electric Quarter	No change
Energetik receives residential connection charges at Electric Quarter, paid by the developer and indexed by CPI	No change
100% of connection receipts are realised within the P&L account in the year that they are received	No change
The agreed adoption fee for the heat network is payable to the HRA	No change
<p>Operating costs are based on:</p> <ul style="list-style-type: none"> • Customer services contract tendered costs • Quoted costs for operation and maintenance • Predicted overheads for Energetik • Utility prices based on DECC forward looking indices • Business rates being payable in full • Insurance advice received from AON and previous operating schemes 	<p>Operating costs are now based on known tendered market rates</p> <p>O&M costs are known and contracted</p> <p>Business rates have been removed</p> <p>Insurance costs are known and contracted</p>

Table 1 - Alma Road assumptions comparison

Oakwood Heat Network

The heat network is currently under construction and first properties expected to be handed over to Energetik in early 2019, ahead of the original September 2019 programme. It is expected these will be heated via a gas boiler for one year whilst the energy centre in phase 1 is completed, along with a further 118 properties, expected in September 2020. Later programme information for the remaining properties is not yet available due to amendments to the planning submission.

Key information:

- *Comprising ca. 450 homes in the north west of Enfield*
- *Enfield Council estate renewal scheme*

- *Same developer as at Alma Road*
- *Assumes expansion to identified development in Southgate incorporating 200 homes and 3,500m² of commercial, which may facilitate connection to fusion leisure centre*

2017 Business Plan assumption	2019 Business Plan assumption
Adoption of the heat network and supply of heat is based on the present developer's phasing programme	No change
Energetik supplies properties with heat via the installed gas boilers from 2020 to 2021 with the CHP being operational from 2022	Programme has been brought forward to commence supply from mid-2019, with CHP becoming operational in 2021
All figures are indexed each year by a range of relevant indices, ranging from CPI to DECC predicted gas prices	No change
Electricity generation by CHP is sold to the local electricity distribution system at wholesale prices	No change
No capital build costs	No change
The agreed adoption fee for the heat network is payable to the HRA	No change
Operating costs are based on: <ul style="list-style-type: none"> • Customer services contract tendered costs • Quoted costs for operation and maintenance • Predicted overheads for Energetik • Utility prices based on DECC forward looking indices • Business rates being payable in full • Insurance advice received from AON and previous operating schemes 	Operating costs are now generally based on known tendered market rates O&M costs are known and contracted Business rates have been removed Insurance costs are based on known rates from other contracted schemes

Table 2 - Oakwood assumptions comparison

Meridian Water

By far the largest of Energetik's heat networks, it will eventually serve over 10,000 customers (residential and commercial) with very low carbon heat from the North London Waste Authority's (NLWA) new Energy Recovery Facility (ERF) when built. The development being undertaken by the Council will transform currently under-utilised land bordering the Lee Valley into a place to live. Energetik intends to expand its network west and north to connect the estate renewal scheme at Joyce and Snells and has held positive early discussions with Haringey regarding a bulk heat supply agreement in the future.

The scale and timing of the Meridian Water development will determine when and how Energetik’s infrastructure will be delivered, and this will be largely influenced by the development programme set by the Council and its developers. Construction of Energetik’s energy centre and heat network infrastructure is expected to commence in late 2019 following approval of the company’s tranche 2 drawdown. CHP will provide low carbon heat in the medium-term until the NLWA’s new ERF is completed in 2026.

The Council’s tender process received positive submissions (see below summary on the updated Meridian Water delivery strategy), and the Council spent early 2019 evaluating the tenders it received. The Cabinet has recently approved the award of the first phase development to deliver the first phase of Meridian Water (725 homes) to Galliford Try, subject to call in and formal award. Energetik’s suite of connection and supply agreements were included within the tender pack so there is not expected to be significant modification to the template forms.

The tender for phase 2 (up to 2,300 homes, hotel primary school) will be released in early summer 2019, with outline planning to be submitted late summer 2019.

Construction is expected to commence on Meridian One and Two in 2020. Meridian 1a - circa 325 homes, and Meridian 2 are programmed to finish in 2023. Meridian 1b will add circa 400 homes - total 725 - and is programmed to finish in 2025. During that time other parts of the site outside of construction will be opened for temporary ‘meanwhile’ uses and will provide workspace, space for events and festivals etc.

Key information:

- *Energetik’s anchor load with a forecast 10,000 homes and significant commercial connection opportunities*
- *Will deliver over 200,000 tonnes of carbon savings and over 60,000kg of Nitrous Oxides over Energetik’s 40-year business plan, improving local air quality and contributing to greenhouse gas emissions reduction*
- *Energetik will build, own and operate the energy centre and infrastructure to serve the development*

2017 Business Plan assumption	2019 Business Plan assumption
Meridian Water builds first homes in 2018, completes build of 10,000 homes in 2037	Meridian Water builds first homes commencing in 2020, expected to finish between 2023 and 2025. The remaining homes will be tendered in lots to retain Council control. See connection summaries above for more information.
The Meridian Water developer connects all properties to the heat network	No change
Energetik supplies Meridian Water properties with heat via gas boilers located at Meridian Angel (plantroom provided by Meridian Water) until 2021	Energetik will serve the first Meridian Water properties with temporary gas boilers when needed, until Energetik’s own energy centre is completed end-

	2021.
Energetik will expand the heat network from the gas boilers located at Meridian Angel to other developments as required to supply heat	Energetik will serve the first phases with a temporary heat supply until its energy centre is completed. Some of the distribution network will be delivered as part of the infrastructure works being delivered by Meridian Water team.
The energy centre and the heat network to be built in 2019/20, for operation in 2021	The energy centre and heat network will commence build-out in 2020 and be ready for 2022, aligned with developer delivery programme
Energetik installs CHP at the energy centre to supply low carbon heat until the new ERF is built	No change
The new ERF supplies heat to Energetik in 2026	No change
Should the new ERF be delayed, Energetik will continue to install CHP to meet demand	No change
The heat network will be extended west to supply a further 2,000 homes	The heat network will be extended west to supply Joyce and Snells estate renewal scheme. Property estimates are ca. 2850. This project is due to commence in 2021
The heat network will be extended north towards Edmonton Green to supply a further 1,500 homes	This item has been removed from the business plan at this stage to show the prudent case. Should adequate connection loads be identified once Energetik has the ability to connect and supply heat, an extension will be considered
Energetik receives residential connection charges paid by the developer and indexed by CPI	No change
100% of connection receipts are realised within the P&L account in the year that they are received	
All figures are indexed each year by a range of relevant indices, ranging from CPI to DECC predicted gas prices	No change
Development overheads are capitalised up to 2022	Capitalisation policy change due to programme delay. Reduction from 92% to 76%
Electricity generation by CHP is used to power the energy centre; any residual electricity is sold to the local electricity distribution system at wholesale prices	Unlikely to install CHP unless there are delays to ERF delivery, in which case it will be installed to bridge the gap. This is due to reduction in carbon factor for

	operating CHP
Capital build costs are based on the DBO tender returns, quotes from utility companies, plus a 10% contingency CIU's to be purchased by Energetik	No change. Capital costs at known rates until price expiry in December 2020, index linked thereafter. CIU's are now to be purchased by the contractor and reflects a saving in capital expenditure to Energetik
Operating costs are based on: <ul style="list-style-type: none"> • Customer service contract tendered costs • DBO contract tender returns • Predicted overheads for Energetik • Utility prices based on DECC forward looking indices • Business rates being payable in full • Insurance advice received from AON and previous operating schemes 	Operating costs are based on: <ul style="list-style-type: none"> • Customer service contract known costs • DBO contract known returns • Predicted overheads for Energetik • Utility prices based on DECC forward looking indices • Business rates not payable • Insurance advice received from AON and previous operating schemes

Table 3 - Meridian Water assumptions comparison

Appendix B - Policy update

There has been significant changes / progress in the heat network industry since 2017, with advances towards market regulation happening faster than expected as more focus is given to emissions and air quality. Energetik is at the forefront of customer protection and sustainable growth and welcomes these changes. The list below outlines the significant events / policy updates since the 2017 business plan was approved:

- **Government's Clean Growth Strategy (CGS): October 2017:**
 - This strategy sets out government's proposals for de-carbonising all sectors of the UK economy through the 2020s. It explains how the whole country can benefit from low carbon opportunities, while meeting national and international commitments to tackle climate change.
 - Clean growth involves cutting greenhouse emissions "while ensuring an affordable energy supply" for consumers. This is a key pillar of the UK's Industrial Strategy.
 - The CGS is a government-led environmental scheme created to meet the goals set by the 2015 Paris Agreement, with the tagline "leading the way to a low carbon future".
 - Includes the target of 18% of heat in UK homes to come from heat networks by 2050 – compared to just 2% now.
 - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766109/decarbonising-heating.pdf
- **Competition & Markets Authority (CMA) Market Study: December 2017:**
 - The CMA carried out a market study into domestic heat networks, to review how well the market works and if consumers are getting a good deal.
 - Energetik participated in the market study, advocating regulation and higher standards across the industry to better protect customers
 - <https://www.gov.uk/cma-cases/heat-networks-market-study>

CMA analysis:

Consistent with other research, the CMA's pricing analysis found that heat networks appear to offer an efficient supply of heat and hot water at prices which are close to or lower than those of other potential sources of supply (such as gas or electricity) and with comparable service standards.

The CMA concluded that the sector should be regulated (naming Ofgem as likely sector regulator) and made a series of recommendations to government.

- **Draft new London Plan: (published for consultation December 2017, now undertaking Examination in Public)**
 - Energetik responded to the consultation

- Drives heat networks at a strategic level, at development level, and via a ‘heating hierarchy’ for developments to minimise impacts on climate change and air quality - the use of waste heat through heat networks is at the top of the hierarchy, aligned with Energetik’s strategy to use heat from the ERF.
- **London Environment Strategy: May 2018**
 - The strategy brings together approaches to every aspect of London’s environment, integrating the following areas:
 - air quality
 - green infrastructure
 - climate change mitigation and energy
 - waste
 - adapting to climate change
 - ambient noise
 - low carbon circular economy
 - *“London will be a zero-carbon city by 2050, with energy efficient buildings, clean transport and clean energy.”*
 - *“the Mayor wants to change the way London produces and consumes its energy. Old systems of heating, cooling and powering buildings using coal and gas must be replaced by cleaner, local renewable energy...many of these solutions will help tackle fuel poverty”*
 - Heat networks are a key feature of the strategy: *“Energy efficient buildings and local energy generation will reduce carbon dioxide emissions and improve air quality”*
 - Energetik responded to the public consultation in 2017.
 - <https://www.london.gov.uk/what-we-do/environment/london-environment-strategy>
- **BEIS response to CMA: Heat Networks: Ensuring Sustained Investment and Protecting Consumers - July 2018**
 - Sets out response to CMA recommendations (above), outlining need for further consultation on regulation of heat networks and creating a self-sustaining market.
 - Energetik is actively engaging with BEIS in its consultation
 - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774586/heat-networks-ensuring-sustained-investment-protecting-consumers.pdf
- **Mayor of London’s ‘Cleaner Heat Cashback’ scheme, launched July 2018**
 - a £10m boiler scrappage scheme for small businesses.
 - Small businesses in London can get 35% cashback when installing a renewable heating system (such as air or ground source heat pumps, solar thermal or hybrid systems) or connecting to a local heat network.
- **Launch of the Heat Network Industry Council (HNIC): October 2018**

- The Council has been established following close consultation with Government, with the objective of supporting Government in achieving its vision of achieving a sustainable industry
- Energetik's Managing Director (Jayne Clare) is one of the 13 senior members of the Council, elected from across the industry
- Council members will develop an offer to Government on what industry can do to create jobs, cut costs, reduce carbon, create more liveable cities, and deliver exceptional customer outcomes if the right policy environment is in place
- <https://www.theade.co.uk/news/press-releases/heat-network-industry-promises-more-jobs-smart-cities-and-a-fix-to-the-deca>
- **GLA 'Delivering District Heating Networks' project**
 - to evaluate the various roles that the Mayor could play in supporting stakeholders and accelerate build-out of district heating projects in London and develop detailed business cases for how these could be implemented.
 - Energetik is participating in the research for this project.
 - <https://www.london.gov.uk/decisions/add2293-delivering-district-heating-networks>
- **Heat Network Technical Compliance Scheme – autumn 2018**
 - Acknowledged as important by CMA, who have identified build standards as crucial for future market (and to be covered in regulation). The scheme will ensure all heat networks are required to be built and operated to the same high standards.
 - Energetik's Technical Director (Ian Guest) is supporting the development of this scheme
- **Heat Network Investment Project (HNIP) – full scheme launched early 2019**
 - A Government Major Project which will invest £320m of capital funding in heat network projects through grants and loans. This is provided as 'gap funding' to leverage around £1bn of private and other investment, paving the way for the continued growth of the UK heat networks market.
 - Energetik submitted an application to HNIP in April 2019
 - <https://www.gov.uk/government/collections/heat-networks-investment-project-hnip-overview-and-how-to-apply>
- **Committee on Climate Change (CCC): Net Zero – The UK's contribution to stopping global warming - May 2019**
 - This report responds to a request from the Governments of the UK, Wales and Scotland, asking the CCC to reassess the UK's long-term emissions targets.
 - It recommends a new emissions target for the UK: net-zero greenhouse gases by 2050.
 - A net-zero GHG target for 2050 will deliver on the commitment that the UK made by signing the Paris Agreement. It is achievable with known technologies, alongside improvements in people's lives, and

within the expected economic cost that Parliament accepted when it legislated the existing 2050 target for an 80% reduction from 1990.

- <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>

Appendix C – See part 2 report

Appendix 1 – see part 2 report

Appendix 2 – see part 2 report