Energetik Strategic Review

London Borough of Enfield

22nd April 2021





Reliance Restricted

Ernst and Young LLP

1 More London Place London SE1 2DA

ey.com

Philip Milne Partner

Corporate Finance **T** +44 141 226 9095 **M** +44 7795 291 555 **E** pmilne1@uk.ey.com

Marcus Richards Director

Corporate Finance M +44 7795 088 927 E mrichards2@uk.ey.com Fay Hammond London Borough of Enfield Council Civic Centre Silver Street Enfield, EN1 3XA

Dear Fay

In accordance with the terms of the engagement letter dated 5th March, we have prepared this review to aid London Borough of Enfield Council ("LBE") in its understanding of the proposed additional investment into the Lee Valley Heat Network ("the Project").

Purpose of our report and restrictions on its use

This report was prepared on your instructions solely to assist in considering the UK subsidy control implications of the Project and should not be relied upon for any other purpose. Because others may seek to use it for different purposes, this review should not be quoted, referred to or shown to any other parties unless so required by court order or a regulatory authority, without our prior consent in writing. In carrying out our work and preparing our report, we have worked solely on the instructions of LBE.

22nd April 2021

Our report may not have considered issues relevant to any third parties. Any use such third parties may choose to make of our report is entirely at their own risk and we shall have no responsibility whatsoever in relation to any such use. This report should not be provided to any third parties without our prior approval and without them recognising in writing that we assume no responsibility or liability whatsoever to them in respect of the contents of our deliverables. We only accept responsibility or liability to our client in respect of this report on the basis set out in the engagement agreement. We accept no responsibility or liability to any other person in respect of this report, and accordingly if such other persons choose to rely upon any of its contents they do so at their own risk.

Scope of our work

Our work in connection with this assignment is of a different nature to that of an audit. Our report to you is based on information provided as at 31 March 2021. We have not sought to verify the accuracy of the data or the information and explanations provided. The review provides a high level view as to the potential implications of the proposed investment, as such it does not constitute legal advice. Our work has been limited in scope and time and highlights that further work will be required to conclude on a number of points raised within this report. If you would like to clarify any aspect of this review or discuss other related matters then please do not hesitate to me.

Yours sincerely

Philip Milne Partner

Energetik Strategic Review Contents



Se	ction	Page
Ex	Executive Summary	
1.	Overview	5-8
2.	Feasibility Assessment	10 – 21
3.	Affordability Assessment	22 – 27
4.	Strategic Options	28 – 32

Energetik Strategic Review Executive Summary



Overview

LBE is currently considering an additional investment into Energetik (a wholly owned subsidiary) to expand an existing heat network north and west of the energy centre at Meridian Water. EY has been commissioned by LBE to perform analysis on the proposed investment.

In doing so we have considered the following:

- The financial feasibility of the proposed extension to the heat network, considering the strategic and financial risks associated with the proposals and the impact that the investment would have on Energetik. This includes:
 - Analysis of the base position and proposed extension
 - Analysis of the incremental impact that the investment will have on the company
 - Sensitivity analysis detailing the impact of key variables on the financial viability of the project.
- A viability and affordability assessment of the proposal from the Council's perspective, through the application of the Development and Investment Financial Framework and associated redeveloped Capital Appraisal Template
 - Analysis over the proposed sources and uses of funding to allow for appraisal of the cash flows directly applicable to the Council.
 - Application of the DIFF framework to appraise investment from LBE perspective.
 - Assessment of the impact of the investment on the overall debt profile of LBE over time.
- A strategic assessment of the impact of the proposals on the financial resilience and sustainability of the company, with consideration towards how the proposal may be considered in line with the Council's longer-term strategic plans
 - Illustration of the potential future options for Energetik with analysis as to how these could impact the resilience of company and LBE

We have provided a summary of our key conclusions overleaf

Energetik Strategic Review **Executive Summary**



Key conclusions

Feasibility Assessment

- We have isolated the investment and operational cashflows arising from the Green and Yellow lines and calculated total capital investment of £53.2m (in real terms) between 2021 and 2026, that will be supported by a £12m grant from HNIP. This generates estimated free cash flow over the period of £29.5m after deducting capex and adding grant funding.
- Investment in the Green and Yellow lines will result in a decrease in overall value (£1.1m) for Energetik based on the current baseline assumptions (4,750 additional connections). The project IRR for the base case is forecast at 13.99% post £5m grant funding. This reduces to 10.03% when considering the entire investment (inclusive of tranches 1, 2 and 3, and £17m in grant). This further reduces to 5.05% when appraising the Green and Yellow line investment on a standalone basis.
- The reduction in value comes as a result of the heavy capital expenditure required to build pipelines relative to the number of connections that it will add. The excess capital required is large in comparison to the new revenue from new connections forecast in the model.
- However, it is important to note that investment into the Green and Yellow lines should be viewed as one that may derive future benefit as more developments are progressed through planning and can be connected. Should some of the capacity that the proposed extensions creates be met with further connections, it would positively impact the viability of the extension. There is significant upside associated with securing additional connections.
- Investment in the Green line only reduces the Council's immediate borrowing requirement by £12m however doing this forgoes the opportunity for an additional 13,000 connections. We have analysed "council borrowing per potential unit of capacity" for both scenarios and note that this metric is reduced when investing in the full Green and Yellow line extension.
- The investment would create the potential for significant upside should further connections be secured. Increasing the capacity potential of the Green and Yellow lines from the current 18% to 31% (representing an additional 3,500 connections) increases NPV by £14.4m.

Affordability Assessment

- The investment under current assumptions when aligned to the DIFF, presents a reasonable Rol, but underperforms on measures of IRR and NPV. However, it should again be noted that this is based on current assumptions which have been modelled conservatively.
- Although the Council are required to borrow an additional £22m from PWLB they are also guarantors of third party funding from LEEF, HNIP, and EIB and investing in the Green and Yellow lines increases overall debt exposure from £45m to £79m (in nominal terms), a risk which the Council should be aware of and mitigating accordingly.
- The proposed funding required for the extension doesn't breach the Council's current debt threshold. However, it still represents a material proportion of funding that the Council is looking to embark upon, equivalent to c. 7% and 9% of the Council's borrowing in 22/23 and 22/23 respectively.
- We have several concerns over the complexity of the corporate infrastructure which underpins the detailed modelling. Energetik has developed numerous financial models to support the business and investment opportunities and it would appear that these have evolved organically over time. Whilst they may be fit for purpose and relatively well understood by Energetik the modelling logic is difficult to follow and doesn't currently represent modelling best practice.

Strategic Options

We have recognised that there are several options available to LBE with regard to the future of Energetik. These options exist on a spectrum with varying degrees of continued involvement / control from LBE. We have presented these options and outlined the alignment with Council's economic, strategic, and financial objectives.

Section 1

Overview

Energetik Strategic Review Introduction and Overview



Introduction

We have been engaged by London Borough of Enfield Council (LBE) to perform a strategic review of the activities of a wholly-owned subsidiary (Energetik) in relation to proposed expansion of a district heat network.

Our report comprises the following key considerations:

- > The financial viability of the proposed extension to the heat network, considering the strategic and financial risks associated with the proposals
- A viability and affordability assessment of the proposal from the Council's perspective, through the application of the Development and Investment Financial Framework and associated redeveloped Capital Appraisal Template
- A strategic assessment of the impact of the proposals on the financial resilience and sustainability of the company, with consideration towards how the proposal may be considered in line with the Council's longer-term strategic plans

Energetik Strategic Review Introduction and Overview



Background

Lee Valley Heat Network Operating Company Ltd, trading as Energetik, was incorporated in 2017 and operates as a wholly owned subsidiary of LBE. At present, Energetik owns and operates 4 separate and distinct heat networks: Meridian water, Oakwood, Arnos Grove, and Ponders End. We have provided a summary of each of the distinct energy networks below:

Meridian Water: An energy centre has been constructed at Meridian Water to serve residents of the new development which is expected to connect to 10,000 new homes before 2038. The energy centre is currently powered by a gas-fired Combined Heat and Power facility (CHP) with central shared gas boilers for back up.

The main energy source (CHP facility) is intended to be replaced by the Energy Recovery Facility (ERF) at Edmonton EcoPark which uses non-hazardous post-recycling waste as a low carbon fuel source. Under current proposals, heat from the ERF will be available from 2026. Heat Supply Agreements were signed with North London Waste Authority in November 2020.

Arnos Grove: Arnos Grove (or Ladderswood) operates as the first of Energetik's three Satellite Scheme Networks (SSNs) – which are smaller self-contained heat networks designed to serve the local community. As with Meridian Water this is powered by a CHP.

Oakwood: Oakwood (or New Avenue) is another of Energetik's SSNs – operation commenced in 2020. Again, this is a self-contained network supplied by a CHP facility.

Ponders End: Ponders end currently consists of two energy centres, with the main energy centre being Alma road and a smaller energy network at Electric Quarter. These are both powered by CHPs and first customers were connected in 2019.

We have included the number of properties connected at each heat network in the adjacent table. Although large numbers of properties are now connected to each energy centre, not all energy centres are yet operation, as Covid-19 has caused delays to the construction timeline. Key milestones have been summarised below:

- Arnos Grove is fully operational
- Oakwood Heat Network became operational in September 2020
- Ponders end's Alma network due to become operational in February 2021 with connection to Electric Quarter due in April 2021
- ▶ The Meridian Water energy centre build will commence in February 2021

We have summarised the potential opportunities for extension overleaf.

Figure 1: Energetik's existing energy centres



Figure 2: Connections as at December 2020

Heat Network	Forecast	Actual	Var
Arnos Grove	175	175	-
Oakwood	107	112	5
Ponders End	395	328	(67)
Total	677	615	(62)

Energetik Strategic Review Introduction and Overview



Proposed Expansion

Energetik has the opportunity to utilise the heat load supplied by the ERF to expand the Meridian Water Heat Network as shown in Figure 3 – the proposed expansion comprises two key routes; the green line and the yellow line.

In November 2020, Energetik signed a long-term heat supply agreement with NLWA – guaranteeing the supply of heat generated by the ERF facility at Edmonton EcoPark which is estimated to be complete in 2026. Energetik has secured the use 60MW of heat to be supplied to 10,000 homes connected to the Meridian Water heat network, however the network has the capacity to serve approximately 30,000 homes. The **blue** lines in figure 3 represent elements of the network already planned – i.e. the connection from the energy centre to Meridian Water and Snells & Joyce. The Meridian Water heat network will continue to supply heat via CHPs until the ERF facility is operational.

The **green** line is proposed to run North from the energy centre and to connect to the Ponders End SSN discussed in the previous slide. There are opportunities to connect to large developments (Edmonton Green, Southbury) along the way, and the opportunity to connect to Enfield Town Centre (including the Civic centre).

Figure 3: Energetik expansion proposals



The **yellow** line is proposed to runs West of the ERF and connect to the Oakwood and Arnos Grove SSNs – as with the green line, there are opportunities to connect to other developments (Southgate village, Arnos Grove tube station, Cockfosters TFL) along the way. The **red** line represents the connection of the Ponders End Heat Networks (Electric Quarter and Alma Road) that is already under construction.

As a wholly-owned subsidiary of LBE, Energetik relies on the Council to provide funding to support its on-going operations; the proposed expansions of the would require significant capital investment from LBE. In the following sections of the report we aim to assess the feasibility of these expansion plans, both individually and on aggregate. We will then assess the impact on the wider finances of the Council of the proposed investment, and finally we will assess the alignment of the proposals to the Council's longer term strategic plans and provide an overview of the options available to the Council in respect of its ownership of the network going forward.

Section 2

Feasibility Assessment



Overview

In this section we have considered the following:

- The financial feasibility of the proposed extension to the heat network, considering the strategic and financial risks associated with the proposals and the impact that the investment would have on Energetik. This includes:
 - Analysis of the base position and proposed extension
 - Analysis of the incremental impact that the investment will have on Energetik
 - Sensitivity analysis detailing the impact of key variables on the financial viability of the project.

The following observations have been made:

- We have isolated the investment and operational cashflows arising from the Green and Yellow lines and calculated total capital investment of £53.2m (in real terms) between 2021 and 2026, that will be supported by a £12m grant from HNIP. This generates estimated free cash flow over the period of £29.5m after deducting capex and adding grant funding.
- Investment in the Green and Yellow lines will result in a decrease in overall value (£1.1m) for Energetik based on the current baseline assumptions (4,750 additional connections). The project IRR for the base case is forecast at **13.99%** post £5m grant funding. This reduces to **10.03%** when considering the entire investment (inclusive of tranches 1, 2 and 3, and £17m in grant). This further reduces to 5.05% when appraising the Green and Yellow line investment on a standalone basis.
- The reduction in value comes as a result of the heavy capital expenditure required to build pipelines relative to the number of connections that it will add. The excess capital required is large in comparison to the new revenue from new connections forecast in the model.
- However, it is important to note that investment into the Green and Yellow lines should be viewed as one that may derive future benefit as more developments are progressed through planning and can be connected. Should some of the capacity that the proposed extensions creates be met with further connections, it would positively impact the viability of the extension. There is significant upside associated with securing additional connections.
- Investment in the Green line only reduces the Council's immediate borrowing requirement by £12m however doing this forgoes the opportunity for an additional 13,000 connections. We have analysed "council borrowing per potential unit of capacity" for both scenarios and note that this metric is reduced when investing in the full Green and Yellow line extension.
- The investment would create the potential for significant upside should further connections be secured. Increasing the capacity potential of the Green and Yellow lines from the current 18% to 31% (representing an additional 3,500 connections) increases NPV by £14.4m.



Energetik: Business Overview

Before analysing the proposed expansion opportunities we have presented a high level overview of Energetik's current financial position - note that the most recently filed financial statements are for the year to 31 March 2020. We note the following as key observations from our analysis:

Profit & Loss: Energetik's small companies exemption means that no profit and loss account is required to be presented, however, we can derive from the movement in retained earnings that the company made a loss of £570k in the year to March 2020 (predicated on the assumption that no other equity events – i.e. dividend or share transactions – took place). Financial losses can be expected for SPVs in the construction phase of the asset lifecycle.

Net current liabilities: The company has net current liabilities - i.e. the liabilities due in the coming year outweigh the combination of cash at bank and cash to be paid from customers. The company therefore may requires an injection of capital or an increase in sales if it is to satisfy its immediate obligations.

Negative retained earnings: The company had negative shareholders equity of £2.264m as at 31 March 2020. This means that the company has total liabilities greater than its total assets. The key driver behind this position is an £11.32m liability owed to LBE – presumably in the form of debt repayment obligations. As this is the case, the debt is unlikely to be required to be repaid until the company begins the operational phase of the project and begins to generate significant income from heat sales. Therefore this is somewhat misleading as LBE have the flexibility to allow the company to trade its way out of this position over the lifetime of the project.

Figure 4: Energetik Financial summary as at 31 March 2020

(£'000)	2020	2019	Var
Fixed assets	9,328	7,245	2,083
Current assets	1,079	1,287	(208)
Current liabilities	(1,227)	(1,415)	188
Net current liabilities	(149)	(128)	(20)
Long term liabilities	(11,443)	(8,802)	(2,641)
Net liabilities	(2,264)	(1,694)	(570)
Shareholders Equity	(2,264)	(1,694)	(570)

Options outline

In terms of the proposals put forward by Energetik – we will analyse two distinct options and the impact that proceeding with each option would have on the overall feasibility of the company. Options are outlined as follows:

- **Option 1:** Base case under this option we assume that Energetik will continue build out the Meridian Water Heat Network (SHN) and the individual SSNs, maintaining them as separate heat networks.
- **Option 2:** Extend Green and Yellow lines under this option we assume that Energetik will receive the funds required to build out the Green line extension (North) and the Yellow line extension (West), connecting the SSNs to the SHN and powering the network via heat supplied from the ERF at Edmonton EcoPark.

We have analysed each option in greater depth in the following slides.



Our Approach

Approach:

Energetik providing seven financial models as follows:

- "Energetik Consol KPMG Base Model 240420 External" Consol model (base Tranche 2 model)
- "Energetik Consol KPMG Forecast Model 240420 v2d 191220 Green & Yellow Line v3 190221" - Consol model (with green/yellow line extensions Tranche 3 model)
- 3. "SHN KPMG Forecast Model 240420 v2d 191220 amended properties v2 221220" - SHN model (Meridian Water Heat Network) – including green/yellow line extensions. We'll refer to this as the '**forecast model**'.
- 4. "SHN KPMG Base Model 240420" SHN model without Green and Yellow line extension. We'll refer to this as the '**base model**'.
- Ladderswood model (Arnos Grove Heat Network) including amendments applicable to the green/yellow line extensions
- 6. Alma model (Ponders End Heat Network) including amendments applicable to the green/yellow line extensions
- New Avenue model (Oakwood Heat Network) including amendments applicable to the green/yellow line extensions

It should be noted that there is no single financial model that captures the source and uses of funds during the investment period or the expected revenues and costs generated over the life of the project.

The approach adopted by Energetik was to include the additional elements in relation to the Green and Yellow lines within the forecast model.

We obtained a copy of the base model for comparison, however we observed that a number of key assumptions updated in the forecast model hadn't been updated in the base model.

We will briefly outline the steps taken to gain comfort over the position:

Heat Network	Properties	Energy Requirement	%
Meridian Water	10,007	34,023,800	57%
Snells Park	2,850	9,690,000	16%
Yellow/Green line	4,750	16,150,000	27%
Total	17,607	59,863,800	100%

- Step 1 Manually update inputs and assumptions in the base model to reflect the latest assumptions included within the forecast model so that a like for like comparison is enabled.
- Step 2 Establish overall Strategic Heat Network financial cashflows inclusive of the additionality provided by the Green/Yellow lines as set out in the forecast model.
- Step 3 Manually remove all inputs and assumptions in the forecast model relating to the green and yellow line to establish a base position.
- Step 4 Reconcile this manually derived base position to the cash flows in the base model. This gives us assurance that we are able to correctly isolate the incremental cash flows associated with the extension.
- Step 5 calculate the incremental cash flows attributable to the green and yellow line extension by taking the base case cash model from the forecast model cash flows.

We have presented a summary of key results overleaf.





Summary Investment Appraisal

Before analysing the individual options available to LBE – we have first set out the results of our investment appraisal on the Green and Yellow line extension on a standalone basis.

- The addition of the Green and Yellow line increases the connections modelled by 4,750. However, the network has the potential for approximately 26,000 connections – giving an approximate utilisation of 18.26% under current assumptions.
- ▶ We have modelled the pre-tax net cash flows attributable to the investment in the Green and Yellow line and derive a total of £29.45m over the life of the project.
- ▶ The project cash flows give us a modified IRR of 3.25% when assuming a financing rate of 5% and a reinvestment rate of 2%.
- ▶ When using the conventional method for calculating IRR over project cash flows we get 5.05%.
- We have calculated a negative NPV of £1.08m for the project when using a discount rate of 5.57% - this is in line with HM Treasury Green Book rate of 3.5% adjusted for 2% inflation.
- Under current assumptions the investment has a negative impact on company value when looking solely at the present value of expected future cashflows. However, this does not take into account the less tangible increase in value that unlocking significant additional network capacity may yield from the perspective of a potential external party.
- ▶ We have shown the cumulative net cash flows expected over the life of the project in chart 1 and note that after heavy investment in the opening years the project is forecast to generate positive cumulative cashflow in 2039 and an overall positive cash flow of £29.45m prior to any discounting.

Overall the project is forecast to generate net cashflow (pre-tax) of \pounds 29.45m over its lifetime (to 2057). This gives an IRR of 5.05% and a negative NPV of \pounds 1.08m when discounted at 5.57%.

We have provided analysis of what this means for Energetik overleaf.

Figure 6 – Key project metrics

Project metrics	Units	
Modelled connections	#	4,750
Network capacity	#	26,000
Utilisation	%	18.26
Pre-tax project cash flows	(£'000)	29,450
Pre-tax project IRR (Conventional)	%	5.05
NPV @ 5.57%	(£'000)	(1,079)

Chart 1 - Project cumulative net cash flows



Options Summary

We have provided more detailed analysis on the base case, the investment in the green and yellow line, and the delta between the two.

- We have reviewed the model and isolated financials relating specifically to the Green and Yellow lines expansion to allow us to appraise the incremental impact of the proposed investment.
- When separated out, the construction of the green and yellow lines contributes £169.3m in overall revenues and £81.8m in EBITDA
- We have calculated the expected free cash flow post grant (pre-tax) attributable to the extension as £29.4m over the life of the project.
- We have calculated the IRR of the extension based on the isolated cash flows on slide 15.
- Capex. per max connections has been calculated on the assumption of a maximum of 15,000 properties for the SHN and 41,000 for the SHN with green and yellow line extension (an additional 26,000).

Overall, it can be said that whilst the extension increases overall revenues, completing the extension under current assumed connections is forecast to decrease company value by £9.0m when compared to continuing with the base case.

It should be noted that the overall combined project (base SHN plus green and yellow extension) yields a positive NPV, however it is a reduced NPV when compared to the base case alone.

We have analysed the base case and extension in more detail overleaf.

Figure	7:	Options	summary
--------	----	----------------	---------

	Units	Current Heat Network	G&Y Extension	Variance
Dwellings	#	12,857	17,607	4,750
P&L				
Revenues	(£'000)	344,844	514,125	169,281
Costs	(£'000)	(184,677)	(272,074)	(87,396)
EBITDA	(£'000)	160,167	242,051	81,884
Depreciation	(£'000)	(25,613)	(55,571)	(29,958)
EBIT	(£'000)	134,554	186,480	51,926
Interest	(£'000)	(11,027)	(27,799)	(16,772)
PBT	(£'000)	123,527	158,681	35,153
Cash flow				
EBITDA	(£'000)	160,167	242,051	81,884
Capex.	(£'000)	(63,150)	(127,585)	(64,435)
Grant	(£'000)	5,000	17,000	12,000
Cash Flow	(£'000)	102,017	131,467	29,450
Investment Appraisal				
NPV @ 5.57%	(£'000)	29,913	20,907	(9,006)
NPV/Dwelling	(£'000)	1.7	1.2	(0.5)
IRR (pre-tax post grant)	%	13.99	10.03	(3.96)
Capex. per modelled connections	(£'000)	4.9	7.2	2.3
Capex. per max connections	(£'000)	4.2	3.1	(1.1)
NPV/Dwelling	(£'000)	1.7	1.2	(0.5)



Option 1: Base case



Option 1 proposes that no additional investment is made into the SHN and the 4 heat networks (SHN and three satellite networks) continue to operate inter-dependently. Key benefits

- ✓ No additional debt required to finance extension
- Overall NPV of £29.9m associated with base case c. £9.0m greater than overall NPV of base case plus extension.
- \checkmark No exposure to inherent risk associated with a complex. pipeline expansion.

Key drawbacks:

- No access to £12m HNIP grant and £12m 0% interest loan to finance expansion.
- Sy continuing to operate self-contained heat networks, Energetik loses the opportunity to connect the heat network to proposed new developments. Company revenues inherently limited to existing developments on network.
- Satellite networks lose access to lower-cost heat supply from NLWA once site becomes operational in 2026.
- LBE miss out on opportunity to reduce Borough's carbon footprint through connection to the NLWA ERF facility.
- Additional exposure to climate change levy's and risk of exposure to further climate change regulations as the UK moves towards a decarbonised economy.

Overall, the base case forecast a strong NPV (£29.9m) and healthy IRR (13.9%) which will increase the overall value of Energetik. However it will also inherently limit the potential for Energetik to benefit from the economies of scale of a combined network sourcing low carbon heat from the NLWA ERF facility with capacity for additional connections as more developments are built.

Figure 8: Option 1 – Key Metrics

	Units	SHN		
Dwellings	#	12,857		
P&L				
Revenues	(£'000)	344,844		
Costs	(£'000)	(184,677)		
EBITDA	(£'000)	160,167		
Depreciation	(£'000)	(25,613)		
EBIT	(£'000)	134,554		
Interest	(£'000)	(11,027)		
PBT	(£'000)	123,527		
Cash flow				
EBITDA	(£'000)	160,167		
Capex.	(£'000)	(63,150)		
Grant	(£'000)	5,000		
Cash Flow	(£'000)	102,017		
Investment Appraisal				
NPV @ 5.5%	(£'000)	29,913		
IRR (pre-tax post grant)	%	13.99		
NPV/Dwelling	(£'000)	1.7		

Option 2: Green and Yellow line extension

Option 2 proposes that the Council build out two extensions from the existing SHN – the green pipeline which extents North to Ponders End heat network, and the yellow line which extends west to Arnos Grove and Oakwood.

Key benefits

- Energetik have secured a £12m grant from HNIP as well as a £12m 0% loan on the condition that both the green and yellow line are constructed.
- ✓ The connection of inter-dependent satellite networks to the SHN allows for the provision of low carbon heat from the NLWA across the borough.
- The network has significant additional capacity which will allow Energetik to connect up to 26,000 properties as more developments are built – generating additional revenues from connection fees and heat costs.
- ✓ There is significant upside associated with additional connections as the capital expenditure for the infrastructure is already incurred.
- Low carbon heat networks represent a significant contribution toward lower the carbon footprint for the Borough.

Key drawbacks:

- Under current assumptions there is an overall reduction in NPV (£9.0m) when compared with the base case.
- The additional capex./debt required, and associated depreciation and interest payments are significant in comparison to the additional forecast revenue. This is the key driver behind the reduction in NPV.
- × Exposure to additional inherent risk associated with capital intensive pipeline extension.
- Increase in debt exposure for the Council £22m PWLB and £12m HNIP.

Figure 9: Option 2 – Key Metrics

	Units	G&Y Extension		
Dwellings	#	17,607		
P&L				
Revenues	(£'000)	514,125		
Costs	(£'000)	(272,074)		
EBITDA	(£'000)	242,051		
Depreciation	(£'000)	(55,571)		
EBIT	(£'000)	186,480		
Interest	(£'000)	(27,799)		
РВТ	(£'000)	158,681		
Cash flow				
EBITDA	(£'000)	242,051		
Capex.	(£'000)	(127,585)		
Grant	(£'000)	17,000		
Cash Flow	(£'000)	131,467		
Investment Appraisal				
NPV @ 5.5%	(£'000)	20,907		
IRR (pre-tax post grant)	%	10.03		
NPV/Dwelling	(£'000)	1.2		





Key Assumptions – Green and Yellow Line expansion

The Green and Yellow line extension models for an additional 4,750 residential units phased in between 2024 and 2033.

The construction of the Green and Yellow lines unlock potential to connect heat network to an additional 26,000

Residential

- At present the construction of the Green and Yellow line has been modelled to unlock 4,750 actual additional residential connections split as follows:
 - Southbury, Edmonton Green and Enfield Town 4,500 (Green line).
 - North Middlesex hospital 250 (Yellow line)

Commercial

- 37,000 KW in additional commercial heat load for Enfield Civic centre (Green line)
- 3,000 KW in additional commercial heat load for Enfield Shopping centre (Green line)
- 2,000 KW in additional commercial heat load for North Middlesex Hospital (Yellow line)

Key Income Assumptions - residential

- £3,896 initial connection charge on each new property
- Fixed charge of £332.88 p.a. on each unit
- ► Variable charge of 4.06p/kWh

Key Income Assumptions - residential

- ▶ £16/KW connection charge
- ► Fixed charge of £25/KW p.a.
- Variable charge of 4.50p/kWh

Other

► Connection fee income of £20.075m





Chart 2 – Annual residential unit phasing



Sensitivity analysis

We have modelled the impact on project metrics when sensitivity analysis is applied to the number of dwellings that connect to the extension to understand the potential down and upside associated.

As specified earlier in the report, the current extension is modelled on the assumption that 4,750 additional properties will be connected as a result of investment into the green and yellow extension.

We have performed sensitivity analysis in the adjacent table showing the project investment appraisal with the following scenarios:

- ► **G&Y Extension:** Investment is forecast under current assumptions of 4,750 additional connections.
- Scenario 1: Investment is forecast with a reduction of connections to 2,375.
- Scenario 2: Investment is forecast with an increase in connections to 8,250
- Scenario 3: Investment is forecast with an increase in connections to 9,775

From our analysis we have derived the following conclusions:

- The capex. required to finance the extension is largely fixed, therefore any increase in connections has a high positive impact on EBITDA with a less significant increase in capex this positively impacts cash flow and associated investment appraisal metrics.
- Similarly, where the number of connections decreases EBITDA drops but capex remains high, which has a significantly negative impact on cash flow and investment appraisal metrics.
- Under the base assumptions, the NPV is negative £1.07m, however it would only take a small number of additional properties for the investment to yield a positive NPV.
- Any large increases in excess of the base assumptions yield a significantly positive return as a result of increase in revenues (largely connection fees) without additional requirement for capital investment.

We have outlined potential future connection opportunities overleaf.

Figure 10: Investment appraisal with differing no. of units connected

	Units	G&Y Extension	Scenario 1	Scenario 2	Scenario 3
Dwellings	#	4,750	2,375	8,250	9,775
Utilisation	%	18.27	9.13	31.73	37.59
Cashflow					
EBITDA	(£'000)	81,884	48,055	130,480	152,125
Capex.	(£'000)	(64,434)	(58,810)	(72,376)	(75,924)
Grant	(£'000)	12,000	12,000	12,000	12,000
Free cash flow pre-tax pre financing	(£'000)	29,450	1,244	70,103	76,201
Investment Appraisal					
NPV @ 5.57%	(£'000)	(1,079)	(11,234)	13,276	19,717
IRR (pre-financing)	%	5.05	0.22	12.66	16.92
NPV/Dwelling	(£'000)	(0.2)	(4,730)	1,609	2,017



Sensitivity analysis (Cont'd)

We have used the data presented in the previous slide to illustrate the impact of additional connected properties on project free cash flow and NPV per unit.

In chart 4 we have shown the overall increase in free cash flow (EBITDA less capex.) for the corresponding increase in properties on the network.

Our analysis shows that, at scenario 1 (2,750 properties) the total incremental increase in free cash flow is low (£1.24m) considering an project lifespan of c. 50 years. However, we can see that is increases at a steady rate as more connections are added. These cashflows are undiscounted – we have performed analysis on the discounted cashflows below.

We can see from chart 5 that the project yields a negative NPV per additional unit until approximately 5,000 properties are connected. Therefore, only a slight increase is required on the current projected number of connections (4,750) which, as has been discussed, has been modelled conservatively.

From there any additional connections stand to increase the overall NPV and the NPV per unit. The adjacent chart differs to the chart above in that the curve flattens as more properties are added. This is as a result of both the effect of discounting future cash flows and dividing these discounted cash flows by an increasing number of connections.

Overall we can see that the potential upside in both free cash flow and NPV per connected property where more properties are added to the network.

Chart 4 – Incremental free cash flow



Chart 5 – NPV per unit





Future Connection Opportunities

Green and Yellow Lines as a lever for future developments:

- The Green and Yellow Line extension assumes that an additional 4,750 residential units will be connected between 2024 and 2033.
- Investment in the Green and Yellow Lines will also act as a long term strategic lever, allowing for smaller and shorter branches to be installed when a new development arises for potential connection, thereby adding to the lines' future revenues.
- 4,500 additional properties currently modelled on Green line (Edmonton, Southbury, Enfield Town).
- 250 Additional properties currently modelled on Yellow line (North Middlesex Hospital).
- The table to the right displays planned connections we are aware of that have not been included in the financial model.

SHLAA:

The Strategic Housing Land Availability Assessment (SHLAA) undertaken by Enfield Council as required by the NPPF suggests that 4,915 new dwellings are deliverable in Enfield over the next 5 years. Another 9,350 dwellings have been classified as developable over the next 15 years and an additional 24,180 are potentially developable over the same period.

Additional Revenue

We have considered the additional connection fees that may accrue to Energetik as a result of potential additional developments in the adjacent table – we have considered the connection fee revenue at varying levels of uptake (i.e. 20% means 20% of additional developments connect to the network). We have modelled connection fees at £4,300 per property.

This is high-level analysis and these revenues have not been discounted to reflect the present value. However the intention is to illustrate that potential increase in revenues that the green and yellow line could generate as a result of additional developments over the next 20 years.

Figure 11: Proposed new developments not modelled

Extension	First connection	Connection fee	Planning status
50 – 56 Fore Street (Yellow line)	(112) - 2025	£0.48m	Detailed planning permission submitted. Energy Statement commits to connecting.
Gas holder site Station Road	(181) - 2025	£0.78m	Detailed planning permission submitted. Energy Statement commits to connecting.

Figure 12: Proposed new developments by Planning Status

Туре	Pre- application	Statement to Commit	Submitted	N/A	Total
Modelled	1450	800	1,300	1,250	4,800
Not Modelled but Likely to Proceed	0	981	293	0	1,274
Developable	0	0	0	9,350	9,350
Total	1,450	1,781	1,593	10,600	15,424

Figure 13: Potential future SHLAA site capacity

Туре	0-5 years	6-10 years	11-15 years	15+ years	Total
Developable	-	5,751	3,147	631	9,350
Potentially Developable	-	6,969	9,935	7,276	24,180
Total	-	12,720	13,082	7,907	33,530

Figure 14: Connection fees at differing levels of uptake

Туре	20%	40%	60%	80%	100%
Developable	£8.04m	£16.08m	£24.12m	£32.16m	£40.21m
Potentially Developable	£20.79m	£41.59m	£62.38m	£83.18m	£103.97m
Total	£28.84m	£57.67m	£86.51m	£115.34m	£144.18m



Incremental Difference – Green Line Only

We have performed high level analysis on the impact of investing only in the Green line as oppose to investing in both the green and yellow lines.

- The capital required to invest solely in the green line compared to investing in both green and yellow lines decreases by £24m
- Council borrowing however, decreases by only £12m as £12m grant from HNIP is lost.
- Under current modelling assumptions, the connected properties would decrease by 250 as a result of only investing in the green line.
- Under current assumptions this would give a borrowing per unit connected of £5,555 – a £2,234 decrease compared to investing in the green and yellow line.
- However, investing in the green and yellow line effectively doubles potential line capacity from 13,000 to 26,000 whilst only requiring half of the additional investment (£12m).

Extension	Green and yellow	Green	Diff
Funding required	£49m	£25m	(£24m)
Council borrowing required	£37m	£25m	(£12m)
Current connections	4,750	4,500	(250)
Borrowing per unit (actual)	£7,789	£5,555	(£2,234)
Max capacity (units)	26,000	13,000	(13,000)
Borrowing per unit (max capacity)	£1,423	£1,923	£500

- If we assume the lines are connected to the maximum amount of properties (26,000) we would have a borrowing per unit of £1,923 for the green line only and £1,423 for both the green and yellow lines.
- Therefore at maximum capacity less borrowing is required (per unit) to invest in both the green and yellow lines.

Section 3

Affordability Assessment



Overview

In this section we have set out to the following;

- A viability and affordability assessment of the proposal from the Council's perspective, through the application of the Development and Investment Financial Framework (DIFF) and associated redeveloped Capital Appraisal Template, including:
 - Analysis over the proposed sources and uses of funding to allow for appraisal of the cash flows directly applicable to the Council.
 - Application of the DIFF framework to appraise investment from LBE perspective.
 - Assessment of the impact of the investment on the overall debt profile of LBE over time.

The following observations have been made:

- The investment under current assumptions when aligned to the DIFF, presents a reasonable Rol, but underperforms on measures of IRR and NPV. However, it should again be noted that this is based on current assumptions which have been modelled conservatively.
- Although the Council are required to borrow an additional £22m from PWLB they are guarantors of third party funding from LEEF, HNIP, and EIB and investing in the green and yellow lines increases overall debt exposure from £45m to £79m (in nominal terms), a risk which the Council should be aware of and mitigating accordingly.
- The proposed funding required for the extension doesn't breach the Council's current debt threshold. However, it still represents a material proportion of funding that the Council is looking to embark upon, equivalent to c. 7% and 9% of the Council's borrowing in 22/23 and 22/23 respectively.
- We have several concerns over the complexity of the corporate infrastructure which underpins the detailed modelling. Energetik has developed numerous financial models to support the business and investment opportunities and it would appear that these have evolved organically over time. Whilst they may be fit for purpose and relatively well understood by Energetik the modelling logic is difficult to follow and doesn't currently represent modelling best practice.



Sources and Uses of Funds

We have reviewed the model and analysed cash flows to derive the sources and uses of funds – this is the first step in allowing us to appraise the investment from the perspective of LBE.

Overall, an additional £46m is required to finance the extension of the green and yellow line. This can be broken down as follows:

- £12m equity grant from HNIP
- ▶ £12m 0% loan financing from HNIP
- £22m in additional borrowing from PWLB

The total borrowing profile for the additional investment is $\pounds 34m - as \pounds 12m$ is grant funding from HNIP.

For reference, tranches 1 and 2 relate to funding required to construct the main network (base case). Tranche 3 relates exclusively to funding required to build out the green and yellow extension.

It is worth noting that the figures in this table are presented in nominal terms (without accounting for inflation) for illustrative purposes. We have analysed the investment requirements in our analysis in real terms using the inflation adjusted data in the financial models.

Sources and Uses of Funds		Tranche 1 & 2	Tranche 3	Total
HNIP				
HNIP Tranche 1 (Grant)	(£'000)	5,000		5,000
HNIP Tranche 2 (Grant)	(£'000)		12,000	12,000
Total	(£'000)	5,000	12,000	17,000
LBE Funding requirement				
PWLB	(£'000)	23,000	22,000	45,000
LEEF	(£'000)	6,000		6,000
EIB	(£'000)	6,000		6,000
HNIP Tranche 1	(£'000)	9,761		9,761
HNIP Tranche 2	(£'000)		12,000	12,000
LBE Funding requirement	(£'000)	44,761	34,000	78,761
Total sources of Funds	(£'000)	49,761	46,000	95,761
Uses of Funds				
Tranche 1 & 2	(£'000)	49,761		49,761
Tranche 3(G & Y Extension)	(£'000)		46,000	46,000
Total	(£'000)	49,761	46,000	95,761

Figure 16: Sources and Uses of Funds

LBE Cash Flows

In addition to performing analysis from the perspective of Energetik, we have analysed the proposed investment from the perspective of LBE – focussing on the investment required, the forecast return, and the impact of the additional debt required on LBE's aggregate debt profile. This has utilised the Council's agreed investment appraisal approach, the Development and Investment Financial Framework (DIFF).

We have isolated the additional lending requirement from the perspective of LBE as a result of the green and yellow line investment. This can be summarised as:

- Additional capital investment (2021 2026) £53.2m
- Less: Additional grant funding £12m

This gives total additional LBE funding of **£41.2m**.

Returns to LBE come in the form of interest payments on funds lent to Energetik, and net distributions to LBE as the parent entity. For the purposes of this exercise we have assumed that surplus funds available for distribution are paid to LBE as and when they become available – in practise LBE can exert control over how and when profits are extracted.

We have profiled the net returns to LBE in the adjacent chart which shows that cumulative cash flow hits its lowest point in 2024 (-£34.8m) and breaks even in 2041 before closing at £20.7m in 2057.

We have applied the DIFF metrics to the investment from the perspective of the council overleaf.

Figure 17: LBE Cash Flows

	Units	SHN	G&Y Extension	Diff
Funding required				
Сарех	(£'000)	(63,150)	(127,585)	(64,434)
Capex (2021-2026)	(£'000)	(32,078)	(85,265)	(53,187)
Grant Funding	(£'000)	5,000	17,000	12,000
Net LBE Funding required	(£'000)	(27,078)	(68,265)	(41,186)
Debt repayment				
Council Lending	(£'000)	(27,078)	(68,265)	(41,186)
Principal Repayments	(£'000)	27,078	68,265	41,186
Interest	(£'000)	11,027	27,799	16,772
Net distributions	(£'000)	60,108	63,998	3,890
LBE Net cashflow	(£'000)	71,134	91,976	20,662

Chart 6 – LBE cumulative net cash flows





EY Building a better working world



DIFF Assessment

We have isolated the additional project cashflows from the perspective of LBE and performed an assessment using the Development and Investment Financial Framework (DIFF) to analyse key metrics and understand where they lie in comparison to LBE's hurdle rates

IRR – Our analysis of the financial model gives us a forecast IRR of 3.71%. This is significantly less than LBE's required hurdle rate (8%) for commercial projects.

ROI – From the perspective of LBE the project has an estimated ROI of 50.17% based on additional invested capital of £41.2m and a net increase in pre tax cash flows of £20.7m. This is comfortably above LBE's required hurdle rate for ROI. There is a clear differential in how the project has performed against hurdle rates for IRR and ROI. This differential is driven by the timing of cash flows. As project cash flows have been modelled over a period of 37 years, earnings arising in the latter phases of the project will be significantly discounted and therefore have a lesser impact on the IRR. ROI is a more simplistic investment appraisal metric which doesn't factor in the timing of cash flows. For projects with a longer time horizon, IRR is a more appropriate approach to understanding returns.

NPV – We have calculated the NPV from the perspective of LBE as negative £3.9m based using a discount rate of 5.57%. This falls significantly short of the target NPV of Nil for General Fund projects.

Payback – We have calculated payback as occurring when the project cumulative net returns equal to zero – this occurs in year 41, or between 20 and 21 years from project inception. This is in line with LBE's hurdle rates.

At present, this investment underperforms from the perspective IRR, and NPV. The overall ROI significantly outperforms the hurdle rate and the payback is in line with expectations.

Figure 18: DIFF Assessment

	Units	Actual	Target	Variance
DIFF				
IRR	%	3.71	8.00	(4.29)
ROI	%	50.17	3.50	46.67
NPV	(£'000)	(3,943)	0	(3,943)
Payback	years	21	20	(1)



Debt Profile

We have modelled the impact of the proposed investment on LBE's wider debt profile and note that even with the additional investment Enfield retains headroom from its debt threshold of £2bn, albeit it comes close to breaching the threshold in 2028

The Council's existing debt profile accounts for a £32m investment in Energetik over the course of two years (2022/23 - 2023/24). Although the impact of the transaction the cumulative overall position is negligible – we can see in the chart below that the investments make up 7 and 9% of the annual totals, respectively, therefore not insignificant.

For the purposes of debt modelling we have assumed all new debt taken in the 15 year forecast is repayable in equal instalments over a 30 year period beginning in year one of each drawdown.





Annual debt impact

Although compared to total projected debts, the investment in Energetik may seem insignificant, when analysed as a proportion of the Council's total borrowing, we can from the adjacent chart that it makes up between 1.32% and 13.08% of LBE's annual borrowing between 2021 and 2024.

Chart 8 – Assessment of funding as a proportion of total debt



Section 4

Options Overview



Overview

Future Options

In order to further build out the capacity and capability of the Heat Networks across the LBE, the Council must determine what it's preferred path is with regard to its future relationship with Energetik. The path that it ultimately chooses will not only determine the future sustainability of the Heat Networks, but also the on-going resilience of Energetik and the company's ability to position itself for future growth and commercial value. Further, decisions taken regarding the funding of and investment into Energetik will influence the options that are available to the Council going forward. As can be seen from the diagram below, the spectrum of options ranges from continuing to operate the network as it is, to transforming the current arrangements and considering a full disposal.

In the following pages, we provide high level assessment of the advantages and disadvantages of these options, helping the Council to prepare for a decision that may require consideration towards enhancing and optimising the value of the company.



Level of intervention





Key Implications

The table below describes the details of each of the proposed strategic options along with their key implications.

Figure 19: Strategic options

Strategic option	Details	Advantages	Disadvantages	Level of investment	Level of Council control
Option 1 Status quo	The LBE continues to provide Energetik with financial resources in order to maintain control over the Heat Network. The current arrangements remain consistent.	+ By maintaining the status quo, LBE will retain full control of the company and can ensure that the public benefits that the network provides continues to be produced.	 The status quo limit's Energetik's strategic ambitions and reduces future growth. Energetik may not have the corporate capability in order to maintain and grow the network in the future. The status quo limits opportunities for change and to resolve any suboptimal business practices. 		
Option 2 Collaboration/ expansion with other LAs	The LBE collaborates with other Heat Networks and Local Authorities through a strategic alliance in order to experience economies of scale in the operation of its network. The delivery of the services and future financial and commercial arrangements will be negotiated between the parties.	 + Partnering with another Local Authority or commercial entity will allow Energetik to operate at economies of scale and will ensure that it has the corporate capability to continue to grow. + Depending on the agreed commercial arrangements, LBE will still have significant level of strategic control and accountability. 	 There is a risk that the LBE's strategic alignment does match that of the new partners. The level of interest from suitable partners is unknown. A comprehensive engagement and negotiation process will be required before any collaboration can take place. This option may result in limited financial investment that will hinder strategic growth. 		
Option 3 Transform existing relationship	The LBE explores opportunities for enhancing the existing relationship with Energetic, through the enhanced business practices and operational improvements.	 Transforming the existing relationship will allow LBE to retain full control of the company and ensures continued public benefit, while also enhancing any suboptimal aspects of the arrangement. It will also allow the LBE to explore the effectiveness of the existing relationship and seek to implement improvements. 	 The option may not resolve Energetik's ambition for strategic growth and may not unlock the financial investment needed to grow the network. The option may involve reviewing the governance and managerial oversight of the business. 		





Key Implications

The table below describes the details of each of the proposed strategic options along with their key implications.

Figure 20: Strategic options (cont'd)

Strategic option	Details	Advantages	Disadvantages	Level of investment	Level of Council control
Option 4 Refinance/ restructure existing debt	The LBE assists Energetik in refinancing or restructuring its existing debt in order to obtain more attractive commercial rates given its increased asset base and consumer book.	 + Refinancing the debt that LBE originally put into Energetik at more favourable rates may allow Energetik to reduce its interest payments. + This may improve the free cash flow available to support investment decisions. 	 A restructure may reduce the profitability of the partnership from LBE's perspective as they are no longer earning an interest rate premium. Detailed market soundings is required to understand the potential market interest in any debt restructure. 		
Option 5 Partial sale/ JV	The LBE sells part of Energetik to another energy provider or commercial entity in order to recoup part of its initial investment in exchange for reduced control over its strategic outlook.	 + The sale of partial ownership to another entity may improve the Council's overall financial position as it realises its investment. + The partial sale will ensure the LBE still retains an element of strategic control. + Partnership provides a significant opportunity to bring in a partner who can provide both capital and expertise to maximise the potential of Energetik. 	 It will likely reduce the control that the Council has over the Heat Network and the public benefits that are associated with it. Further analysis would need to be undertaken to understand the remaining operating finances, including the level of fixed overheads remaining in the business. 		
Option 6 Full sale/ disposal	The LBE sells Energetik in its entirety to another energy provider or commercial entity. The sale of the business could take different forms, but this assumes the sale of the full business.	+ When considering whether to sell off Energetik in its entirety, it is important for the LBE to weigh up the initial financial benefit realised from the sale of the Network against the longer term financial benefits that it provides as well as the strategic aspect of the scheme.	 Timing will be key to ensure that the Council can maximise value, which may not be achievable in the short term. There is a risk that the new commercial owner may be solely profit-oriented, thereby increasing the LBE residents' exposure to future price increases. May cause reputational issues for LBE if perceived as going against its intentions to provide low cost energy Detailed market sounding exercises will be required to understand the market interest. Interest may be depressed because of current COVID-19 issues and broader uncertainty over the economic outlook. 		



Options Appraisal – Proposed Focus

Options appraisal process

Following the identification of the short list of strategic option, a detailed options appraisal should be undertaken to select a preferred options. This process could involve the following activities:

- 1. Reflect on the Council's views and aspirations.
- 2. Identify key evaluation criteria that link back to the Council's aims and objectives for Energetic.
- 3. Identify the long list of available options, ensuring there is a common understanding of the proposals.
- 4. Evaluate and assess each option.
- 5. Develop a short list of options.
- 6. Consider timing implications.
- 7. Identify the keys risks and issues with each.

Potential optional appraisal criteria:

- Strategic alignment: does it align with the Council's overall medium and long term strategic plan?
- **Economic outlook:** does it correctly take into account the future economic outlook of LBE and its affect on the Council's ability to support Energetik?
- ► **Financial considerations:** is the investment/divestment financially viable over the medium and long term and how does it affect LBE's debt profile?
- Control: does the immediate financial benefit outweigh the Council's loss of control over the heat network and the associated public benefits that it provides?
- Value enhancement: to what degree does an option depend on value enhancement prior to implementing.
- **Corporate capacity/capability:** does it provide Energetik with the corporate capacity and capability to ensure future operations and growth?
- Risk: does it bring unnecessarily high levels of risk and are there appropriate procedures in place to help mitigate against these?

Market engagement

A key next step in exploring the viability of the short listed options is to undertake a market sounding exercise. This will help to explore the validity of the options and provide clarity on the likely commercial terms. The exercise is also critical for stimulating market interest and presenting an attractive investment proposal, as well as determining the Council's potential exit readiness strategy. The exercise should consider the following:

- Crafting a proposition that meets the LBE's objectives and attracts interest. This should reflect the strengths of the existing business model and clearly articulate the challenges needed by the business and the need for capital investment.
- Stimulating interest in an wide range of market participants. Due to the undefined nature of the options, a range of participants should be consulted. This should range from other local authority providers, private sector participants and debt and equity providers.
- 3. Explore a wide range of potential funding partners to help shape the investment proposition. These discussions are critical to understand what investors "red lines" are and clarify what investment appetite looks like.

Potential questions to put to the market

- What level of control that will be attractive to the market?
- What type of investment (debt/equity) is most attractive to the market?
 - What potential shareholding levels and voting rights are attractive?