



Thameswey Central Milton Keynes Limited
Business Plan covering the period 2020-2023

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1. Introduction

- 1.1 This business plan sets out the proposed priorities for Thameswey Central Milton Keynes Ltd (TCMK) to deliver the Thameswey Group companies' activities for the period up to 2023. The business plan ensures that the focus of activity within this company is clearly aligned with those of Thameswey Limited, and ultimately with Woking Borough Council's strategic objectives for the Thameswey Group.
- 1.2 The plan refreshes the 2019 to 2022 business plan (approved by Council in December 2018). It identifies the business opportunities and priorities for investment in the near future, including the main capital projects that will require investment to enable Thameswey Central Milton Keynes Ltd (TCMK) to deliver its objectives for the Council.

2. Executive Summary

- 2.1 Following a period of slow growth in central Milton Keynes, this Business Plan coincides with the emergence of several major new development proposals in close proximity to TCMK's assets. These present realistic opportunities for significant expansion of TCMK's business by connecting its energy supply networks to major new customers. Ultimately, if all the planned developments proceed and connect to TCMK's energy networks, their combined additional demand is estimated to be broadly equivalent to existing total demand.
- 2.2 This Business Plan focuses on ensuring TCMK is well positioned to capitalise on the opportunities for expansion as they come forward the key points are:
 - Government support for the district heat industry is growing, alongside setting higher standards for operators of heat networks with the prospect of the heat supply market becoming regulated (similar to the electricity and gas markets)
 - There are strong signs of a new period of major development in central Milton Keynes and the number of enquiries received from developers seeking to connect to TCMK's networks has risen significantly
 - TCMK needs to ensure it can capitalise on the opportunities that are now emerging and has a well-established operational basis on which to build in order to realise the potential for major growth
 - Capital expenditure will be required in order to connect new developments, through a combination of connection fees charged to developers and direct investment by TCMK. Where this meets the qualifying criteria, financial support will be sought from the government's Heat Networks Investment Project
 - Alongside a focus on growth through new customer acquisition, TCMK must ensure it maintains the highest standards of operational quality and reliability. This requires continued investment in plant maintenance and its staff resource.

3. Company Overview

Business Purpose

3.1 TCMK was established by TEL to provide a long-term strategy for infrastructure investment for its operations in Milton Keynes, with the objective of securing reductions in carbon dioxide (CO₂) equivalent emissions and generating investment returns through sales of energy it has generated by use of Combined Heat and Power (CHP). This is achieved through its embedded generation facilities at the energy station in Central Milton Keynes and heat and electricity distribution networks. All customer services, billing and revenue collection is provided in parallel with the Thameswey Energy Ltd services from Woking.

Financial Requirements

3.2 The nature of the Council's investment in TCMK is long-term. It is an established business that has an underlying sound foundation with a good customer base and considerable opportunity for growth. The plan covers the financial period 2020 to 2023 in detail as this can be accurately predicted.

3.3 The business is financed by way of loans and share capital. In establishing TCMK the intention was to maintain a share capital to loan ratio of 20% share capital finance to 80% loan finance (at 7.0% interest per annum). The authorised share capital was originally set at £5m with anticipated loans of £25m. In 2010 WBC Executive agreed that all new financing for TCMK would be via loans at 6.0% annual interest with the share capital investment remaining at £1.11m; this was to be reviewed annually. Providing loan finance to TCMK is more attractive to the Council as it charges a margin on the interest rate.

Company Ownership and Governance

3.4 Thameswey Central Milton Keynes Ltd is a private Limited Company registered in the United Kingdom and is a 100% subsidiary of Thameswey Energy Ltd. Thameswey Energy Limited is a 100% subsidiary of Thameswey Limited, which is the holding company of the Thameswey Group, which is in turn solely owned by Woking Borough Council.

3.5 The current board of Directors is set out below:

- William Prescott - Independent Director (Chairman)
- Barry Maunders - Independent Director
- Peter Bryant – Officer Director
- Douglas Spinks – Officer Director
- Ayesha Azad – Councillor Director

3.6 The board composition meets the requirements of the Thameswey Group Protocols as approved by the Council in February 2018. In order to be quorate a board meeting must have at least one independent, one Councillor and one officer Director in attendance.

Significant Assets

3.7 The primary assets within TCMK's central energy station (ES1) comprise two gas-fired 3.0 MWe Combined Heat & Power (CHP) engines, a 10 MW back-up gas boiler, three thermal stores and ancillary equipment. Energy is supplied to customers via an energy distribution network in Central Milton Keynes through approximately 6 km of heat distribution pipes, 10 network substations, 15 network 11/0.4kV 1000kVA electricity transformers and 2 CHP local transformers. It also owns over 900 heat interface units and the electricity and heat meters for all connected customers.

- 3.8 ES1 and its associated distribution system in Central Milton Keynes provides TCMK with a strong asset and operational base and considerable opportunity for growth and will continue to be developed to meet the needs of new customers as they connect.

Current Business Position

- 3.9 TCMK currently supplies over 950 residential and commercial customers located on four main development sites in central Milton Keynes
- 3.10 In 2018 turnover from sales of energy was £3,758,603. This compares with turnover of £3,279,010 in 2017. Revenue in 2018 was significantly higher than the previous year due to higher underlying energy sales to a major corporate customer due to failure of their infrastructure. TCMK's retail energy sales have, in common with all energy suppliers, experienced some volatility during the year as a result of weak wholesale markets in the first half of the year followed by significant rises in markets during the second half. Current sales are broadly split 20% residential customer consumption and 80% business customer consumption.

Major achievements since the last business plan

- 3.11 During 2018 TCMK supplied over 18,000 MWh of heat and nearly 19,900 MWh of electricity. The production and sale of low carbon energy by TCMK saved the equivalent of 1,808 tonnes of carbon dioxide (CO₂) equivalent emissions (as compared to the emissions emitted in the production of an equivalent amount of grid energy)

4. Industry Outlook and Business Opportunity

Industry Outlook

- 4.1 Government support for the growth in decentralised energy is continuing with the roll out of the financial support for heat networks (Heat Networks Investment Project or 'HNIP'). The scheme opened to applicants in 2019 and will run until March 2022.
- 4.2 Industry support is continuing to grow for development of lower temperature, lower loss systems with greater use of 'smart' technology to provide performance feedback between a network and individual customer installations. Opportunities are expected to arise for partnering with technology firms developing new systems to support 'next generation' heat networks and Thameswey will seek to engage with such opportunities where appropriate.
- 4.3 The drive towards higher efficiency heat networks corresponds with changes proposed by Government in the Standard Assessment Procedure (SAP) methodology for energy compliance assessment for new developments as part of the Building Regulations. The introduction of a new SAP methodology is expected to set higher standards for performance of district heat networks, with lower efficiency systems penalised in comparison to conventional 'grid energy' systems. This lends importance to the drive towards higher efficiencies within existing networks.
- 4.4 Government has announced its intention to introduce regulation to the UK heat market to provide greater protection for consumers against badly designed or operated systems. There is currently no fixed timetable for regulation, but the industry is taking steps to voluntarily align operators with the mandatory standards that are anticipated. These include setting up the Heat Trust as a customer-facing intermediary (which TCMK is seeking to join) and the establishment of a new Heat Network Compliance Scheme to provide independent certification in respect of the quality of design, operation and maintenance of heat networks (i.e. a 'kitemark' for heat networks).

- 4.5 The regulatory position for supply of electricity and heat is still an issue which will affect Thameswey during the course of this business plan period. Both TCMK and TEL will potentially need to look at how they structure the legal ownership of their assets to comply with their current license exempt status should their proposed generation, transmission and supply plans come to fruition.

Business Opportunities

- 4.6 TCMK's main prospects for growth arise from new developments and the refurbishment of existing stock within the western half of central Milton Keynes where ES1 and the energy networks are located. However, until recently, there have been few major developments within the vicinity and there was little evidence of recovery in development values.
- 4.7 Milton Keynes Council has established its own regeneration vehicle (Milton Keynes Development Partnership) and has been actively promoting sites for residential, commercial and other uses.
- 4.8 There is now good evidence of a recovery in development in central Milton Keynes. During 2019, TCMK was requested by two developers to provide feasibility assessments for connecting to major commercial/mixed use schemes, both in close proximity to the TCMK's distribution networks. Feasibility studies have been carried out and commercial offers made to supply both schemes. A further enquiry has been received in relation to an existing leisure facility which is located in close proximity to ES1 and has expressed an interest in connecting to TCMKs' heat network.
- 4.9 An initial enquiry was received in Q1 2019 in relation to supplying the first phase of a proposed new university campus. The scheme is a flagship development for Milton Keynes Council in conjunction with Cranfield University. The 10-hectare site lies adjacent to TCMK's main heat distribution spine in Avebury Boulevard and the initial phase falls within the area of the Project Development Agreement. A design competition for the university campus masterplan was launched in 2019, with the ambition of being open to the first students by 2023.
- 4.10 Development sites adjacent to ES1 were granted consent in 2019 for a residential-led mixed use scheme and a new hotel on adjoining land. Both sites are subject legal obligations to connect to ES1 and, subject to agreeing commercial terms, connection is anticipated during the business plan period.

5. Investment Strategy

- 5.1 The investment strategy for TCMK is focused on enabling growth in the sale of energy through investment in new energy distribution infrastructure (district heat pipes, electricity distribution network and control communications) to supply new customers.
- 5.2 Investment in new connections to the network would be required to target an acceptable shareholder return on investment and may require additional loan finance from WBC or appropriate support in respect of any third-party finance. Any requirement for WBC support and any projects requiring TCMK to make a large capital investment outside this business plan would be subject to WBC approval.
- 5.3 In addition to new distribution infrastructure, TCMK will invest in plant replacement of assets as they reach the end of their operational life in order to maintain reliable energy supplies to its customers. As part of its plant replacement strategy, opportunities will be taken to adopt lower carbon technologies in order to continue to offer an environmental benefit to existing and prospective customers.

6. The Business Model

Assumptions and Critical Factors in the Model

- 6.1 TCMK has a financial model which has been used to make the financial projections in the Business Plan (Appendices 2 to 4). The model is updated to reflect the previous year's activity and any updates on market and new connection forecasts. The model also considers the engine running strategies and capacity of the engines.
- 6.2 The model assumes that fuel price inflation and retail price index inflation will run at 2.0% per annum for the business plan period. In practice short term inflation rates will vary. Increased inflation will provide an improvement in energy prices charged to commercial customers as these are based on a combination of the national gas price index and inflation.

Sources of Revenue

- 6.3 The main sources of revenue for TCMK are from sales of energy to the customers of Energy Station 1. Energy is currently supplied to four major developments within the Central Milton Keynes, with 'surplus' electricity supplied to the grid at times when it is economically advantageous to export power to the grid.
- 6.4 TCMK earns additional revenue through participation in national grid Demand Side Management (DSM) services. The market for DSM is steadily evolving, with new schemes such as Capacity Market replacing established DSM opportunities such as triad. TCMK uses its 'spare' generating capacity to participate in DSM services, and will continue to actively pursue these opportunities as they arise.

Major Operational Costs

- 6.5 The purchase of gas and imported electricity comprise approximately 73% of direct costs. Following a period of volatility in primary energy costs during 2018, greater stability in prices returned in 2019. Whilst commodity prices for primary energy tend to be cyclical, the non-commodity prices have steadily risen due to 'green' taxes and surcharges for infrastructure and capacity reinforcement. However, as TCMK's supply contracts for commercial customers link the energy tariffs charged to customers using a formula based on RPI and the UK natural gas price index this has negatively impacted on revenues from energy sales. Whilst this pricing formula provides TCMK's business model with some protection against volatility in wholesale energy prices, the net effect of falling wholesale energy prices is adverse for TCMK.
- 6.6 During 2019 TCMK's gas and electricity import contracts were tendered and new suppliers appointed for the electricity contract who supply a 100% renewable power at no additional cost. The appointed gas supplier provides the facility to purchase renewable gas certificates at additional cost.
- 6.7 Plant maintenance costs contribute a significant share of overall operational costs. These are controlled by careful forward planning of major service intervals and planned maintenance activities.

Operational Plan

- 6.8 A well-established operational and maintenance plan ensures TCMK achieves high levels of operational reliability. Independent energy management consultants are retained to assist in improving and optimising use of the CHP engines and minimise running costs. This involves balancing the hours that the engines are run and the output level that the engines are running at with customer demands for heat and grid electricity import/export prices. In addition, the impact of different running patterns on asset life and operating costs are considered. Engine running

strategies are regularly reviewed throughout the year to optimise asset operation. Monthly performance monitoring of a number of operational factors is used to inform adjustment of operating strategies.

- 6.9 Operational procedures are being aligned with emerging industry-wide standards for district heat networks and heat customer codes of service. During 2019 a contingency and service continuity plan was adopted to ensure rapid and effective emergency response procedures are in place, and will be regularly reviewed as new customer connections are made.
- 6.10 The engineering support team based in Milton Keynes will be strengthened during the Business Plan period by the addition of a junior engineer/mechanical fitter to provide additional general support and maintain resilience for out-of-hours call out as the customer base grows.

Capital investment

- 6.11 Further connections to Energy Station 1 distribution network are expected during the Business Plan period as new buildings are constructed in central Milton Keynes. Applications for grant funding from the Government’s Heat Network Investments Project will be made where circumstances meet the qualifying criteria. The total capital investment in new connections is estimated to be £2.5m.

7. Financial Strategy

Finance Structure

- 7.1 TCMK is financed by both share capital and loan finance.
- 7.2 This business plan requests approval of an amended financing profile and additional years of funding facility. An incremental borrowing facility is requested of £3,500,000. In 2020 the borrowing facility has been increased due to timing differences on capital expenditure.
- 7.3 Loans will be spent on capital expenditure and cashflow funding.

Year	Authorised Borrowing Facility in 2019	Expected Profile of Borrowing Facility
2019	£3,200,000	£2,000,000
2020	£2,700,000	£3,200,000
2021	£2,300,000	£3,000,000
2022	£2,500,000	£2,500,000
2023		£3,500,000
TOTAL	£10,700,000	£14,200,000

Shareholder Return on Investment

- 7.4 Benefits to WBC and the community are set out in Appendix 1.

Profit & Loss Account

- 7.5 The budget has been based on historical costs, expected inflation and modelled revenue and costs. TCMK has a good level of confidence in the budget. It should be noted that increases in the gas

price index lead to increases in the prices charged to commercial customers with prices calculated on a monthly basis, this helps to reduce financial risk to TCMK.

Appendix 1: Benefits to WBC & Community

Description	2018	2019	2020
Net Interest Margin	£916,478	£921,127	£931,301
Carbon dioxide emission savings (tonnes CO ₂ equivalent)	1,808	-	-
New Project Fee levied by TL for investment in Woking based Environmental Projects	£50,000	£20,000	£4,200
Assist WBC in its Climate Change Strategy	✓	✓	✓

