

# **THAMESWEY CENTRAL MILTON KEYNES LIMITED**

## **BUSINESS PLAN 2019 Covering the Period 2019 - 2022**

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## 1. Company Overview

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### Introduction

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- 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 2022.
- 1.2 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.
- 1.3 The Business Plan summarises the activity since the last updated Business Plan and sets out the business opportunities and priorities for the near future.

### Purpose

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- 1.4 TCMK was established by Thameswey Energy Ltd (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 (CO<sub>2</sub>) 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

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- 1.5 The nature of the Council's investment in TCMK is long-term. The established business has an underlying sound foundation with a good customer base and considerable opportunity for growth. The plan covers the financial period 2019 to 2022, in detail as this can be accurately predicted.
- 1.6 TCMK has the use of intellectual property owned by Thameswey Limited (TL) and is obliged to pay an annual licence fee of £10,000. At its discretion TL also charges a project fee for capital work of up to 4% of the value of the works. These fees are used to benefit the residents of the Borough of Woking as TL contributes towards environmental, social and carbon dioxide equivalent emission reduction projects. Further information on the projects that have benefited from these funds is provided in the Thameswey Group business plan.
- 1.7 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.

## Current Business Position

- 1.8 In the calendar year 2017, the company provided to its customers 16,871 MWh of self-generated electricity and 22,084 MW heat and heat for cooling. In 2017 turnover from sales of energy was £3,279,010. This compares with turnover of £2,897,260 in 2016. 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.
- 1.9 The company is currently supplying over 950 residential and commercial customers located on four main development sites in central Milton Keynes.
- 1.10 In recent years the company has developed closer links with Milton Keynes Council (MKC), and assisted MKC's consultants in the production of a detailed evaluation of the potential for expansion of the network in Milton Keynes. A dialogue has also been established with MKC's property development operation, Milton Keynes Development Partnership (MKDP). A number of development sites within central Milton Keynes are currently being marketed by MKDP, and connecting to future development on these sites to TCMK's networks is a key priority for the company.

## Major Achievements since the last business plan

- 1.11 During 2017 the production and sale of low carbon energy by TCMK saved the equivalent of 2,026 tonnes of carbon dioxide (CO<sub>2</sub>) equivalent emissions (as compared to the emissions emitted in the production of an equivalent amount of grid energy).
- 1.12 TCMK has continued its participation in DSR (Demand Side Response) electricity contracts. This has used spare generating capacity within the energy station to provide additional electricity to the local and national grids when peak demand places these under stress. Electricity exported to the grid under DSR has a premium value, as well as earning additional revenue for TCMK in return for making its assets available at short notice to the grid. The company has continued to actively operate its generating assets for triad management and was successful in maximising generating output during all the winter triads of 2017/18 resulting in an additional £146,000 of revenue, as well as significant avoided costs. TCMK has also continued to participate in STOR (Short Term Operating Reserve) and throughout 2018 has participated in a trial with the National Grid to stabilise grid frequency ('Spinning Inertia'). TCMK's participation in this pilot has generated an additional revenue of approximately £40,000.

## Company Ownership & Governance

- 1.13 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.
- 1.14 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

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

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- 1.15 The primary assets within 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. TCMK also owns an energy distribution network in Central Milton Keynes with approximately 6 km of heat distribution pipes, 10 network substations, 15 network 11/0.4kV 1000kVA transformers, and 2 CHP local transformers both 11/0.4kV. It also owns over 900 heat interface units and the electricity and heat meters for all connected customers.
- 1.16 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.
- 1.17 Appendix 1 shows a site plan of Central Milton Keynes with ES1 and current and planned future connections and opportunities.

## 2. Industry Outlook and Business Opportunity

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### Industry Outlook

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- 2.1 The decentralised energy industry is influenced by a number of external factors that include Government and local authority policy, regulatory changes and economic changes. Factors particularly relevant to TCMK's business activities are summarised below.
- 2.2 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 will be open to applicants in January 2019 until March 2022. Further guidance, including the qualifying criteria, is expected before the end of 2018.
- 2.3 The effects of Brexit (both positive and negative) will continue to impact on the industry. A heavy reliance on parts and equipment supplied by manufacturers based in continental Europe may impact on costs and charges. Where possible, UK-sourced components and equipment is now being used to reduce exposure to future price uncertainties.
- 2.4 The introduction of a Government cap on standard variable and default energy tariffs will take effect from the end of 2018 until 2020. As TCMK's domestic electricity tariffs are currently adjusted in the first quarter of each year and benchmarked against a sample of suppliers' standard variable tariffs, the impact of this cap has yet to be observed. If, as expected, suppliers start to phase out standard variable tariffs, TCMK's may need to adjust its price setting mechanism.
- 2.5 National Grid is to reduce its payments to small 'embedded generators' for exported power generated during winter triads. These will impact on the payments received by Thameswey. However, the introduction of 'capacity market' payments is intended to help offset the loss of triad income and TCMK has qualified for inclusion in this market.

- 2.6 There is significant growth in development of power storage technologies and new markets are emerging to support the electricity grid and local networks through fast-response reserve power. This sector is expected to continue to expand as growth in scale and competition among suppliers brings down the capital costs.
- 2.7 Industry support is growing for a drive towards lower temperature, lower loss systems with greater use of 'smart' technology to provide performance feedback between a network and individual customer installations. These are often described as Third (or Fourth) Generation systems and offer a number of potential advantages including greater overall efficiency and integration of alternative heat generating technologies such as heat pumps.

### The Business Opportunity

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- 2.8 New connection prospects for TCMK on sites near the energy centre include Palmer Capital's proposal for a residential block on land at Aubrey Place. A residential-led mixed use scheme proposed by Palmer is subject to a legal obligation to connect to the network, and the developer intends to make a planning application for the scheme before the end of 2018. Planning consent for a new hotel on adjoining land ('Building 1200') is expected to be taken forward for development in 2019. Milton Keynes Council and its development arm (MKDP) are in discussions with an overseas funder for a new university to be located on the B4 land in central Milton Keynes. This may result in early stage infrastructure being provided within the next Business Plan period.
- 2.9 Going forward TCMK will need to investigate lowering the carbon footprint of its supplied heat and power. This may involve purchasing renewable power and biogas, and installation of lower carbon technologies such as heat pumps and batteries. There is significant growth in deployment of battery technologies and new markets to support the electricity grid and local networks through fast-response reserve power. This sector is expected to continue to expand as a growth in scale and competition among suppliers brings down the capital costs. The business opportunities for 'behind the meter' batteries are being explored with suppliers.
- 2.10 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.
- 2.11 The emergence of niche or local licensed energy suppliers and independent distribution network operators (IDNOs) presents an opportunity for Thameswey to enter a growing market that challenges the large utility companies. This may offer Thameswey opportunities to manage regulatory risks as it grows the number of directly supplied customers, whilst also expanding its customer base beyond those physically connected to its networks. Further exploration of this business model will be carried out during the Business Plan period to understand the potential benefits and risks of this approach to business expansion.

### 3. The Business Model

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#### Sources of Revenue

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- 3.1 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 area.
- 3.2 There are three main routes for TCMK to grow its revenue:
- Increases in charges for energy sales
  - Increased volumes of energy sold to customers
  - Additional sources of income through participation in DSM/grid services
- 3.3 The tariff structure for energy sold and mechanism for price adjustment by TCMK is defined in its contracts and is index linked to wholesale energy market prices. Therefore, the company has limited opportunity to influence this without changing its contractual obligations. The greatest opportunities to actively seek growth in revenue are through new customer acquisition and further participation in Demand Side Management (DSM) activities.
- 3.4 Additional revenue can be earned through DSM services, and new opportunities emerging for companies such as TCMK that have generating assets available at short notice to respond to peaks in grid supply demand. TCMK will continue to actively pursue these opportunities as they arise

#### Major Operational Costs

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- 3.5 The purchase of gas and imported electricity comprise approximately 73% of direct costs. Following a period of relative stability in primary energy costs during 2017, greater volatility in prices returned in 2018. 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.
- 3.6 During 2017 variable plant maintenance costs were £275,536 approximately 16% lower than in 2016.

#### Operational Plan

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- 3.7 TCMK is working closely with TMSL and independent energy management consultants to improve and optimise operation of the engines and reduce 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. These include the proportion of heat generated by engines and boiler; customer heat and power demand; net import and export of power; thermal and electrical efficiency of engines; and heat dumped.

- 3.8 TCMK and TMSL are also working together to schedule the major services for the engines and reduce down time during peak periods. During 2017 and 2018 major services were carried out on both engines at TCMK and no further major services are anticipated during the Business Plan period.
- 3.9 During the Business Plan period TCMK intends to obtain membership of the Heat Trust which will require the adoption of new and enhanced customer care practices and operating procedures. These will be monitored by the Heat Trust through its twice-yearly reporting requirements and member audits. Although not obligatory this membership will address the recommendation of the recent Competition and Markets Authority report into heat networks.

## Capital Investment

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- 3.10 Further connections to Energy Station 1 distribution network are expected during the Business Plan period as new buildings are constructed in central Milton Keynes. The total capital investment in new connections is estimated to be £2.5m.

## Assumptions and Critical Factors in Model

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- 3.11 TCMK has a financial model which has been used to make the financial projections in the Business Plan (shown in Appendix 3 to 5). 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.
- 3.12 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.

## 4. Financial Plan

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### Finance Structure

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- 4.1 TCMK is financed by both share capital and loan finance.
- 4.2 This business plan requests approval of an amended financing profile and additional years of funding facility. An incremental borrowing facility is requested of £7,500,000.
- 4.3 Funding will be spent on capital expenditure and cashflow funding.



Year	Authorised Borrowing in 2015	Expected Profile of Borrowing Facility
2018	£3,200,000	£2,750,000
2019	£3,200,000	£2,700,000
2020		£2,700,000
2021		£2,300,000
2022		£2,500,000
<b>TOTAL</b>	<b>£6,400,000</b>	<b>£12,950,000</b>

## Shareholder Return on Investment

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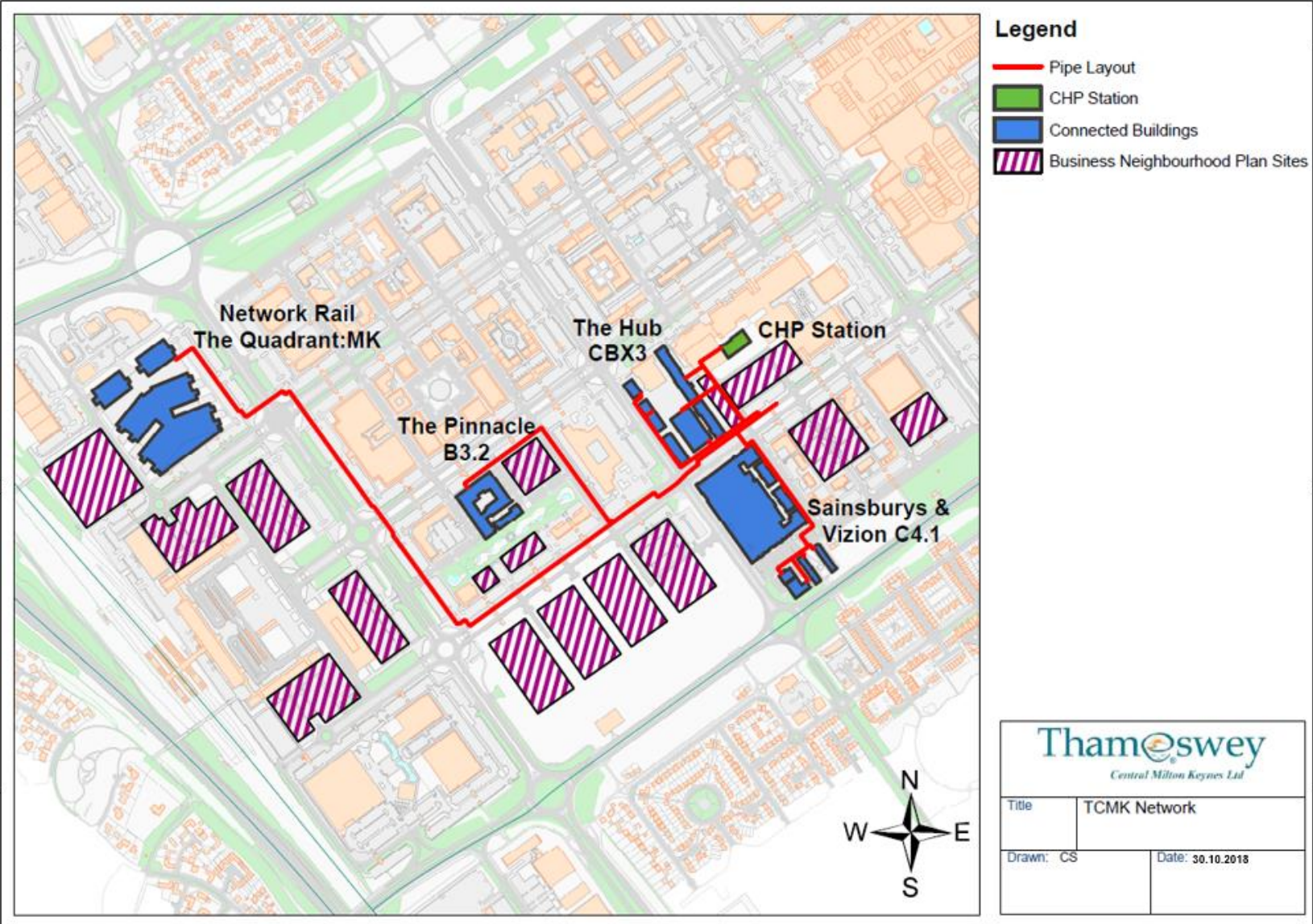
4.4 Other benefits to WBC and the community are set out in Appendix 2.

## Profit & Loss Account

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- 4.5 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.
- 4.6 Customer Service costs relating to staff support have been consolidated into administration charges since 2017.

Appendix 1: Site Plan showing Current and Potential Future Connections in Central Milton Keynes



## Appendix 2: Benefits to WBC

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<b>Description</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Net Interest Margin	£870,597	£952,090	£933,745
Carbon Dioxide Emission Savings (tonnes)	2,026	TBC	TBC
Capital Project Fees to TL for investment in energy and environmental projects in the borough	£50,000	£20,000	TBC
Assist WBC in its Climate Change Strategy			

