



Constructing a base case district heating model

Andrew Wilkinson

Partner

All-Energy – May 2023

Introduction



Andrew Wilkinson

Partner

andrew.wilkinson@qmpf.co.uk

The information contained in this document is strictly confidential and is intended for the addressee(s) only. If you have received this document in error or there are any problems, please notify the originator immediately. The unauthorised use, disclosure, copying or alteration of this document is strictly forbidden. QMPF will not be liable for any direct, special, indirect or consequential damages, losses or expenses arising from the unauthorised use, disclosure, copying or alteration of the contents of this document by a third party.

This document is for information purposes only and does not constitute an offer or solicitation to any person in any jurisdiction to purchase or sell any investment. The information contained in this document should not be construed as providing financial, investment or other professional advice. QMPF's opinion may be materially altered by several factors including a detailed analysis of the underlying trading of the businesses, overhead cost analysis and by market conditions. To find out more about QMPF, visit our web site at www.qmpf.co.uk

QMPF is authorised and regulated by the Financial Conduct Authority.

About QMPF

Background

- Corporate finance advisory business – specialising in energy and infrastructure sectors.
- 16 staff providing cross-sector services.
- FCA authorised and regulated.

Our Sectors



Energy and Renewables



Education



Infrastructure



Real Estate and Social Housing

Examples of recent experience in district heating projects

- Financial advice directly to several **Local Authorities** and other **public bodies** to support the team in developing **district heating business cases**.
- Advised on **LCITP, GHNF and HNF** applications for several different district heating projects.
- Advice to private sector investors on **acquisition and expansion of operational district heating projects**.
- Advice to Universities on their **Net Zero transitions**, including the decarbonisation of heat provision.

Project development and use of models

Technical / project options

Commercial / financial structuring



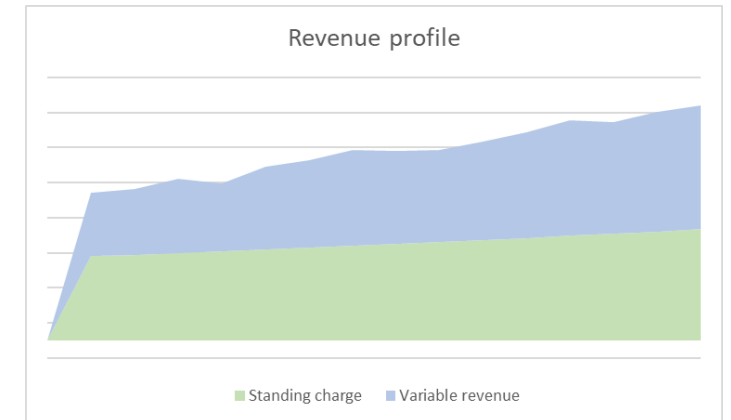
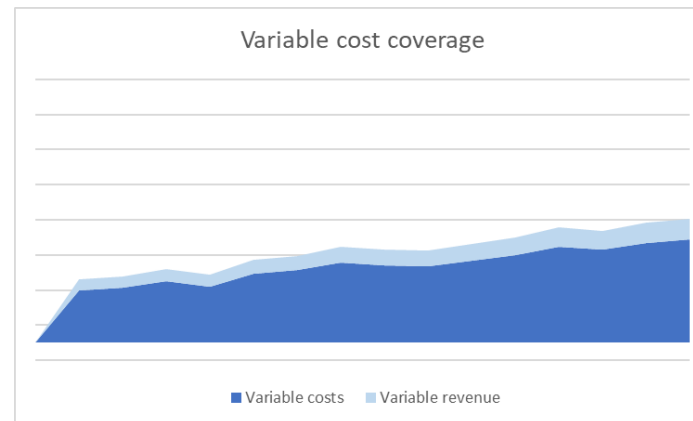
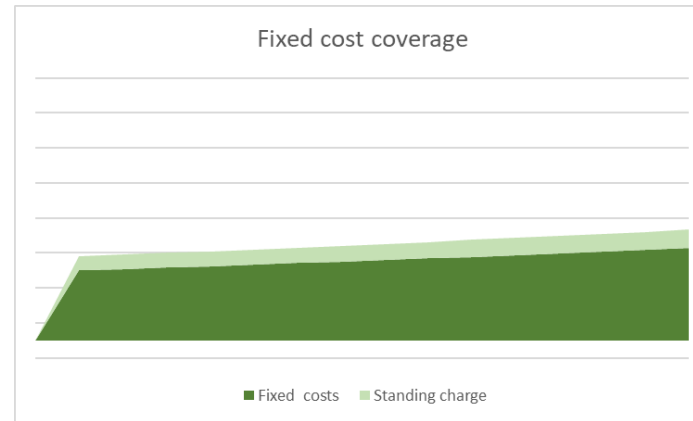
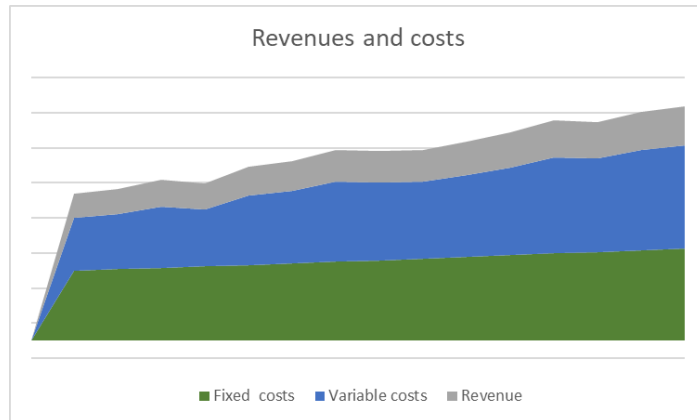
Techno-economic model

- Assess **technical options** to select optimal solution
- Focussed on **technical assumptions**
- Usually based on real, pre-tax **project cash flows**

Financial model

- Model **selected technical solution** to optimise structuring
- Builds in **economic assumptions**, e.g. inflation, business rates, interest rates.
- Builds in a **capital structure**, including tax where appropriate.

Financial model moving parts – heat tariffs



Financial model moving parts – connection fees

Methodology for calculation / allocation

Methodology	Pros	Cons
Avoided costs	<ul style="list-style-type: none"> • Easy to demonstrate saving to offtakers • Potentially easier to socialise shared capex 	<ul style="list-style-type: none"> • Difficult to assess? • Might not fully cover capex
Capex	<ul style="list-style-type: none"> • Cost coverage for network • Potentially easier to assess 	<ul style="list-style-type: none"> • Treatment of shared capex? • Difficult to coordinate?

Own funds

3rd party funds

Debt

Mezzanine

Equity

Return expectations

← Lower

Higher →

Security / risk mitigation

← More

Less →

Grant / gap funding (e.g. GHNF, HNF)?

Model development

1. Techno-economic model vs financial model
2. Commercial structuring
3. Sensitivity analysis

Financial model considerations

1. Heat tariffs
2. Connection revenues
3. Assess economics