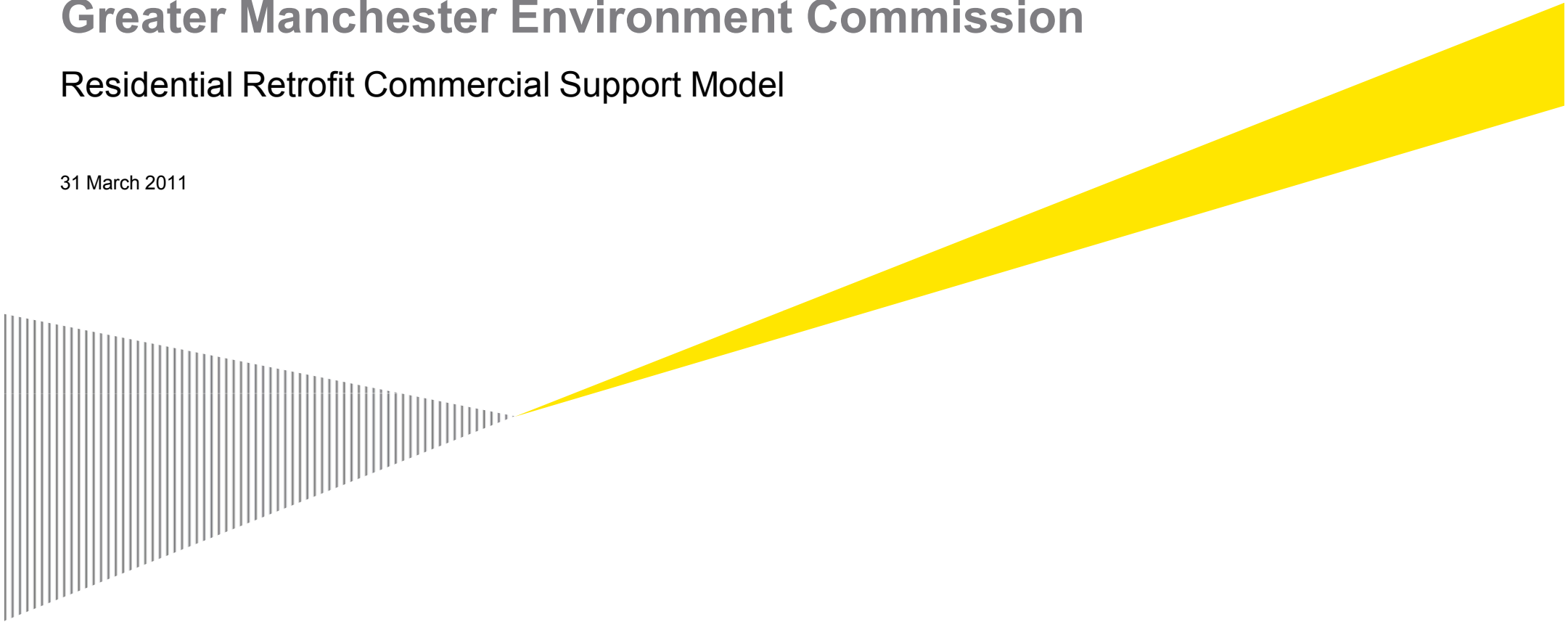


Greater Manchester Environment Commission

Residential Retrofit Commercial Support Model

31 March 2011



Private and confidential

Mike Reardon
Strategic Director
Greater Manchester Environment Commission
Oldham Council
Civic Centre
West Street
Oldham
OL1 1UT

31 March 2011

Dear Mike

**Consultancy Services for the AGMA Low Carbon Capital Project –
Residential Retrofit Commercial Support Model**

In accordance with our contract with Oldham Council dated 17 December 2010, we have prepared this short discussion document to accompany the commercial support model developed to support the assessment of the Greater Manchester residential retrofit opportunities. This main body of this document was discussed at the workshop facilitated by Ernst & Young on Wednesday 23 March 2011.

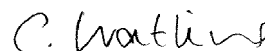
Purpose of our report and restrictions on its use

This discussion document was prepared on the specific instructions of the Greater Manchester Environment Commission to assist in the evaluation of residential retrofit opportunities, and should not be used for any other purpose. In carrying out our work and preparing this paper, we have worked solely on the instructions of the Greater Manchester Environment Commission.

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 discussion document 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.

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Yours sincerely

A handwritten signature in black ink, appearing to read 'C. Watkins'.

Cat Watkins

Assistant Director
Ernst & Young LLP

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Section 1: Commercial Overview

What has been modelled?

29 AGMA social housing schemes

- ▶ 2,403 houses
- ▶ 1,434 flats

Benchmark capex costs - £50.7m

- ▶ Capex costs partly met
 - ▶ CESP - £9.4m
 - ▶ RSL funding - £16.4m
- ▶ Unfunded capex - £24.9m

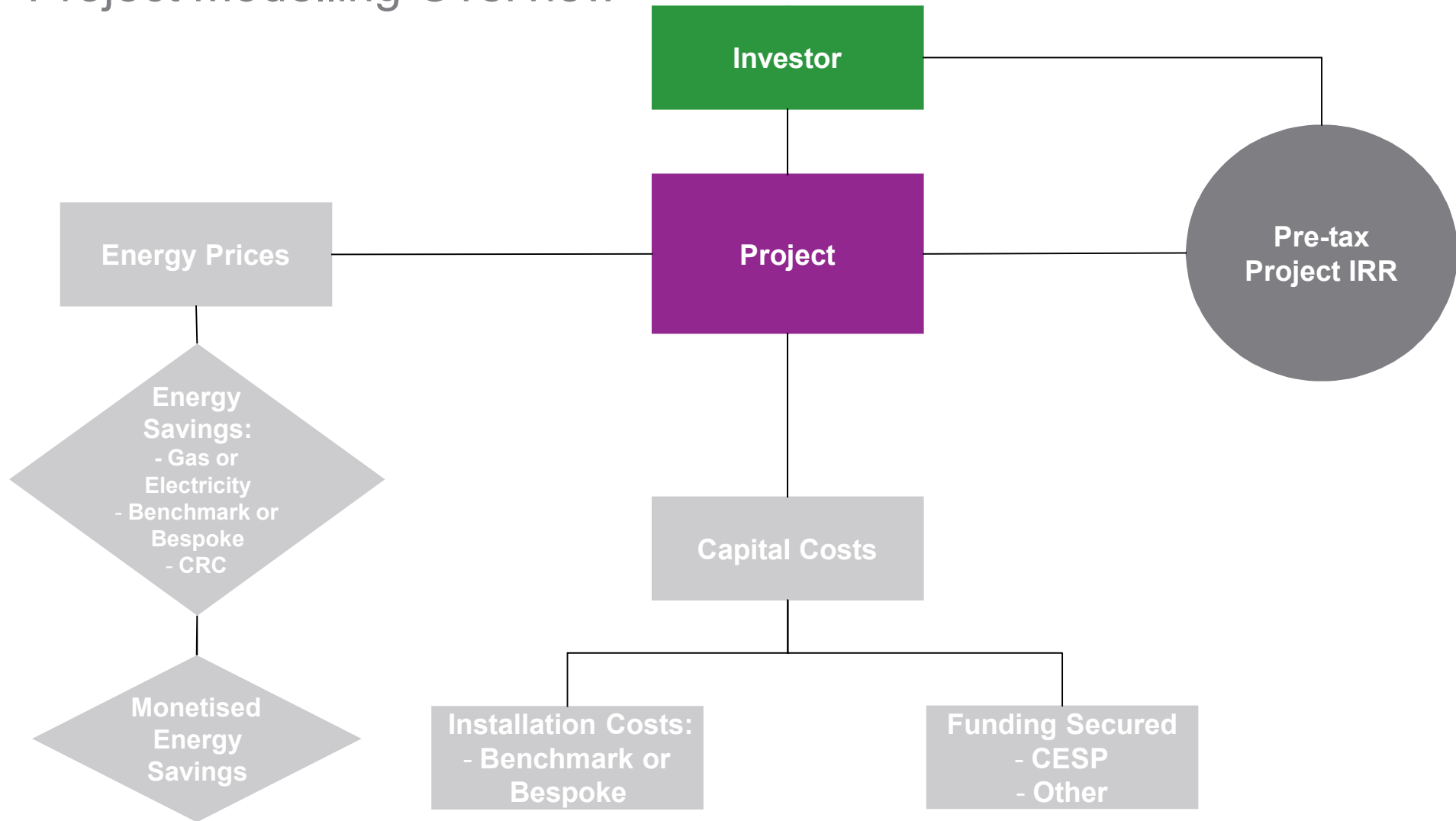
Energy savings – assumed 100% gas

Benchmark annual energy savings per installation

Monetisation of energy savings – assumed 100%

Section 1: Commercial Overview (Continued)

Project Modelling Overview



Section 2: Model Principles

Basic model principles – an introduction

What is a financial model?

- ▶ A financial model is anything that is used to calculate, forecast or estimate financial numbers

- ▶ What are financial models used for?
 - ▶ Analysing **project economics**
 - ▶ Developing **financial plans**
 - ▶ Analysing **risks**
 - ▶ Evaluating **impacts of contractual negotiations**

- ▶ Can form the basis of business case financial and investment decisions

Section 2: Model Principles (Continued)

Model conventions

Basic modelling terminology

Name	Description
Input	<ul style="list-style-type: none">▶ Data which goes in to the model▶ Examples – Key Project Dates, Installation Costs, Unit Cost of Energy
Calculation (or coding or code)	<ul style="list-style-type: none">▶ The workings of the model: how it gets the outputs from the inputs.▶ Examples – Capex by scheme, Energy Savings
Output	<ul style="list-style-type: none">▶ Results which are produced by the model.▶ Examples – Cashflows by Scheme
Summary	<ul style="list-style-type: none">▶ Consolidation of key financial model data (both inputs and outputs) into a single worksheet for ease of reference▶ Examples – Key Project Dates, Capital Value, Project Returns (NPV and IRR)

Section 2: Model Principles (Continued)

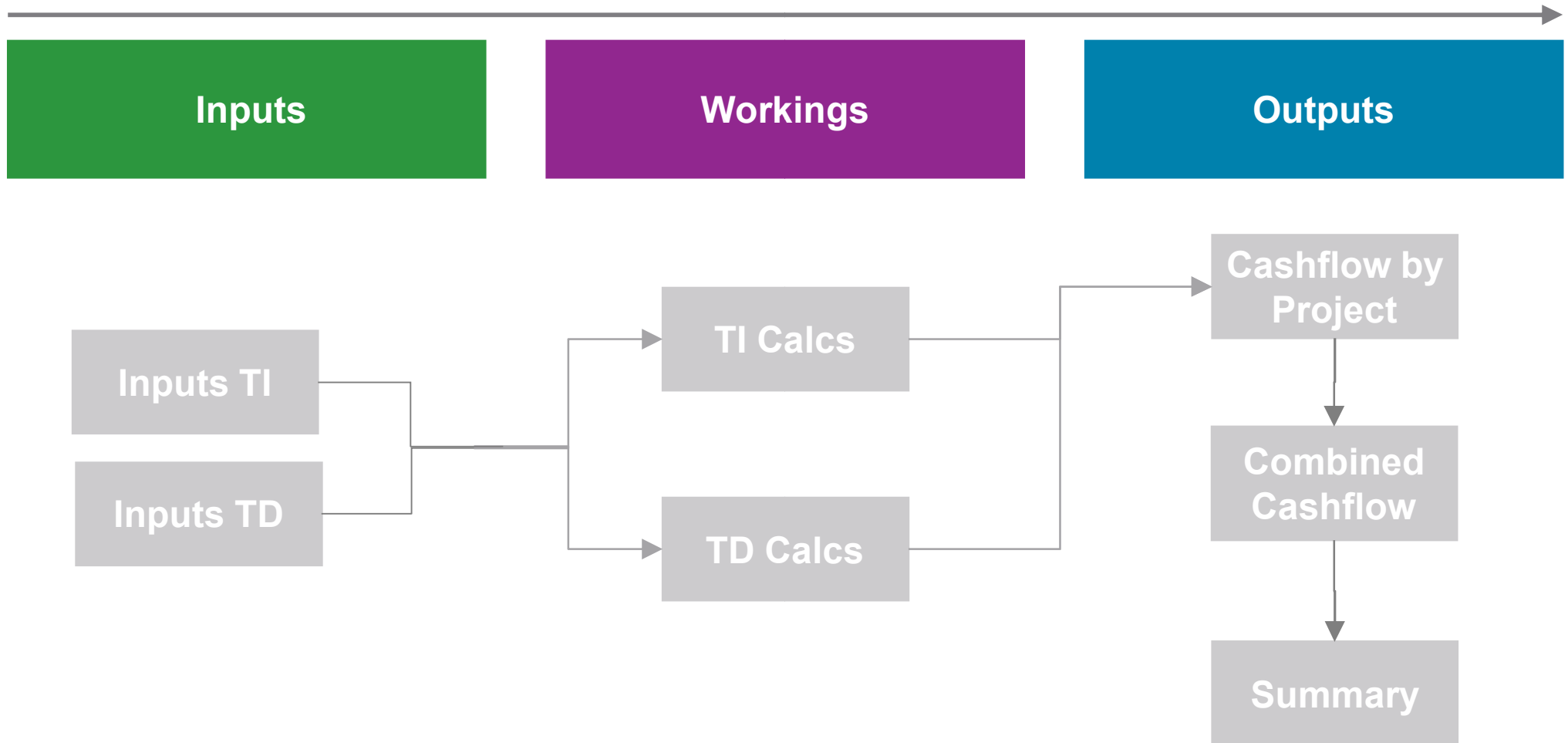
Model conventions (Continued)

Layouts and conventions

Layout	Convention
Input cells	<ul style="list-style-type: none">▶ Require population and scheme specific▶ Highlighted in yellow
Data layout	<ul style="list-style-type: none">▶ Consistent date ranges applied across all sheets
Use of negatives	<ul style="list-style-type: none">▶ Cashflow costs should always be shown as negatives in the statements or wherever there is an outflow of funds▶ Negative numbers are displayed in brackets
Flags	<ul style="list-style-type: none">▶ 0 or 1
Scenario selection	<ul style="list-style-type: none">▶ Yes/No or Multi scenario selection▶ Determines which scenario(s) will be calculated by the model

Section 2: Model Principles (Continued)

Basic model structure



Section 2: Model Principles (Continued)

Residential Retrofit model – An introduction

- ▶ Enable evaluation of returns on investment of potential Residential Retrofit schemes
- ▶ Considers the key project drivers
 - ▶ Installation costs
 - ▶ Annual Energy Savings & Monetisation methodology
 - ▶ Funding
 - ▶ Fuel prices
 - ▶ Returns – measures pre-tax project IRR

Section 3: Worked Examples

Sensitivity

Pre-tax project IRR

Base Case

Monetisation of Energy Savings = 75%

Monetisation of Energy Savings = 50%

Energy Prices +20%

Energy Prices -20%

CRC applied

CESP +10%

Other Funding +10%

Section 4: Wrap up

What have we covered?

- ▶ Residential Retrofit model – commercial overview
- ▶ Residential Retrofit model – principles
- ▶ Worked examples

What should you now be able to do?

- ▶ Model different potential schemes
- ▶ Analyse results
- ▶ Identify the most likely commercially viable projects

Next steps: model own projects! Where are the banana skins?

- ▶ Grants
- ▶ Funding structures

Appendix A: AGMA Residential Retrofit Commercial Support Model – Distribution Instructions

Introduction

We have been requested by Oldham Council to provide you with a copy of the residential retrofit commercial support model 'AGMA Residential Retrofit project cashflow model March 2011.xls' ('the Model') which we prepared in accordance with the instructions of Oldham Council.

In order for us to provide you with a copy of the Model, we request that you first provide written confirmation that you agree to our terms and conditions for the release of the Model to you.

We would therefore be grateful if you would provide the following addressee information in order for a release letter setting out our terms and conditions to be issued to your organisation for signature by the appropriate officer.

Contact Details Required

- ▶ Name and title of addressee
- ▶ Organisation full name and address (including postcode)

Please email the above contact details to Andrew Mee of Ernst & Young at amee@uk.ey.com .

Appendix B: AGMA Residential Retrofit Commercial Support Model - User Guide

A User Guide has been prepared for the Model. This provides guidance and instruction on the following:

- ▶ Model Structure
- ▶ Model conventions
- ▶ Model mechanisms
- ▶ Databook

The Model should be utilised and amended in conjunction with the accompanying User Guide.

The User Guide has been issued as an accompanying output to this document.

Disclaimer

This presentation pack necessarily represents only part of the information which we considered in carrying out our work, being that which we considered to be most relevant to our understanding of your needs, in the light of this engagement.

The information in this presentation pack will have been supplemented by matters arising from any oral presentation by us, and should be considered in the light of this additional information.

If you require any further information or explanations of our underlying work, you should contact us.

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