



Combined Heat and Power (CHP)
CLP Presentation
15th March 2010

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Introduction

- What is CHP
- Why CHP
- CHP and Rookery
- The impact of CHP
- CHP is an opportunity
- Broad benefits
- Timing and strategy

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What is CHP

- | | |
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| <ul style="list-style-type: none"> ■ Not CHP <ul style="list-style-type: none"> ■ Energy in Waste recovered as steam ■ Steam used to drive a steam turbine ■ Turbine drives a generator to produce electricity ■ Electricity supplied to the grid ■ Efficiency optimised as steam condensed | <ul style="list-style-type: none"> ■ CHP <ul style="list-style-type: none"> ■ Energy in Waste recovered as steam ■ Steam used to drive a steam turbine ■ Low pressure steam supplied to Heat Exchanger which generates hot water ■ Turbine drives a generator to produce electricity ■ Heat supplied to DH network and electricity to grid ■ Efficiency increased compared to non-CHP option |
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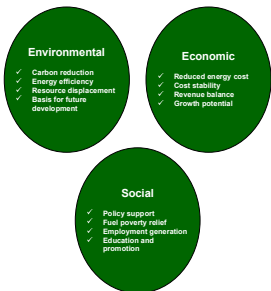
Policy context

- CHP
 - UK Waste strategy 2007
 - Planning Policy Statements 1 & 22
 - Resource efficiency
 - East of England plan
 - Regional Economic Strategy
 - Low Carbon Development
 - Draft Core Strategy, North Area (Central Bedfordshire)
 - Bedford Borough Core Strategy
- CHP REPORT INCLUDED AS PART OF THE APPLICATION

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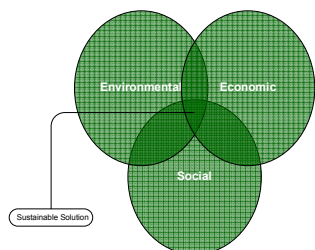
Why CHP



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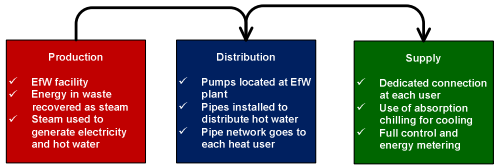
Why CHP



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CHP at Rookery



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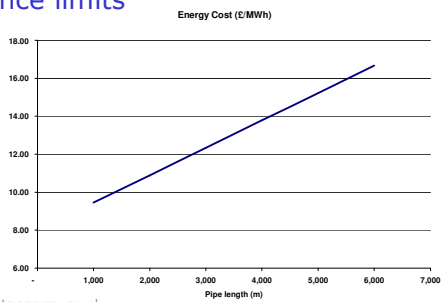
Energy demands

- Influencing factors
 - Proximity
 - Scale
 - Energy utilisation
 - Timing
 - Existing or planned development
- Demand hierarchy
 - Existing industrial/commercial users
 - Planned mixed use development
 - Existing public sector
 - Existing mixed use

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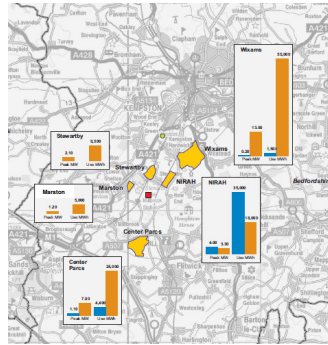


Distance limits



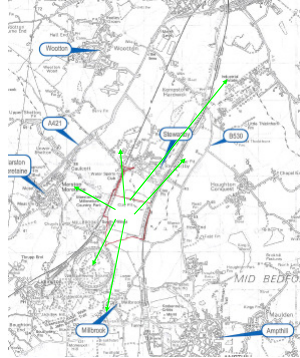
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A core scheme



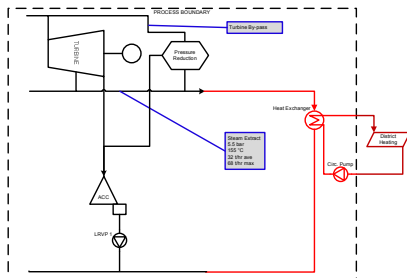
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Getting from A to B



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CHP at Rookery



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The impact of CHP – Primary Network



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The impact of CHP – Secondary Networks



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The impact of CHP – Secondary Networks



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The impact of CHP – The end user

- No on site combustion
- Full consumer control
- Integrated energy metering
- Space saving for larger users
- Conventional internal heating systems

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The impact of CHP – Households



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CHP is an opportunity

- Not just about the core CHP scheme
 - Establish the principles
 - Overcome development barriers
 - Establish a local energy business
 - Develop partnerships
 - Long-term commitment
 - Low Carbon development

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Wide ranging benefits

- Reduced CO₂ emissions support sustainable homes initiative
- Lower and stable energy cost to consumers = incentive to buy
- At least neutral cost to developer and builder
- Integrated development of utility connections
- Integrated planning approach and development of non-energy infrastructure
- Opportunities to develop long-term value from energy service provision
- Basis for attracting business to non-domestic development areas

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Strategy

- Identifying potential heat users
- Establishing the key supply requirements
- Promoting the potential for heat supply from the Facility
- Defining the basis for a core CHP scheme
- Securing the commitment needed to facilitate the development of the core CHP scheme
- Establish the commercial structures to deliver CHP
- Implement the core CHP scheme
- Develop and expand the energy business

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Timing

- Agreement to develop & review options - Mar '10
- Establish commercial principles - May '10
- Select ESCo partner - Jun '10
- Define CHP solution - Jul '10
- Evaluate CHP impact - Aug '10
- Promote CHP to all stakeholders - Sep '10
- Finalise commercial offer - Oct '10
- Agreement to proceed with CHP - Jan '11

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