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Anaerobic Digesters – Their Place in Modern Wastewater Treatment

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Umgeni Water

27 August 2008

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◇ History

◇ Logic

◇ Environment

◇ Where to now?

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HISTORY

- ◆ Biofilters
- ◆ Activated sludge
- ◆ BNR

- ◆ Sludge disposal
- ◆ Power usage and generation

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LOGIC

Choice of process based on:

- ❖ Financial cost
- ❖ Assumed low power cost
- ❖ Environmental cost minimised



ENVIRONMENT

What has changed:

- ◆ Environmental awareness
 - ◆ Public awareness/perceptions
 - ◆ Population pressures
 - ◆ Technology
- ◆ Prioritisation of costs
 - ◆ Financial
 - ◆ Indirect



WHERE TO NOW?

- ◇ Existing works
 - ◇ Improved efficiency
- ◇ Extensions
 - ◇ Limitations
- ◇ New works
 - ◇ Aversion to new technology
 - ◇ Mechanical 'sedimentation'
 - ◇ High rate digestion

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Why Anaerobic?

- Stable sludge
- Dewaterable sludge
- Low power demand
- Low sludge loss



PRACTICAL CONSIDERATIONS

- ◇ Power consumption
- ◇ Power reliability. Standby generator vs gas generator
- ◇ Overall environmental impact
- ◇ Sludge handling and disposal

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Thank you