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shanks. **recovered fuel.**™

fuelling a better environment

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The Development of SRF

- Production experience
- Opportunities and challenges for its use
- The RO as a driver for change
- Where do we go from here?



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Frog Island, East London

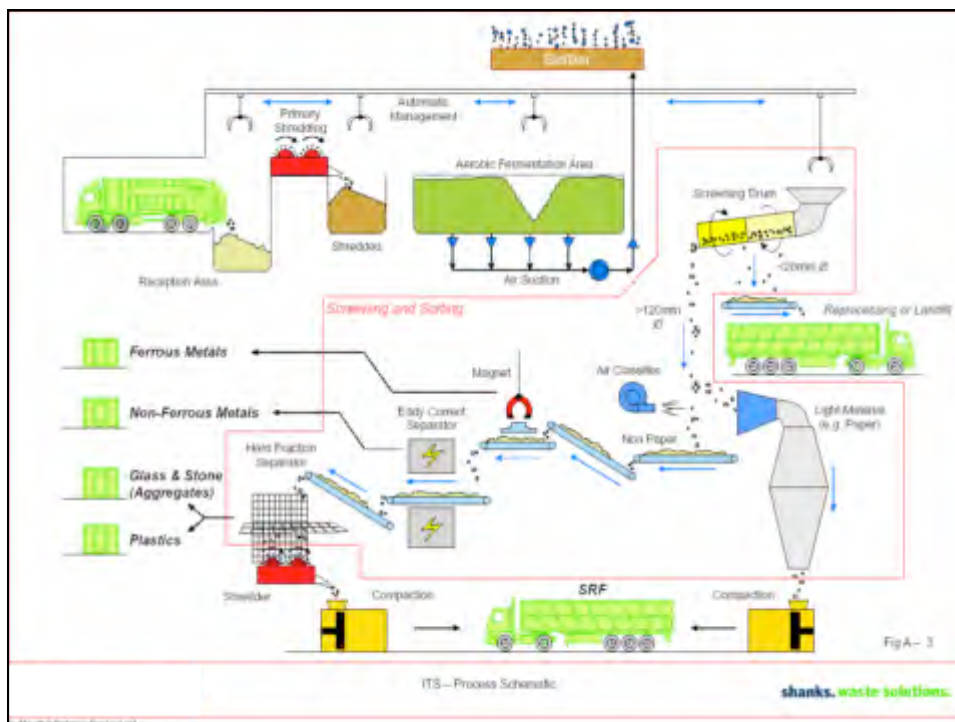


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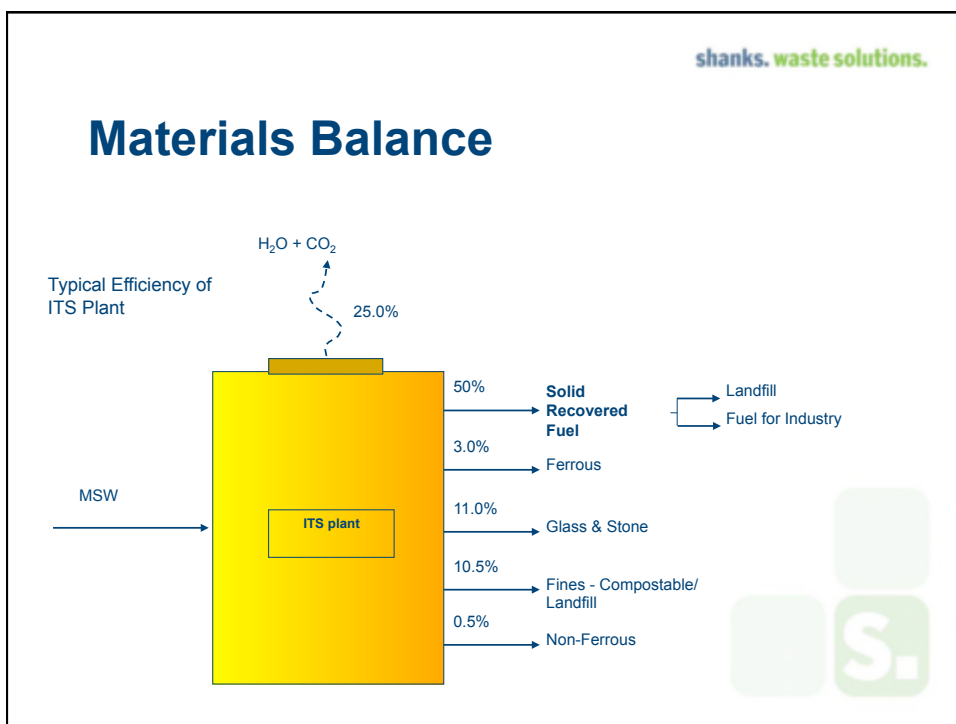
Jenkins Lane, East London



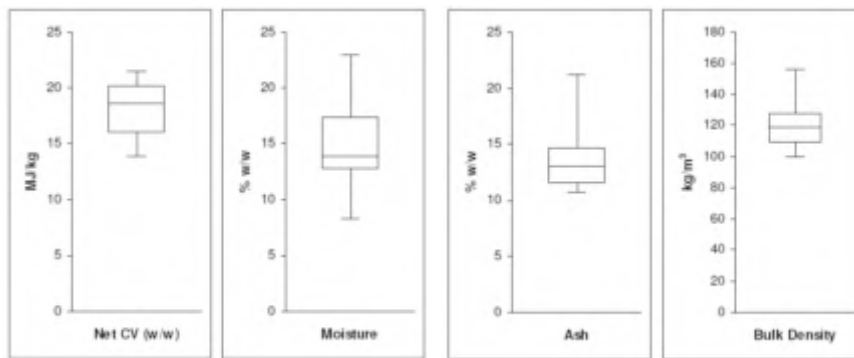
Lochar Moss, Dumfries



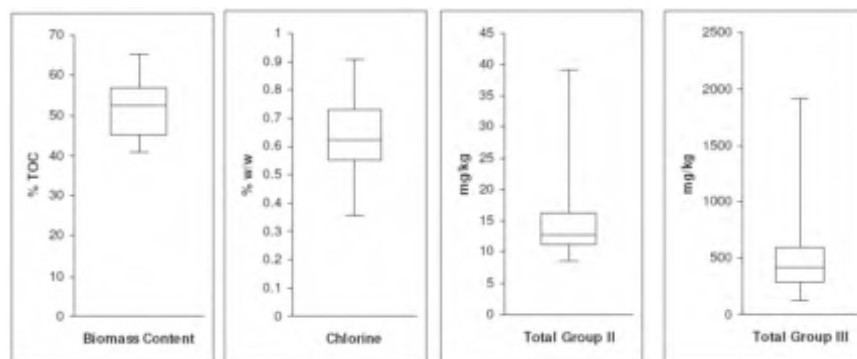




'Typical' composition



'Typical' composition



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SRF - The Here & Now

- Shanks is currently the leading producer and supplier of SRF in the UK
- 100,000 tonnes of floc will have been supplied to the cement industry by end 2008.
- Current optimal production in region of 200,000 tpa



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What SRF can offer..

'It is important that all renewable energy production is sustainable, environmentally economically and socially'
Renewable Energy Strategy, June 2008

- Stable and predictable pricing mechanisms over 20-25 year term
- Gate fees
- Contribution to EU ETS targets
- Potential for ROCs and LECs



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Opportunities for Use

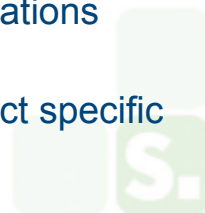
- Direct solid, fossil fuel replacement in existing installation
- Co-fire fuel for existing (WID compliant) biomass stations
- Bespoke, dedicated facilities - electricity only or CHP with or without industrial host



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SRF

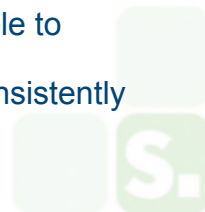
- Pipeline projects include arrangements for supply to bespoke power generation/ CHP facilities (conventional combustion and ACT).
- Heads of Terms signed with Novera Energy and Scotgen (gasification)
- Pipeline projects for supply to installations within energy intensive sector
- Extent of Shanks' involvement project specific



The Challenges

What works....

- Simple and robust production process with good QA control
- Reliable logistics support
- Good communication
- Understand the 'product'
- Treat it like a 'product'
- Flexibility in production is critical; be able to mitigate
- Whatever quality you produce, do it consistently
- Be future proof



And what doesn't

- Poor communication
- Heterogeneous materials
- Physical contamination
- High moisture
- Post processing
- Unrealistic expectations of gate fees



The Renewables Obligation

- No ROCs yet claimed from EFW type applications or from combustion of SRF
- Incentive for efficiency?
- Ambitions for CHP may not be realised until RHO/ RHI is introduced
- Does the new banding increase the likelihood of more deliverable capacity on the ground?



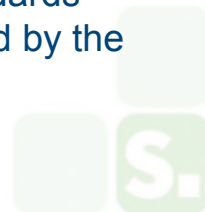
The new look RO

Technologies	Level of Support (ROCs/MWh)
Landfill gas	0.25
Sewage gas; co-firing of biomass	0.5
Energy from Waste with CHP	1.0
Co-firing of energy crops; energy from waste with CHP	1.0
Dedicated biomass	1.5
Fuels created using advanced conversion technologies; dedicated biomass with CHP, dedicated energy crops with or without CHP	2.0



The Renewables Obligation

- SRF & waste neutrality needs review to ensure that the opportunity from existing and planned WID compliant infrastructure for biomass is exploited
- Definition of SRF - a real danger of over prescribing
- We have comprehensive CEN standards
- Fuel requirements should be defined by the user as being fit for purpose



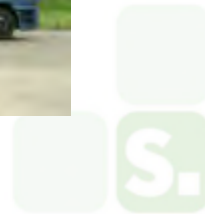
The Future

- The potential for generation of SRF from MSW is significant
- The timeframe to realise capacity to capture the energy from this fuel is limited
- Overall, we need to facilitate the delivery of robust, deliverable, long term and affordable offtake opportunities developed within the timeframe required



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This is not just any SRF;
this is....



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