

KTP Project – Cardiff University & LAS Recycling Ltd

Dr Nia Owen

Prof Keith Williams

Cardiff University Innovation Network

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Agenda

- Project Overview
 - Dr Nia Owen
- Benefits for Company and Associate
 - Dr Nia Owen
- Cardiff University Benefits
 - Prof Keith Williams

Project Overview

Quote from project proposal

“To develop and sustain the Company’s strategic position in line with changing waste legislation, in particular by developing new material recovery facilities.”

Examples of legislative and other drivers:

Landfill Directive

- no more than 50% of 1995 BMW tonnage to landfill by 2013

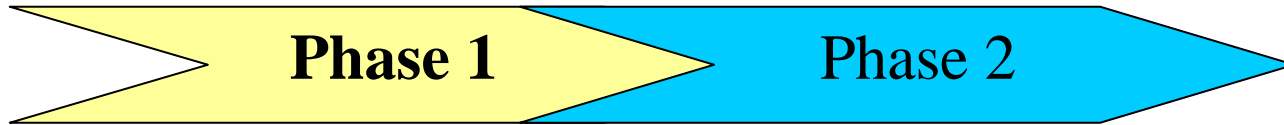
Wise about Waste

- “by 2009/10 and beyond achieve at least 40% recycling/composting with a minimum of 15% composting (..... source segregated...) and 15% recycling.”

Company History

- Until 1999 the Company operated a waste collection and disposal business relying heavily on landfill for disposal.
- Lampeter site re-focussed on recycling as Landfill costs escalated and space rapidly filled.

Strategic Objectives 2003



- Exploit Technology
 - Increase Recycling
 - Minimise Landfill
 - More Competitive
- Exploit Technology
 - Power Generation
 - Eliminate Landfill
 - Secure Future

Landfill Tax + 160%

2003 - £12

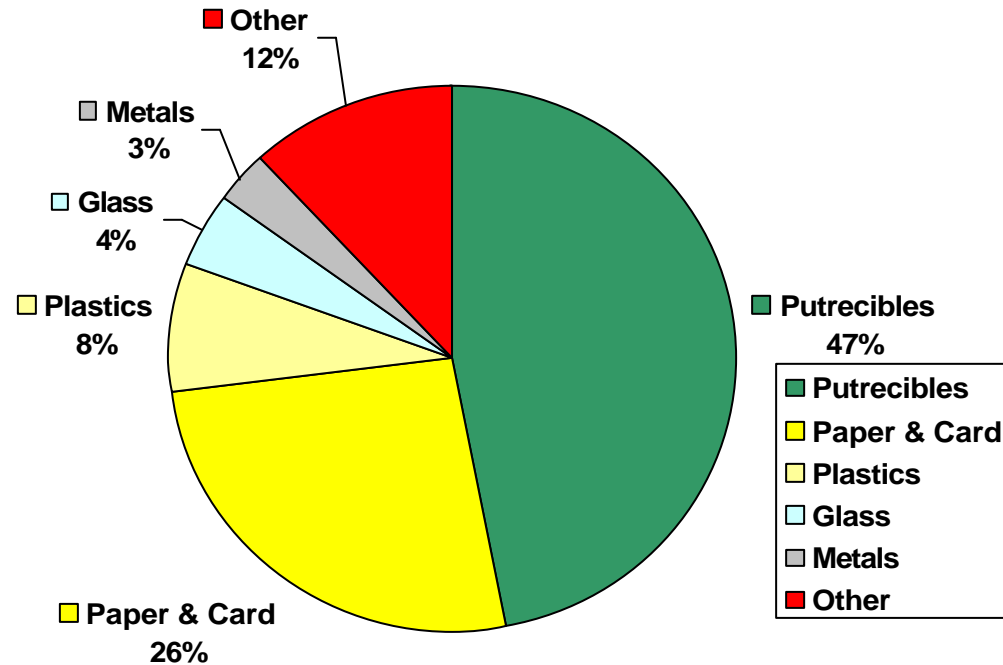
2009 - £40

MRF



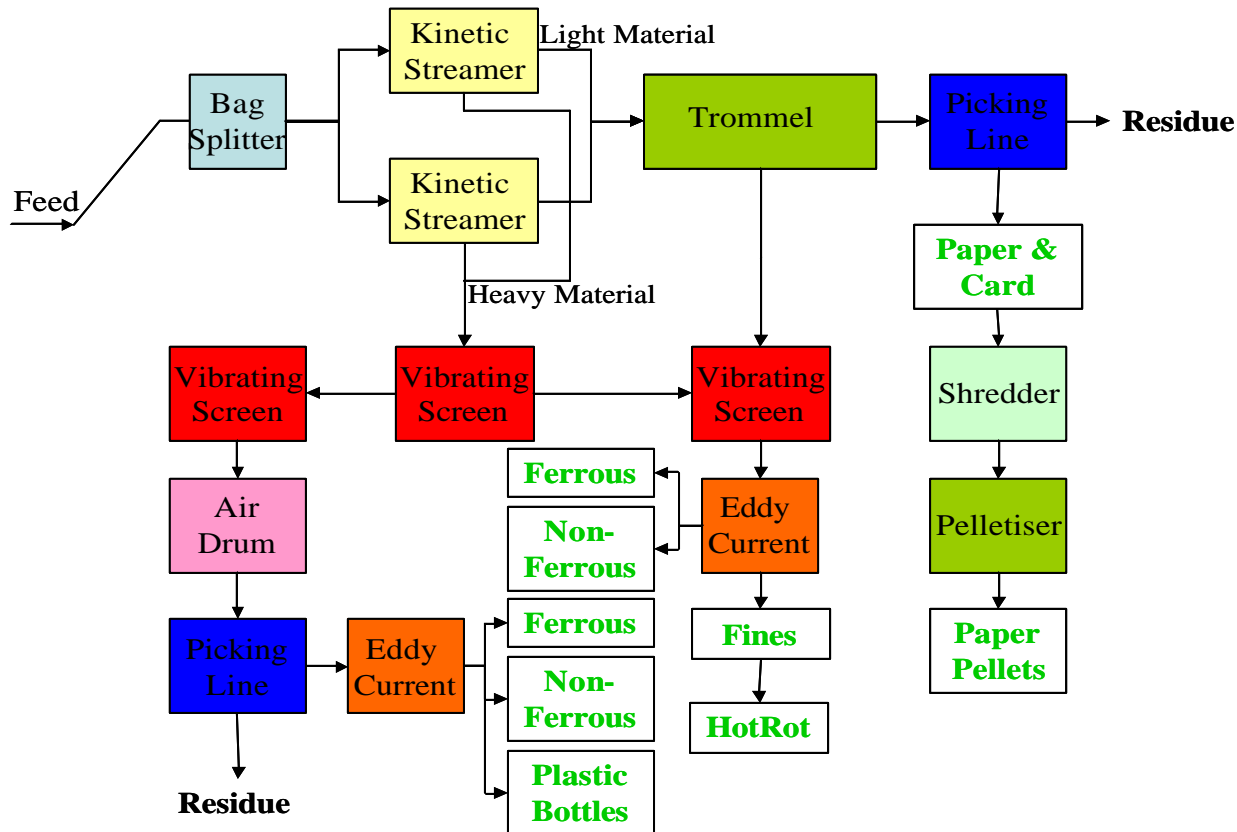
What was involved?

- Waste Characterisation



What was involved?

- Benchmarking operations in the UK and overseas



What was involved?

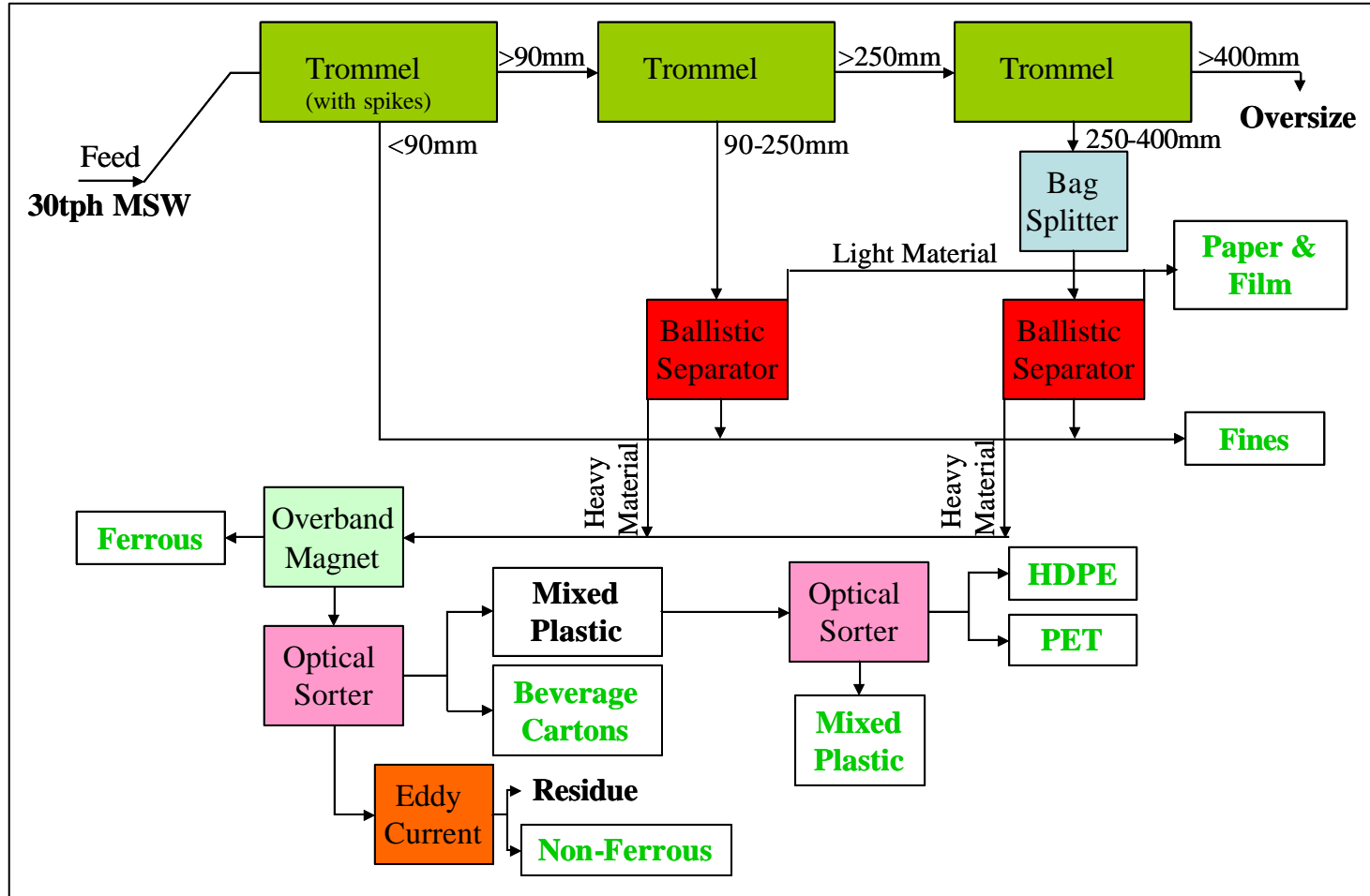
- Benchmarking operations in the UK and overseas



<http://www.titech.com>

What was involved?

- Design and Development of MRF



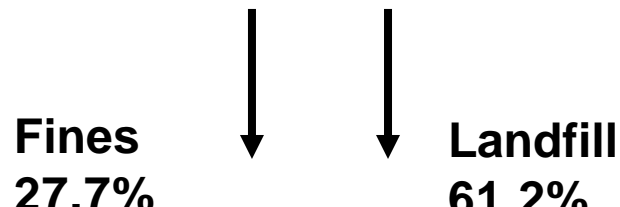
What was involved?

- MRF Performance

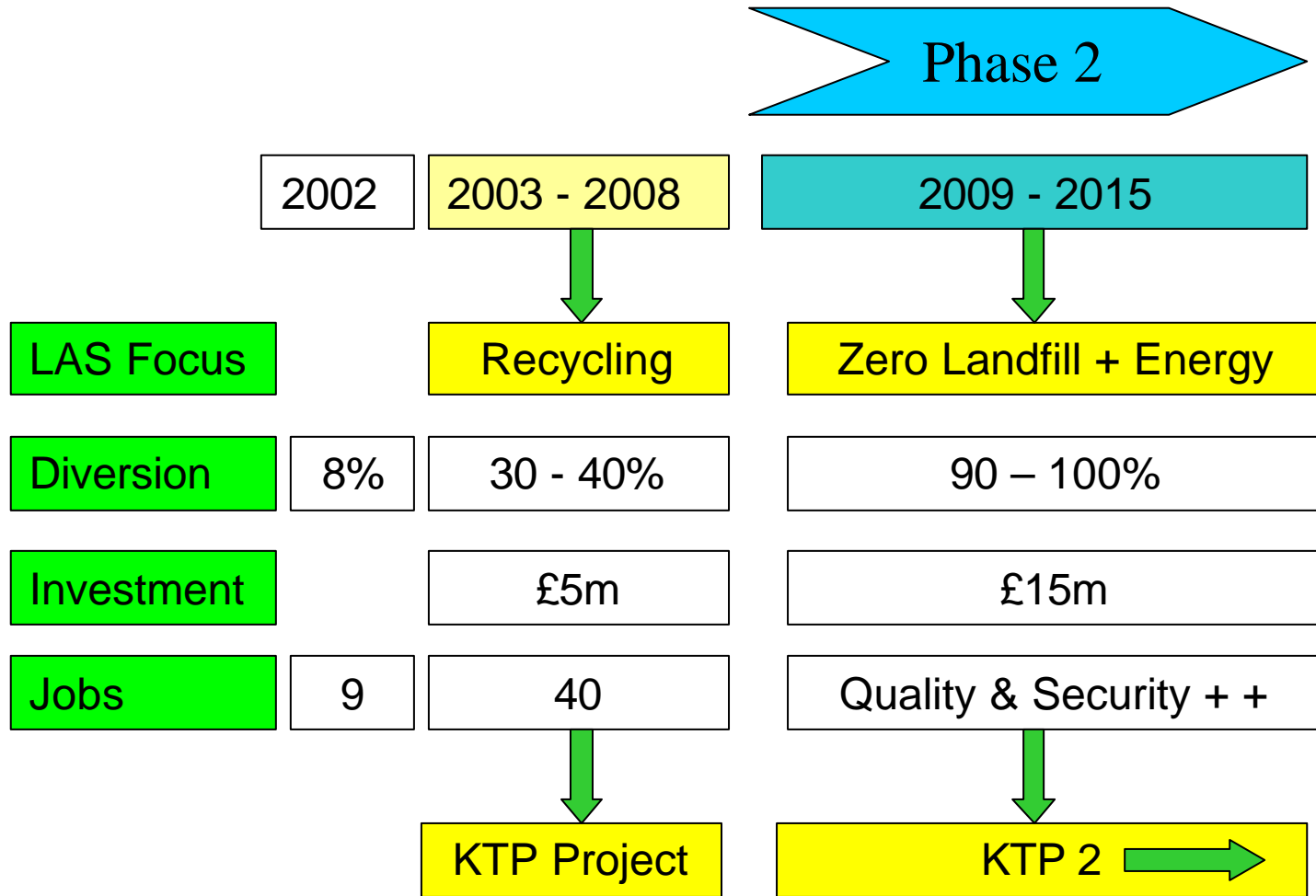
Clear Bags



Black Bags



The Future



Benefits for LAS Recycling and Associate

Company

- Unbiased data analysis, professional advice & specialised technical input.
- Access to worldwide 'knowledge base' and critical analysis of relevant technologies.
- Accelerated delivery of new facilities on time & within budget.
- Secured a new 3 year contract with Local Authority

Associate

- Nature of the project
- Opportunity to get a PhD in an industrial environment
- Papers:
 - Waste 2006 – Stratford upon Avon
 - International Conference on Solid Waste Technology and Management 2007 – Philadelphia
 - Journal papers in progress
- Training
- Career Development

Cardiff University

Prof Keith Williams

Cardiff School of Engineering
CREWE



Cardiff University

Professor Tony Griffiths

Professor Keith Williams

Research

- KTP activity contributed in 4 key ways to RAE (School of Engineering ranked in the top 10 in the UK Dec 2008)
 - Publications
 - Grant income
 - Higher Degrees
 - Esteem

Teaching

- Incorporation of relevant case studies into both undergraduate and postgraduate teaching.
- Specific examples of such modules are:
Waste Management and Recycling (EN3407 and ENT761)
Process Engineering (EN4602 and ENT762) at MEng and MSc in Sustainable Energy and Environment.
- Academics have built a plant

Innovation and Engagement

- Direct and extensive engagement with LAS
- Opened other doors to collaboration
 - Local Authorities - particularly Ceredigion County Council - currently doing project on AD with CCC and Powys
 - *“Ceredigion County Council currently recycles over 36% and composts a further 6.5% of its municipal waste. That makes us one of the best performers in Wales!”*
- Helped win other research contracts
 - Wales Energy Research Centre (BIOMASS)
 - CORUS (Centre of Excellence in Waste and Energy)
- Continuing with next KTP
 - Cementing internal CU links with RACD (closing loop)

Video