Trends and drivers in SRF production and use across Europe

Energy from Waste
London
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fuelling a better environment

- **ERFO – who it is and what it does**
- **Standardisation and testing**
- **The EU SRF Market**
  - Drivers for change, production and use, now and for the future
  - Can we learn anything to put to use in UK plc?

ERFO

ERFO – The European Recovered Fuels Organisation

A non profit organisation founded in 2001 in Brussels.

Its aim is to:

‘promote the use of recovered fuel meeting high quality standards prepared from non hazardous waste through a membership of producers and potential producers of SRF across Europe’

Rationale for SRF

- Substitution of primary fossil fuels
- A valuable contribution to the challenges of waste management
- CO_2 savings – further separation of biomass

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energiek met milieu

van Gansewinkel

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HERA

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- Supports the activities of the European Committee for Standardisation (CEN) on the normalisation of recovered fuel by gathering and providing information to support the development of international, European and national legislation to develop, enhance and optimise the use of recovered fuels
- To create a forum of open social discussion on the theme of the application of recovered fuels.
- To increase and expand the technical applicability of recovered fuel in conjunction with the users and potential users.

But it is not (yet)….

a marketing board

ERFO

- The main contributor to the SRF chapter of the Waste Treatment ‘BREF’ reference document.
- Contributions from members to several international R&D projects (TAUW, QUOVADIS)
- Standardisation - crucial role within the CEN/TC 343 committee

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Instrumental in the CEN technical committee TC343 from its conception in 2002

- Development of a set of Technical Specifications (TSs) i.e. pre standards
- Accompanying Technical Reports
- Transformation of this set of TSs into European Standards (ENs)

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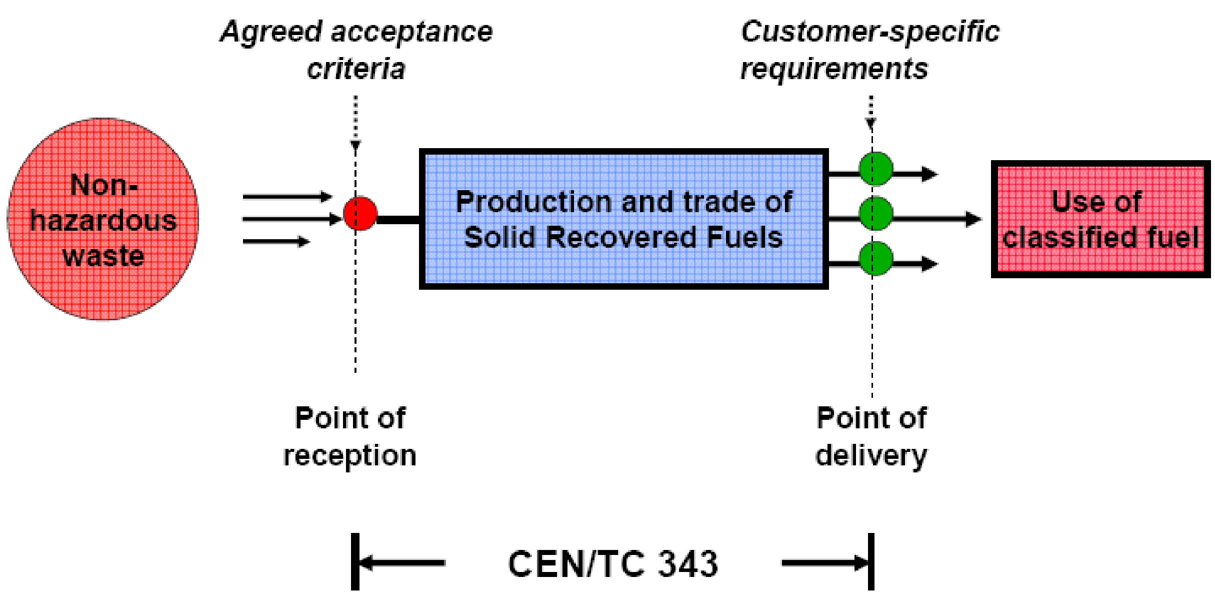
cen

European Standardisation of Solid Recovered Fuels



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27 work items
5 working groups

- Terminology and Quality Assurance
- Fuels specifications and classes
- Sampling and supplementary test methods
- Physical and mechanical tests
- Chemical tests

Current status of TC343

- 26 Technical Specifications
- 4 Technical Reports
    - Biodegradable/Biogenic/Biomass
    - Guidelines on occupational health
    - Key properties for classification of SRF
    - Combustion behaviour

TSs now being upgraded to 19 European Norms (ENs), 7 Technical Specifications and 1 Technical Report

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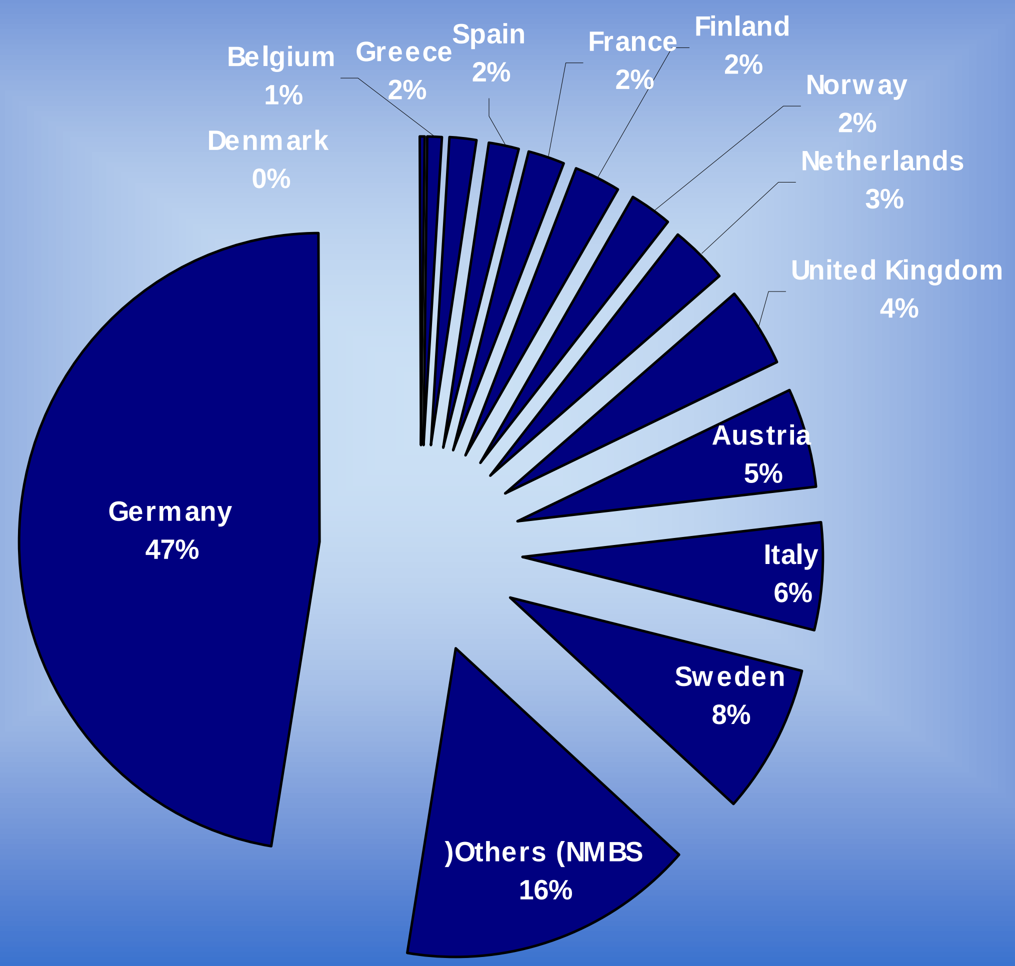
A European Market for SRF?

- Current state of play
- What's driving it ?
- Production trends
- Use
- What about the future?
- Any lessons to be learnt for the UK..

SRF Production in 2008 ('000 tonnes)



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- Estimated production of 3 M tonnes in 2001
- In 2008, SRF production was estimated at over 12 Million tonnes
- Further significant growth forecast to period 2012 - 2015 to 16.5 Million tonnes
- Established markets in Germany, Finland & Italy. Developing in Holland, Belgium, the UK and ambitious plans in France, Spain.

What’s driving increased production?

- **Landfill bans**
  - Germany
  - Holland
  - Italy
- **Costs**
  - increasing levels of landfill tax (except in Germany!)
  - landfill disposal costs

Production

- Mixed MSW and C&I
- All Countries focussed on cement and industrial CHP specifications and needs

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Specification across EU - cement

- NCV >20 MJ/kg (kiln)
  >16 MJ/kg (calciner)
- Moisture <12%
- Chlorine content (max 0.7%)
- Particle size <20mm – 40mm

- Ash
- Biomass
- Heavy metals
- Sulphur
- Phosphorous

HCF-Sorting with NIR-systems

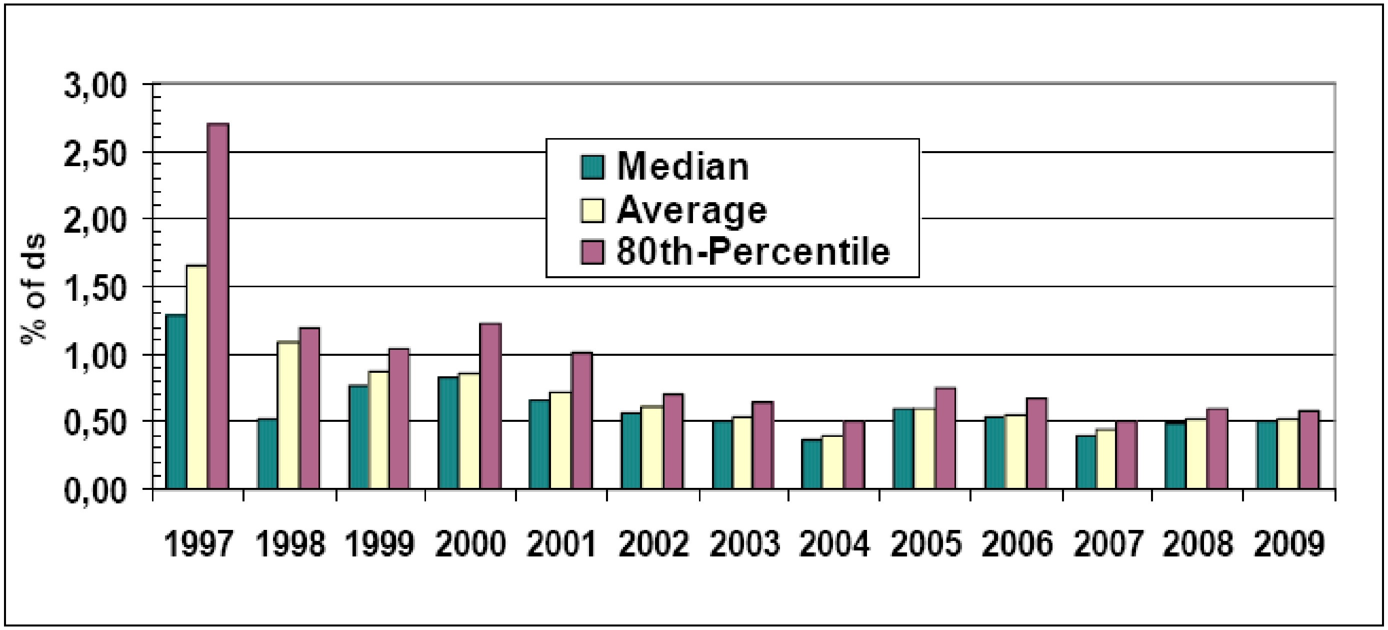
key technology for low-chlorine SRF

REMONDIS Rheinland GmbH

Development of Cl-values of SBS®

since 1997 (n = 1253)

REMONDIS Rheinland GmbH



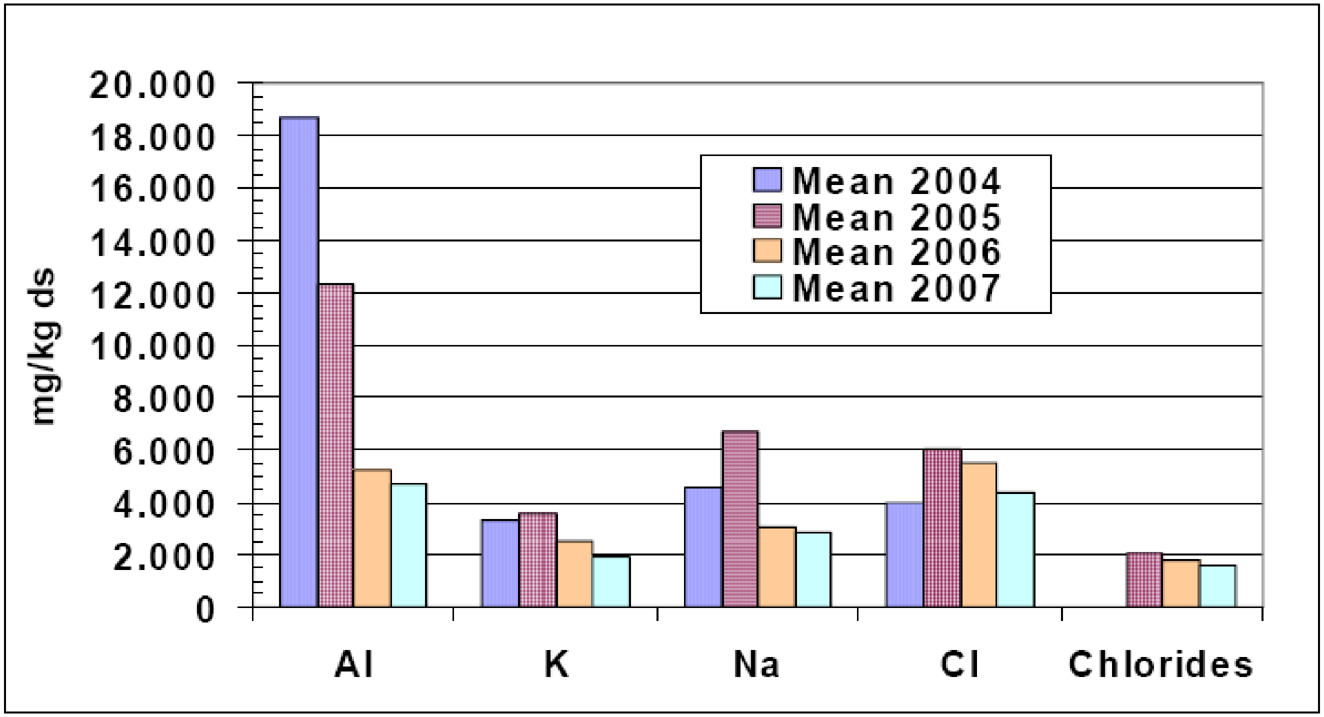
First trials with NIR

Effect of German landfill-directive

Development of parameters

with fouling- or corrosion-potential for SBS®1

REMONDIS Rheinland GmbH



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Use

- Without exception, all producing Member states supply the cement industry and the majority also industrial CHP (some export)
- District heating (Sweden)
- Dedicated SRF combustion (Holland/ Germany)
- ACT/ Bioethanol production

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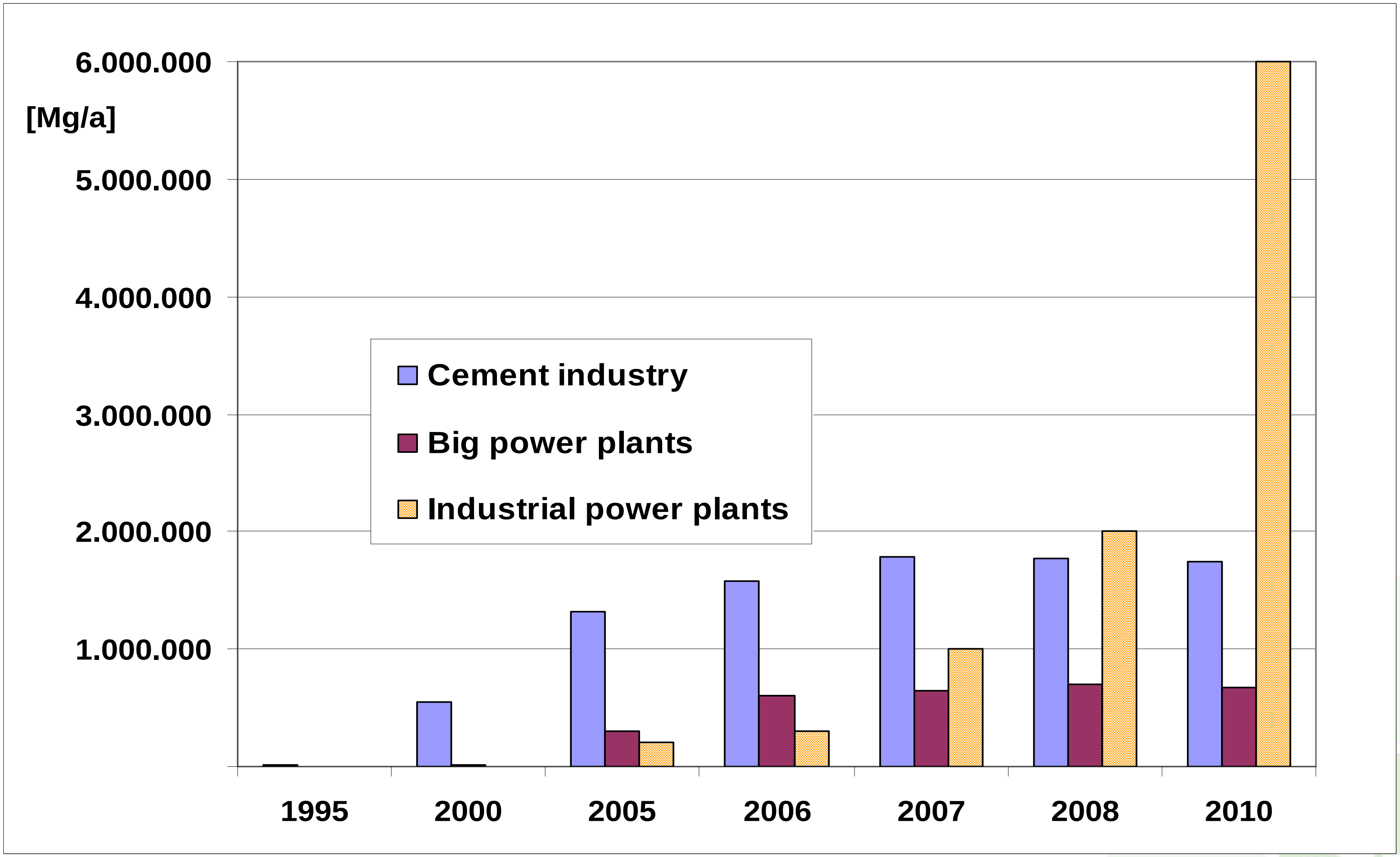
Drivers for Use

- Costs of primary fuels
- CO2 allowances/ credits
- Feed in tariffs (Holland, Belgium, Germany, Spain)
- Green certificates
- Capex subsidies and tax reductions (Holland)

Market development of SRF`s in Germany

based on production specific wastes and HCF`s



Significant and sustainable market developed

Source:
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Contract term

- 0-5 years for cement and district heating
- Up to 10 years industrial CHP
- +10 years dedicated combustion and ACT where applicable

Prices

- Key influences are price of primary fuels and scarcity of commodity
- Range for supply to cement depends on specification and quality and quantity
- Zero Euro/ tonne in Germany in 2010 for >20 MJ/kg direct to kiln
- Price range currently from ~17 Euro /tonne to receipt of ~25 Euro/ tonne
- Prices into dedicated combustion plants dropping steadily but are forecast to stabilise

Can lessons be learnt for UK Plc?

What works
- Flexibility in production
- Heavy industry aligned to fuel production
- Sticks not carrots

And what doesn’t
- Overcapacity in EFW incineration
- Low level of competition from end users
- Low disposal costs

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Does SRF have a future….?

- Demand
- Trade across Member States

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Waste Shipment Regulations
Getting the green light for the future?

No dedicated entry on the Basel list of Wastes

No exclusive or dedicated entry for SRF within the European list of Waste (EWC)

- 19.02.03 premixed wastes composed of non haz wastes
- 19.02.10 combustible wastes other than….
- 19.12.12 Other wastes from mechanical treatment

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….What next for the UK?

Production focus will shift to C&I and other non hazardous waste streams as landfill tax increases to 2013

But… volumes of waste are decreasing

We need to get more value from less waste, be smarter in what we do..

Take a measured approach to planning for MSWI capacity

…are we planning for waste or energy?

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Thank you for your attention

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