BRITISH SUGAR

British Sugar and the IED

CEA/CRF/RSC Seminar

London 22nd September 2011

Parent company: Associated British Foods plc

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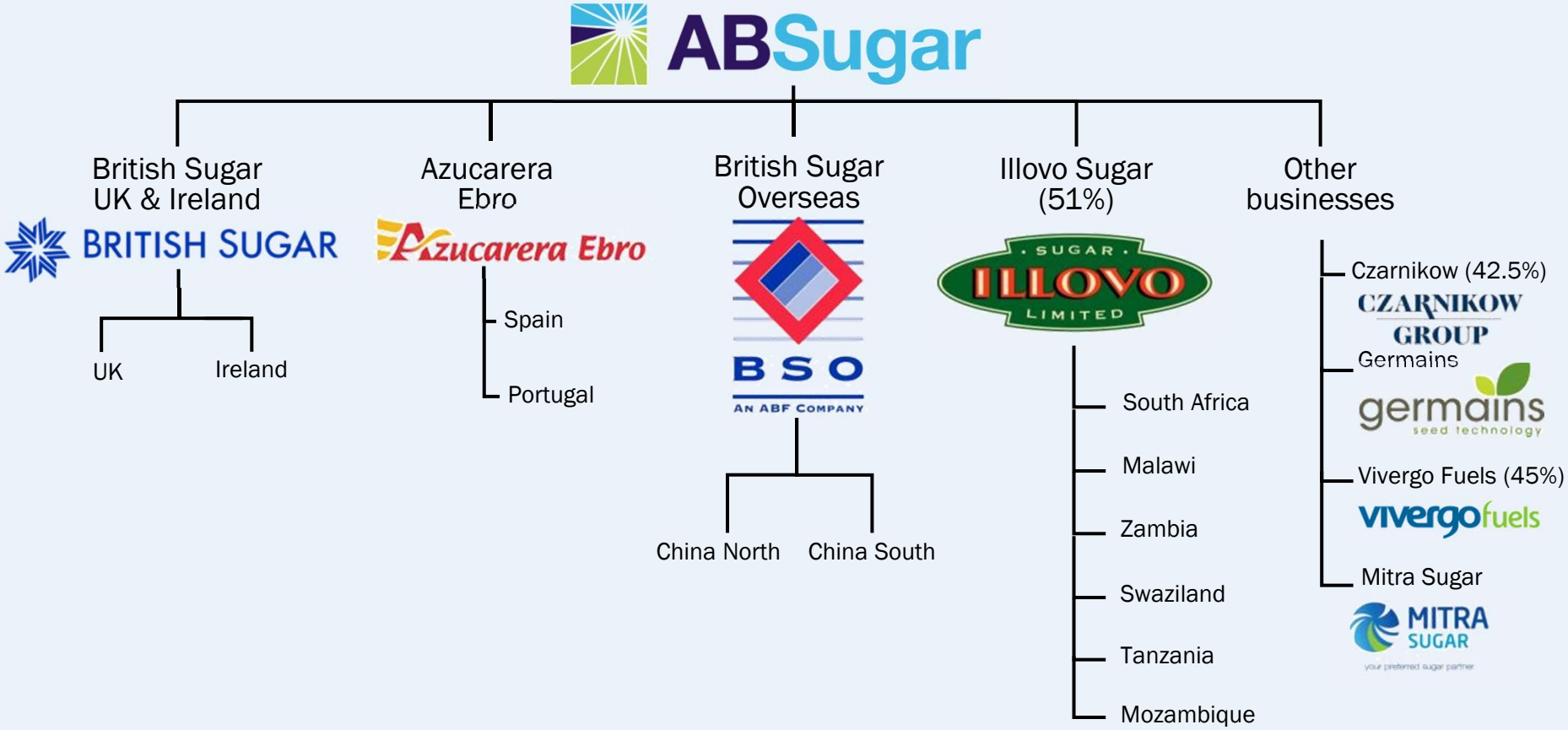
Operating structure



British Sugar the facts today…

UK

- A leading UK competitor supplying all the major blue-chip customers
- Comprehensive portfolio of products
- Lowest cost sugar processor in the EU
- 1.2 million tonnes of sugar (1.056 mt quota)
- Four factories processing sugar beet
- c. 4,000 growers
- Sole processor of UK sugar beet crop
- UK's largest single tomato glasshouse at Wissington
- Bioethanol refinery at Wissington sugar factory

How our factories operate (Wissington refinery)

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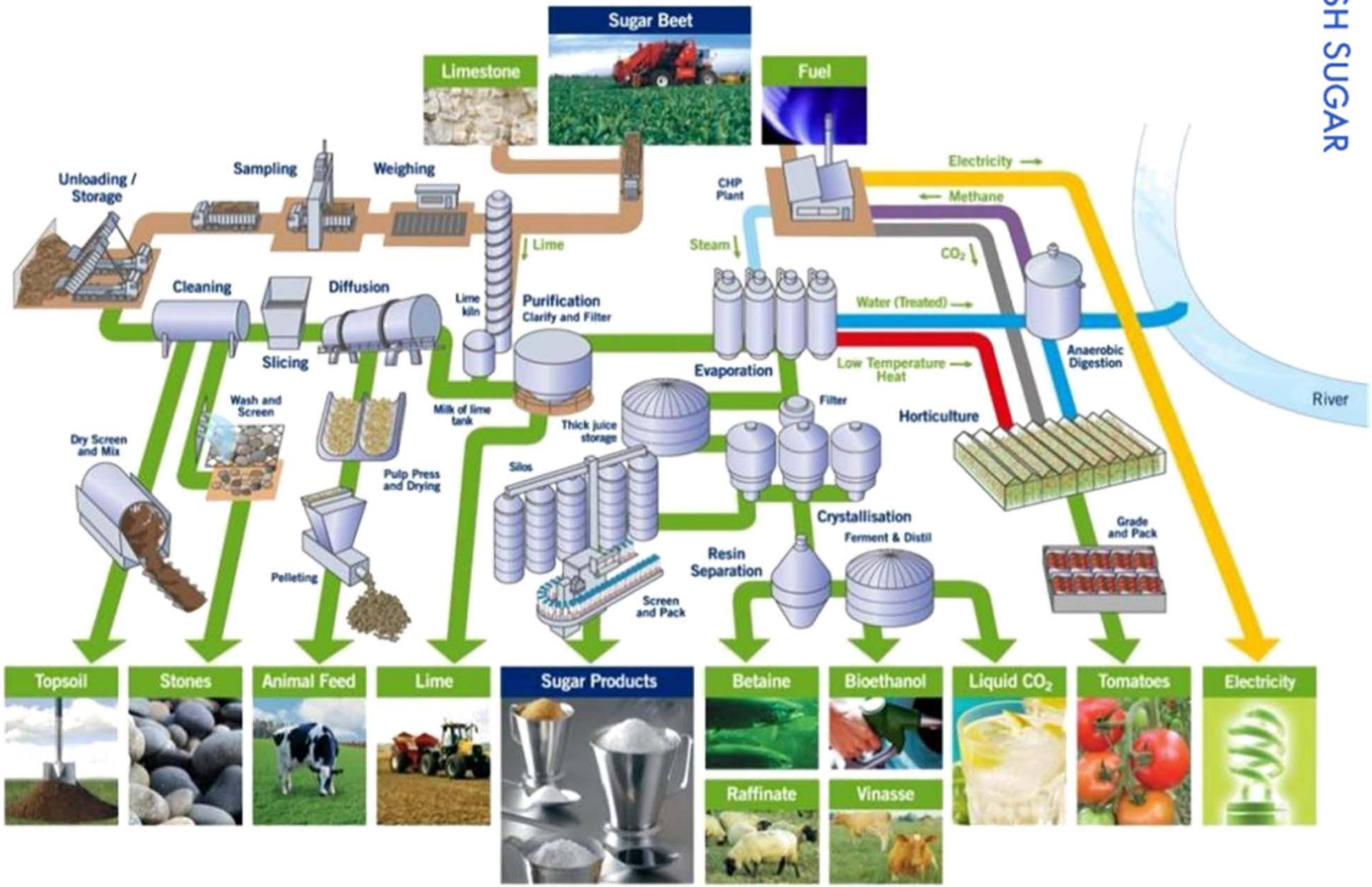

How we operate

- Focus on using raw materials responsibly and efficiently
  - Recognised as one of the most efficient beet sugar processors in Europe
  - Complex heat recovery systems minimise energy demand
  - PAS 2050 carbon footprints certified by Carbon Trust for all products
- Embraced combined heat & power (CHP)
  - Reduced energy requirements per tonne sugar by 25% since 1990
  - Exports 700,000 MWhrs electricity for use in the local electricity network – enough to power a town of 160,000 homes
- Water usage
  - Transport, heat recovery, recycling
- Emissions recovery and recycling
  - Biogas (Methane) fuels boilers
  - CO_2 utilised in glasshouse
- Industry leading quality standards
  - Invested ~£1 billion in new & emerging technologies

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The Industrial Emissions Directive

- British Sugar operates four sites under Environmental Permit
  - Main activity is food manufacture
  - All sites have up to 8 permitted activities
- All sites have CHP combustion plant integral to operations
  - Combustion plants serve our other processes
- Three sites currently operate under LCPD and NERP
  - Two have < 50 MWth boilers caught by aggregation rules
  - One site has two > 50 MWth boilers
  - One site has < 50 MWth boilers but individual stacks
  - Two sites have pre 2002 CCGT which are currently outside LCPD
- Conventional boilers are 30 to 40 years old
  - Natural gas, gas oil, HFO, coal
  - Installed to meet various constraints (footprint)
  - All will struggle to meet Annex V ELV

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The Industrial Emissions Directive

- IED will be the main Legislative driver for our business
  - Tracked development since1st draft in 2007 through to Directive in place Nov 2010
  - Numerous proposed amendments
- Strong lobbying stance
  - Directly to MEP's
  - CEA (Defra working group)
  - FDF
  - CEFS
  - CIAA
- Lobbying beyond combustion issues
  - Environmental inspections (dependant on risk)
  - Capacity thresholds for waste (proportionate to impact)
  - Greater reliance on BREF documents to set/determine BAT

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The Industrial Emissions Directive

- Main Issues
- Annex V Emissions Limit Values
  - Difficult to achieve in most cases
  - Options are LLD or TNP (time limited)
  - New plant or retrofit abatement
- Abatement options
  - Sulphur dioxide - retrofit of FGD is uneconomic for smaller boilers
  - Oxides of Nitrogen – individual boiler characteristics dictate applicability. BAT and BATNEEC upgrades already invested in and would not meet Annex V requirements
  - Particulate – Traditional options available but at huge cost which would be disproportionate to benefits achieved
- Current Combustion BREF document does not cover smaller boilers adequately

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The Industrial Emissions Directive

- Determination of BAT for smaller combustion plants
  - Small size means cost of investment v environmental benefit is disproportionate
  - Integration with other processes
- Air Quality Standards must be the key driver
  - BAT should be determined on a case by case basis
- Plant efficiency
  - Abatement options impact on energy usage and CO_2 emissions
  - Particularly for retrofit options
  - This should be a primary consideration when determining BAT
- Load Factors
  - Plants operate at varying sometimes low loads due to steam/seasonal/weather demands

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The Industrial Emissions Directive

- Combined Heat and Power
  - Efficient means to produce steam and electricity
  - Provides energy self sufficiency
  - High net energy utilisation
- Standby Fuels
  - Interruption or failure of the gas supply low usage
  - BAT should be based on main fuels use
  - No additional permit conditions/ELVs for restricted fuel use
- Best Environmental Option
  - Raw materials utilisation
  - Energy consumption
  - Parasitic loads

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The Industrial Emissions Directive

- Future use of BAT Reference Documents
  - All sites have up to 8 EP activities
  - Covered by several BREF documents both sector specific and cross sector
  - Must reflect what is achievable within the sector and not just isolated examples of techniques (Food BREF)
- Sector issues
  - Integrated processes
  - Sugar regime reform continuous cycle
  - Investment cycles linked to sugar regime
  - Sugar is an international commodity competitive market
  - Recognised at risk from Carbon leakage
  - World market forces

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The Industrial Emissions Directive

- Article 73(2)
  - Review the need to control emissions from combustion operations <50 MWth
  - Current consultancy project review
  - Decision by end 2012
  - Potentially affects only installation not covered by LCPD

- Maintain at 50 MWth
  - Impact of Annex V ELVs would uniquely disadvantage sector
  - Annex V goes beyond BAT on the basis of economic and technical diversity

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THANK YOU