



Australian Government

Department of Resources, Energy and Tourism

ENERGY MASS BALANCE - A PRACTICAL PERSPECTIVE

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National Framework
for Energy Efficiency

Energy Efficiency
Opportunities

EMBs In Practice

- Practical Benefits?
 - It adds value to your business
 - In the current economic environment , EMB analysis can systematically identify low cost opportunities.



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EMBs In Practice

- Nyrstar
 - Immensely complex site;
 - Port/dock, proportioning plant, sinter, blast furnace, slag fumer, bag houses, kilns, leach, 2 electrolysis plants, complex refinery, fume control, power house, oxygen plant, acid plant, effluent treatment.
 - Old plant – so had some excellent data and some non-existent data
 - Analysed to process level with a high benefit/cost ratio



EMBs In Practice

- How?
 - Management Support
 - Obtain resources
 - Assemble a team



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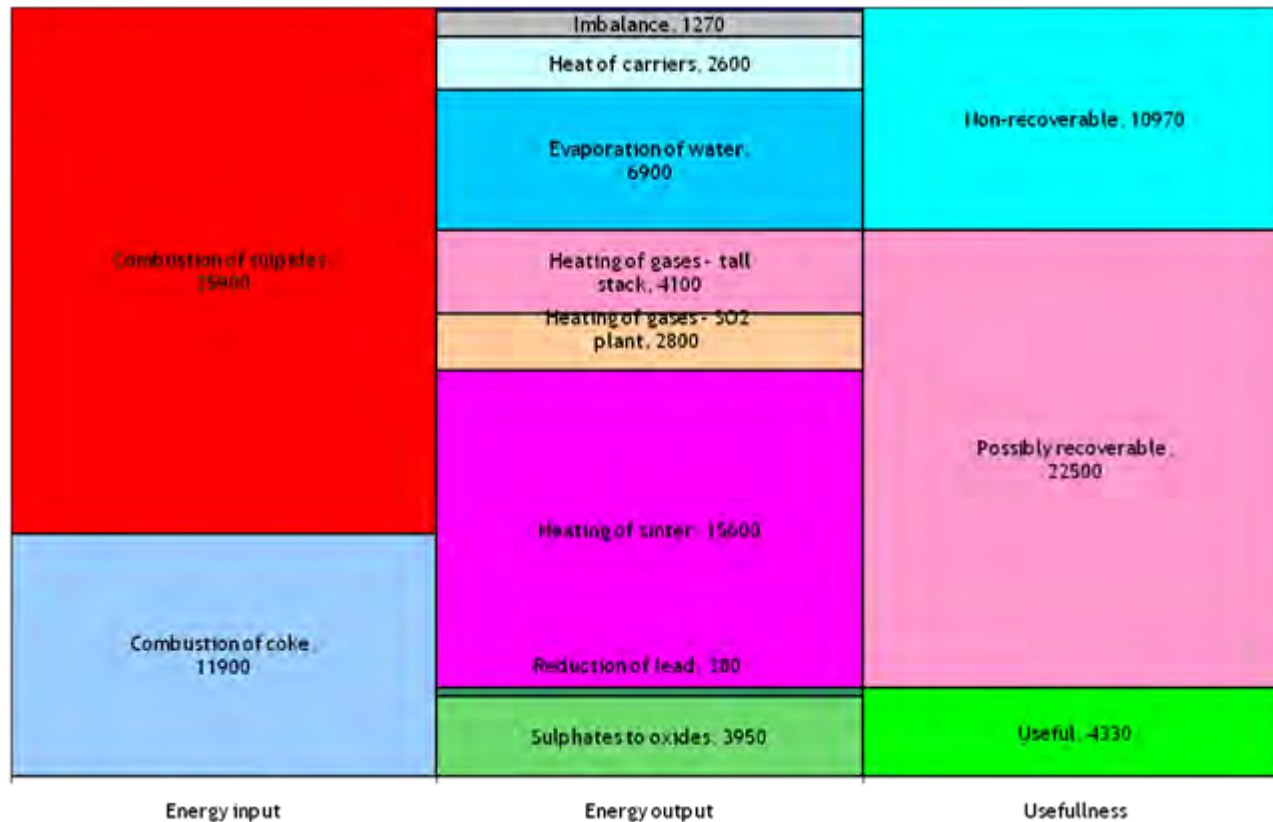
EMBs In Practice

- How?
 - High Level Analysis
 - Determine execution strategy
 - Comprehend process energy flows
 - Data acquisition
 - EMB modelling
 - Analysis



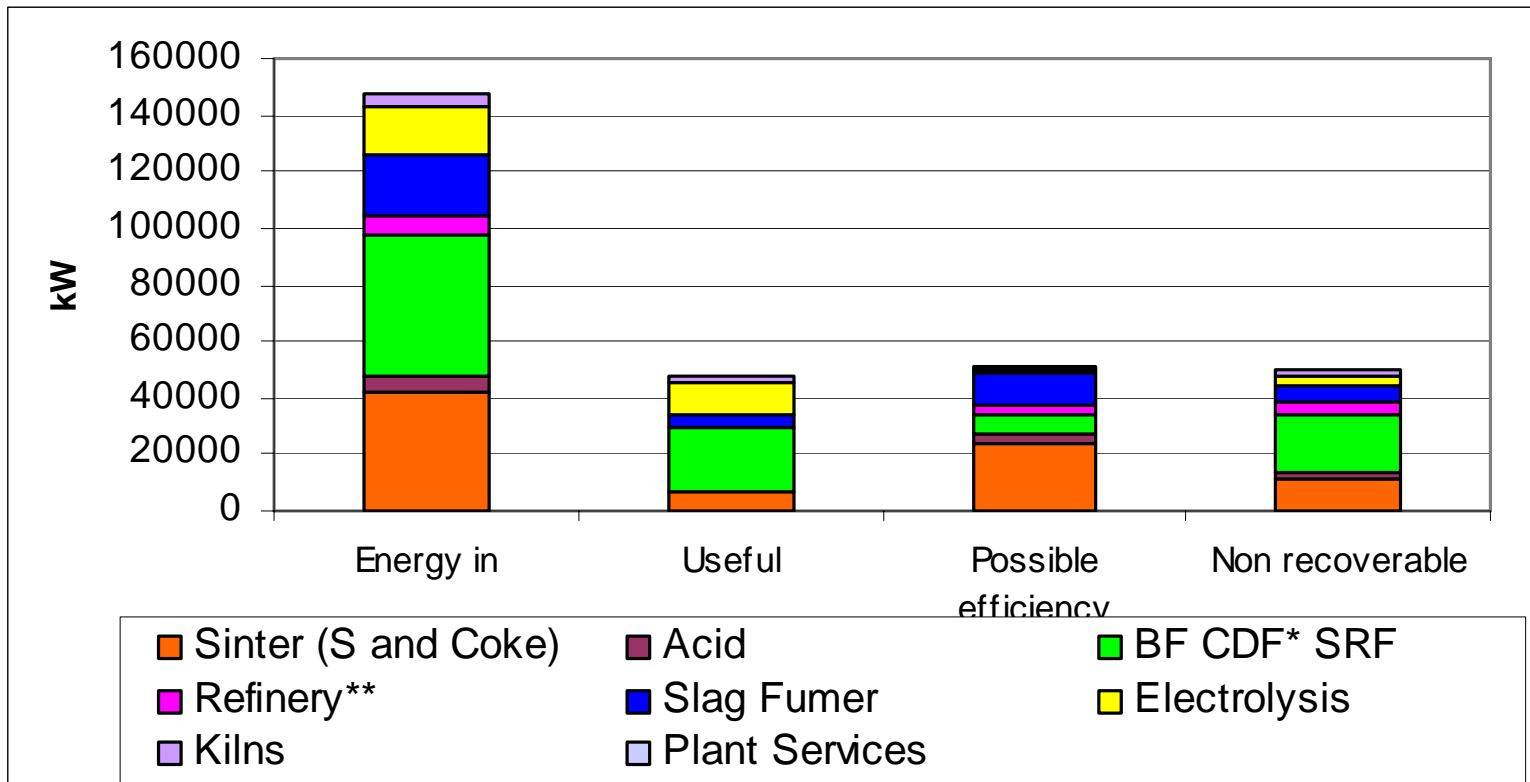
EMBs In Practice

- Results



EMBs In Practice

- results



EMBs In Practice

- Benefits of EMBs
 - Improved process knowledge
 - Systematic identification of opportunities
 - Business case support



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