

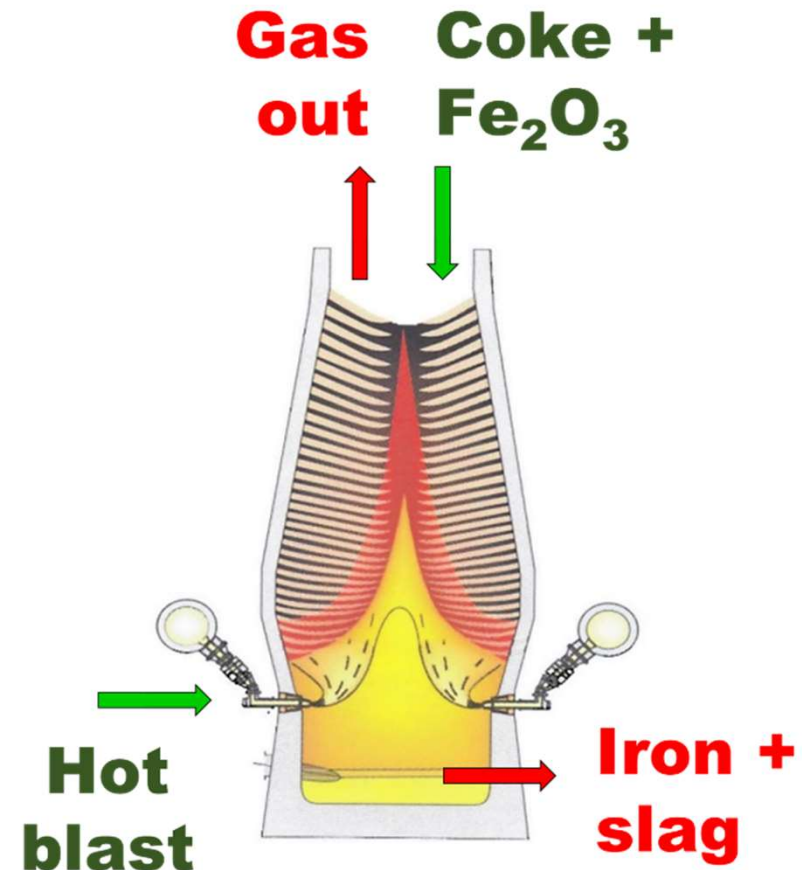
The Strategic University Steel Technology and Innovation Network Presents

WP1.3: Integrated Steelmaking to Reprocess Waste

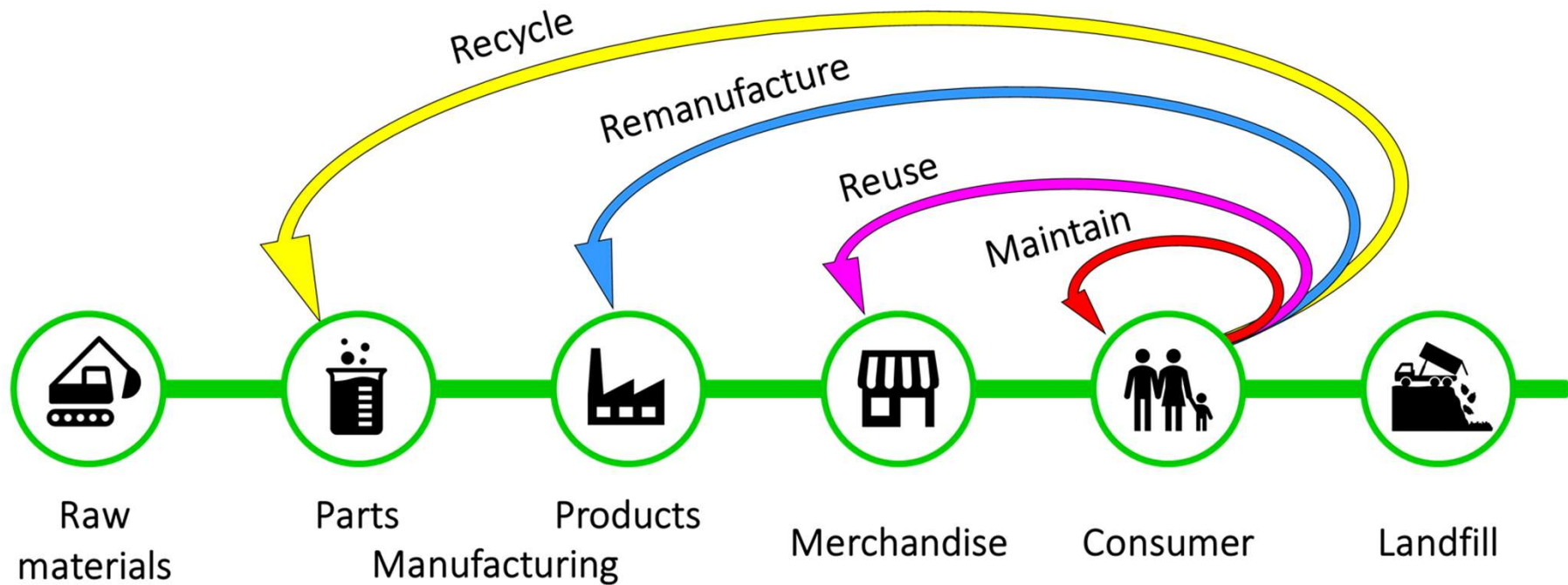
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- Ironmaking uses large amounts of fossil fuel (coal, coke, natural gas)
- There are commercial and environmental drivers to reduce fossil fuel use
- significant technical challenges surround fossil fuel displacement because multiple chemistries take place across different time (ms to hours) and length scales (nm to metres)



Circular economy

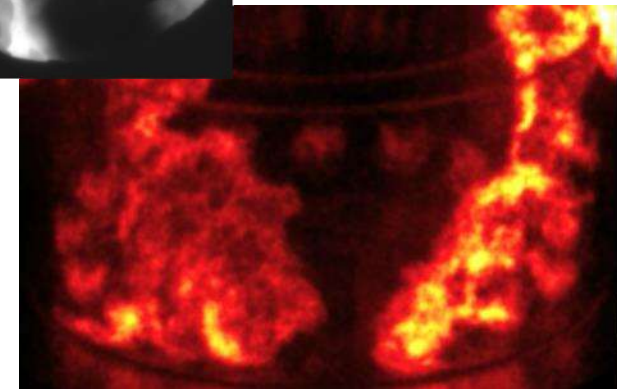
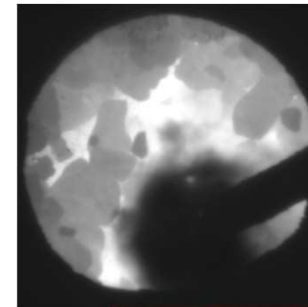


Re-using waste

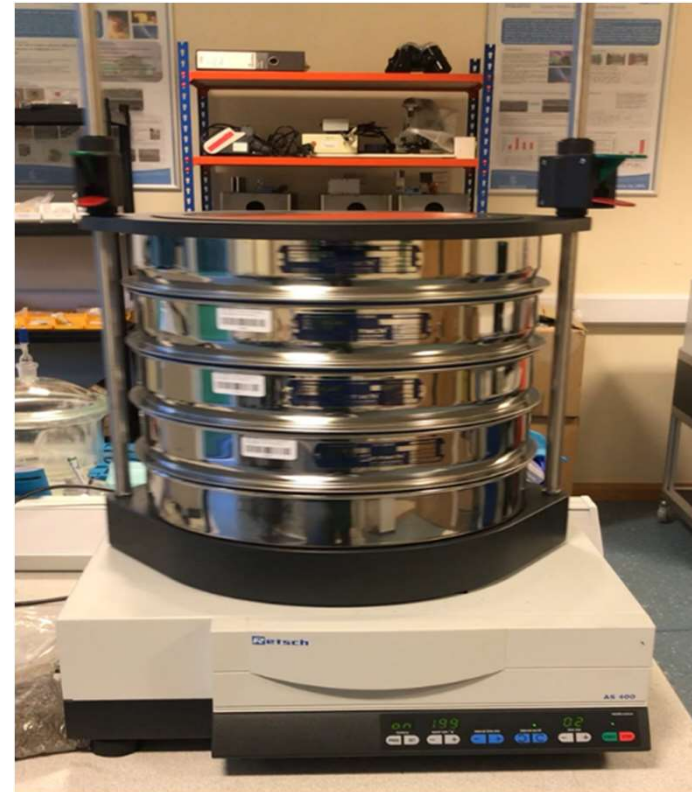


Changing the future

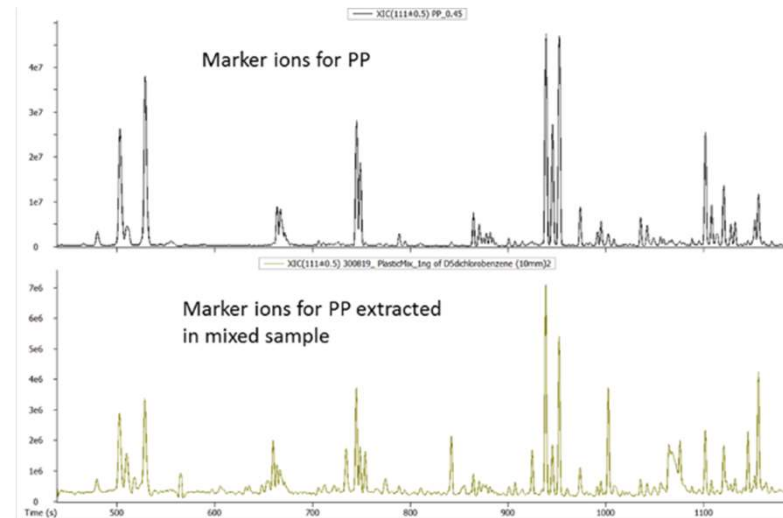
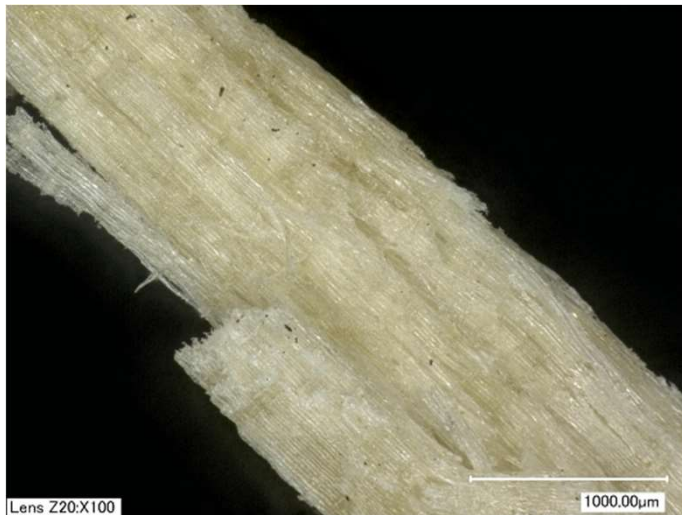
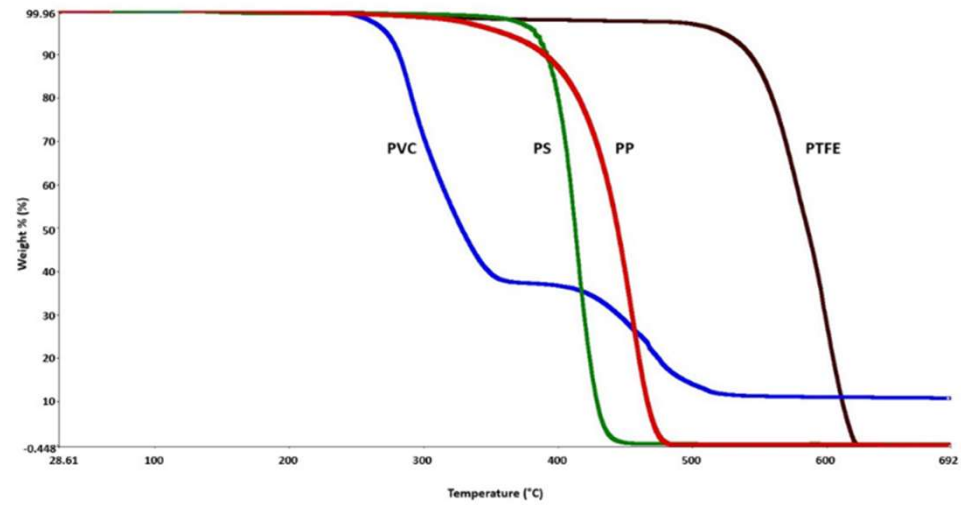
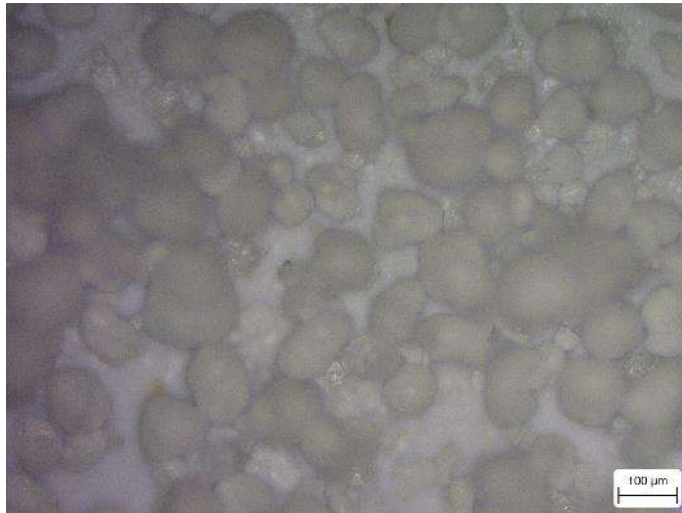
- Sustain can reduce fossil fuel raw materials by changing the carbon inputs to non-fossil fuel material
- Fundamental to this is understanding the ultra-fast and slower chemistries taking place under extreme conditions (temperature and pressure)



Sample preparation



Ultra-fast kinetics





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