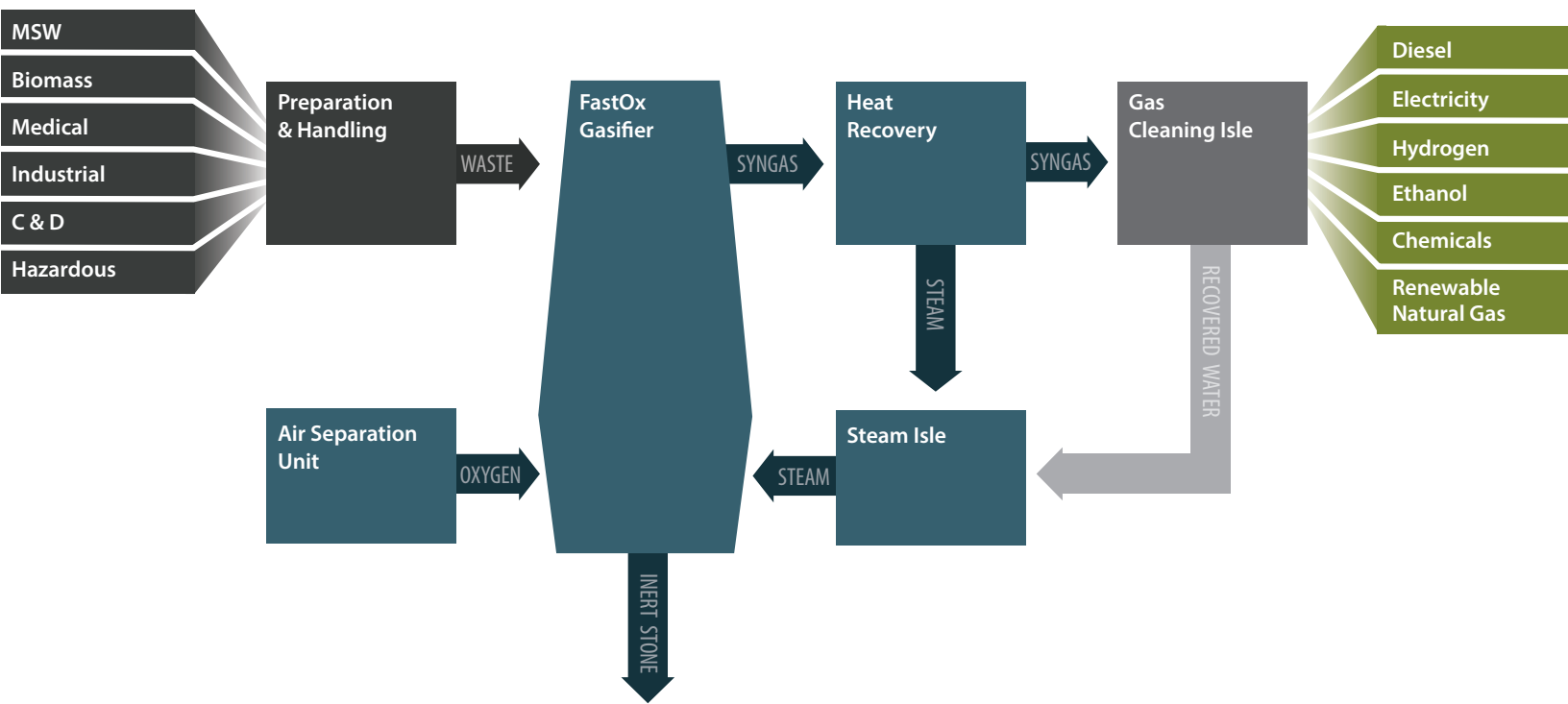


FastOx Gasification | Technical Overview



Inputs/Outputs

Inputs

Oxygen into gasifier: 233 kg
 Steam into gasifier: 96 kg
 Oxygen into gas cleaning: 205 kg

Outputs

Dry syngas energy from gas cleaning: up to 11,139 MJ
 Molten metal from gasifier: 34 kg
 Inert stone from gasifier: 67 kg

Yields

Electricity (genset): 1,083 kWh (gross)**
 Electricity (combined cycle): 1,392 kWh (gross)**
 Fischer Tropsch Diesel Products: 148 liters
 Hydrogen: 78 kg

Syngas

Net Calorific Value % volume
 8.26 - 8.87 MJ/kg (dry syngas)

Composition

Carbon Monoxide: 48–66%
 Carbon Dioxide: 5–15%
 Hydrogen: 18–32%
 Methane: 0.5–12%
 Ethane: < 2%
 Propane: < 2%
 Nitrogen: 0.5–3%
 Oxygen: < 1%
 Argon: 0.5–2.5%

Efficiency

Genset: 35%
 Combined Cycle Power Plant: 45%
 Cold Gas Efficiency: 66–79%
 Parasitic Load: 16–20%

The values calculated for the FastOx gasifier and syngas cleaning is based on 1,000kg and 13,961MJ of MSW with 10% wt. total moisture content. Have a specific feedstock in mind? Sierra Energy offers engineering reports for your renewable project. Email info@sierraenergy.com for more details.