

1 Feedstock

1.10 Biomass

- 1.10.10 Plant/woody biomass
- 1.10.20 Pelletised biomass
- 1.10.30 Algae (excluding growth)
- 1.10.40 Animal-derived biomass

1.20 Wastes (excluding collection)

- 1.20.10 Civil wastes (RDF, plastic, tyres)
- 1.20.20 Sludge
- 1.20.30 Industrial wastes
- 1.20.40 Ash utilization

1.30 Coal (excluding mining)

- 1.30.10 Peat
- 1.30.20 Brown coal and lignite
- 1.30.30 Sub-bituminous coal
- 1.30.40 bituminous coal
- 1.30.50 Anthracite

1.40 Liquid fuels

- 1.40.10 Traditional liquid fuels
- 1.40.20 Biofuels
- 1.40.30 Synthetic liquid fuels

1.50 Other energy sources (excluding mining)

- 1.50.10 Shale
- 1.50.20 Petroleum-derived
- 1.50.30 Natural gas (including biogas)
- 1.50.40 Tar/oil sand

2 Processing

2.10 Solid fuel beneficiation

- 2.10.10 Dewatering and drying
- 2.10.20 New beneficiation methods

2.20 Pyrolysis

- 2.20.10 Fundamentals of pyrolysis
- 2.20.20 Pyrolysis technology development
- 2.20.30 Low-temperature treatment (including torrefaction)
- 2.20.40 Properties of pyrolysis gases and liquids
- 2.20.50 Upgrade of pyrolysis gases and liquids
- 2.20.60 Properties, upgrade and use of char, including biochar

2.30 Liquefaction (X-to-L)

- 2.30.10 Direct liquefaction
- 2.30.20 Fischer-Tropsch synthesis
- 2.30.30 Other X-to-L processes

2.40 Gasification

- 2.40.10 Gasification of char
- 2.40.20 Reaction of volatiles (tar)
- 2.40.30 Gas cleaning
- 2.40.40 Catalysis and behaviour of inorganics during gasification
- 2.40.50 Hydrogen production
- 2.40.60 Gasification technology development
- 2.40.70 Sorption enhanced gasification

2.50 Combustion

- 2.50.10 Combustion of solid fuels
- 2.50.20 Combustion of liquid fuels
- 2.50.30 Combustion of gaseous fuels
- 2.50.40 Emission and capture of pollutants (PM, SO_x, NO_x)
- 2.50.50 Trace pollutants (Heavy metals, PCDD/F, VOC)
- 2.50.60 CO₂ capture and storage
- 2.50.70 Ash behaviour (slagging, fouling, agglomeration)

2.60 Biofuels, biochemicals and biorefinery

- 2.60.10 Biodiesel production
- 2.60.20 Bioethanol
- 2.60.30 Bio-oil
- 2.60.40 Advanced biofuels
- 2.60.50 Biochemicals
- 2.60.60 Biorefinery

2.70 Liquid fuel upgrading and beneficiation

- 2.70.10 Desulphurisation
- 2.70.20 Denitrogenation
- 2.70.30 Oxygenation and deoxygenation
- 2.70.40 Cracking and hydrotreatment
- 2.70.50 Other upgrading and beneficiation

2.80 Other fuel processing technologies

- 2.80.10 Fuel cells (excluding material science and engineering)
- 2.80.20 Energy storage (chemical)
- 2.80.30 Environmental aspects of fuel processing
- 2.80.40 CO₂ utilisation

2.90 Fuel processing reactor types

- 2.90.10 Fixed bed reactor

- 2.90.20 Fluidised bed reactor
- 2.90.30 Entrained flow reactor
- 2.90.40 Slurry reactor
- 2.90.50 Other reactor

3 Fuel properties

3.10 Fuel Properties (solid, liquid, gaseous)

- 3.10.10 Thermodynamic and transport properties
- 3.10.20 Kinetic properties
- 3.10.30 Environmental parameters
- 3.10.40 Fit-for-purpose properties and metrology