

GASIFICATION CONSULTANCY LIMITED



About Us

GCL Gasification Consultancy Limited (GCL) is a UK-based company which has its own 'Biomass and Waste Gasification Technology' patent.. Using this patented technology, it carries out projects that set a precedent in the field of waste disposal and the production of energy from waste on a global scale.



Services



GCL stands out in the biomass and waste technologies sector with the following expertise

- ➔ Biomass waste gasification process information
- ➔ Practical experience of designing and installing biomass waste gasification plants
- ➔ Gasification plant patents
- ➔ High Voltage Plasma Gas Cleaning System
- ➔ Consultancy, design, commissioning, operation and licensing services to Biomass and Waste Gasification, Combined Heat and Power Plants in the international waste to energy market.



GCL Gasification Technology

GCL’s patented technology is the cleanest, most flexible and reliable way of utilising waste. It can convert low-value residuals into high-value commodities, such as chemicals and fertilizers, substitute natural gas, transportation fuels, electric power, steam, and hydrogen.



GCL provides the least-cost alternative for capturing CO2 when generating power.



GCL offers the opportunity to use readily available, renewable, domestic resources to replace costly, imported oil and natural gas from politically unstable regions of the world.



GCL provides increased domestic investment and jobs in industries that have been in decline because of high energy costs.



GCL offers a new path to energy development and consumption consistent with robust environmental stewardship.



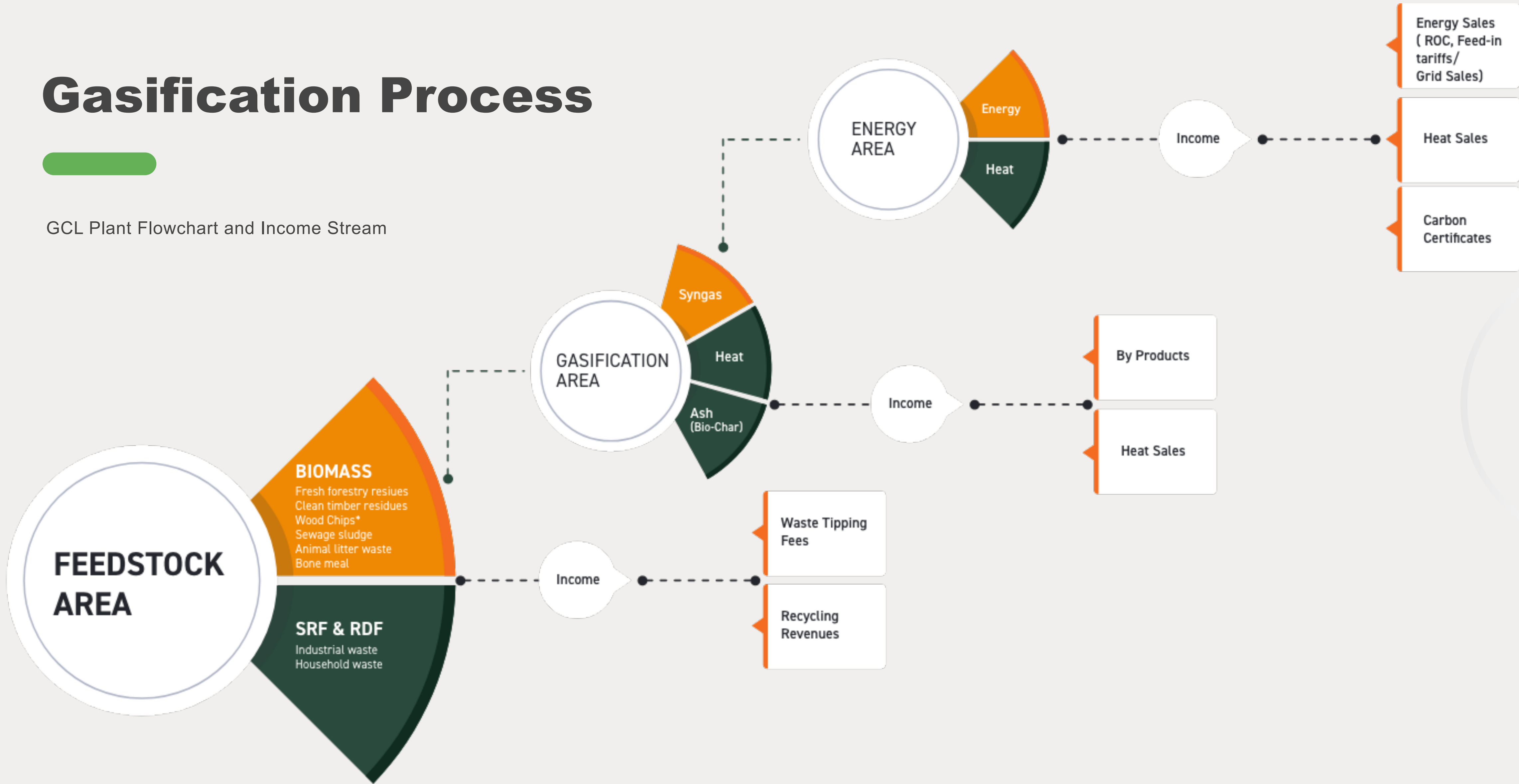
Opportunity

Over 4 billion tons of waste are produced each year, but only 2% of its energy potential is currently utilised. This creates a huge opportunity to turn this waste into clean, renewable energy. With GCL gasification process for recovering energy from unwanted waste, we can achieve:

- Reduced disposal of industrial, rural and domestic waste in landfill sites
- Ongoing compliance with global environmental legislation
- Access to government feed-in tariffs and international incentives
- Dramatic reductions in the carbon footprint of power generation from waste
- Decreased dependency on fossil fuels
- Increased reliance on locally sustainable and renewable energy

Gasification Process

GCL Plant Flowchart and Income Stream





Features of GCL Gasification Process

- Low capital and Operating costs
- Low profile and Close-coupled
- 24/7 Remote and continuous operation
- Operational availability up to 95%
- Modular plant construction (200 ton/day)
- 4 t/h waste up to 4 MWe power output
- Carbon neutral emissions
- Operates any type of waste and biomass

Feedstocks



→ GCL uses multiple feedstocks simultaneously. 1.2 ton of waste generates 1 MWe electricity plus 3 MWt of heat



GCL Plants



Low capital and
operating cost



Excellent
R.O.I



Sustainable CHP
Generation



Responsive to
market needs



Safe 24/7
unmanned operation



Intensive and
miniaturized



Low profile and
low impact



High production
efficiency



Economic Benefits

- The GCL process turns inexpensive feedstocks, biomass and waste into valuable commodities such as electricity, substitute syngas, fuels, chemicals and fertilisers. Waste management plants can reduce operating costs by gasifying MSW instead of using costly natural gas
- Gasification plants have much lower operating costs than conventional processes as they are more efficient, require less back-end pollution control equipment, are fully automated and have need for less on-site staff.
- The GCL process offers wide fuel flexibility between solid, gas and liquid feedstocks, thereby providing greater freedom to adjust to feedstock price and availability.
- Char, the principal by-product of gasification, and a rich source of carbon, is readily marketable as a fertiliser or for waterpurification.
- Using commercially available technology, GCL power plants can achieve engine efficiency of 35-40 percent. Technology improvements will boost this efficiency to significantly higher levels.



Projects

WASTE GASIFICATION PLANT: COMMISSIONED 2015



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6

Site location: South Korea

Feedstock type: SRF

Gasifier Capacity: 30 tons/day

Power Generation: 1.2 MWh

Gas Clean-up: Cyclones, Gas Coolers, Water Scrubbers, Plasma HV, Demisters

System Config.:Gasifier Reactor, Gas Clean-up Train, Syngas Engine Generators

Projects

1

HAYAT MDF PLANT: COMMISSIONED 2016

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Site location: Gebze, Turkey

Feedstock type: MDF

Gasifier Capacity: 60 tons/day

Power Generation: 2 MWh

Gas Clean-up: Cyclones, Gas Coolers, Dry Scrubbers, Filters

System Config.: Gasifier Reactor, Thermal Oil Heater, ORC Turbine Generators

Projects

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2

SKY PLANT: COMMISSIONED 2017

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6



Site location: Bangkok, Thailand

Feedstock type: Biomass

Gasifier Capacity: 25 tons/day

Power Generation: 1.0 MWh

Gas Clean-up: Cyclones, Gas Coolers, Water Scrubbers, Plasma HV, Demisters

System Config.: Gasifier Reactor, Gas Clean-up Train, Syngas Engine Generator

Projects

- 1
- 2
- 3

MLT GASIFICATION PLANT: COMMISSIONED 2018

- 5
- 6



Site location:Malatya,Turkey

Feedstock type: RDF from MSW

Gasifier Capacity: 125 tons/day

Power Generation: 4 MWh

Gas Clean-up:Cyclones, Gas Coolers, Dry Scrubbers, Filters

System Config.: Gasifier Reactor, Steam Boiler, Steam Turbine Generators

Projects

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BGB GASIFICATION PLANT: COMMISSIONED 2020

6



Site location: Bolu, Turkey

Feedstock type: Chicken Manure

Gasifier Capacity: 72 tons/day

Power Generation: 2.5 MWh

Gas Clean-up: Cyclones, Gas Coolers, Dry Scrubbers, Filters

System Config.: Gasifier Reactor, Steam Boiler, Steam Turbine Generators

Projects

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EVR GASIFICATION PLANT: COMMISSIONED 2021



Site location: Trabzon, Turkey

Feedstock type: RDF

Gasifier Capacity: 360 tons/day

Power Generation: 12 MWh

Gas Clean-up: Cyclones, Gas Coolers, Dry Scrubbers, Filters

System Config.: Gasifier Reactor, Thermal Oil Heater, ORC Turbine Generators