



## The challenges Climate change compared to 1990 levels. Waste and waste disposal Today, the world generates 2.01 billion metric tons of municipal solid waste (MSW) annually. The World Bank

estimates that global waste will grow to 3.4 billion metric tons by 2050, an increase of 69 per cent.

Recycling rates for municipal waste are slowly increasing in Europe, indicating some progress towards using more waste as a resource and achieving a circular economy. However, less than half of Europe's waste is being recycled.

In 2019, transportation produced the equivalent of 1.1 billion metric tons of CO2 emissions. This was the sixth consecutive year that transportation-related emissions had increased and was a 33 per cent increase

Road transport constitutes the highest proportion of overall transport emissions. In 2019 it emitted 72% of all domestic and international transport greenhouse gasses (GHG). In addition to road transport, international aviation and international maritime sectors contribute to overall emissions related to transportation. GHG emissions from these sectors have increased since 1990 and are growing at a faster rate than any other transport mode.

This presents us with an enormous challenge - and opportunity.



Our goal is to meet the demand for cleaner fuels, address our waste challenges, reduce global carbon emissions and create a more circular economy for a healthier environment for future generations.

Following the climate targets set in the Paris Agreement, the European Union aims to make Europe the first climate-neutral continent by 2050. In 2021, the European Commission adopted "Fit for 55", which aimed to reduce greenhouse gas emissions (GHG) by at least 55 per cent by 2030.

GIDARA Energy addresses the waste and climate challenges by converting non-recyclable waste into renewable fuels using our patented and proven technologies.

A key focus of GIDARA Energy is reliability. Our technology has been applied in operating factories for more than ten years, with feedstock varying from MSW, waste wood, sewage sludge to RDF.

Additional benefits of GIDARA Energy's approach are the supply of excess CO<sub>2</sub> to local greenhouse horticulture, the recovery of solid residues used for making bio-composite cement filling, and minimising the use of precious water resources.

# HTW® Technology

Our patented HTW® technology is the leading gasification process, with decades of waste gasification experience at commercial scale. Over the years, the technology has been significantly improved to achieve better results and handle a broad range of feedstocks.

### Our technology uses a variety of waste materials and converts them into valuable end products

### The waste issue

### Our solution

### **Emission reductions**























### Road transport fuels

- Green Gasoli
- Gas (CNG I NG)
- Renewable Diesel Bio-mmtpa
- Green Hydrogen



### **Marine Fuels**

- Biomethanol
- Bio-Ammonia
- Bio-DME
- Renewable Natural Gas (CNG, LNG)



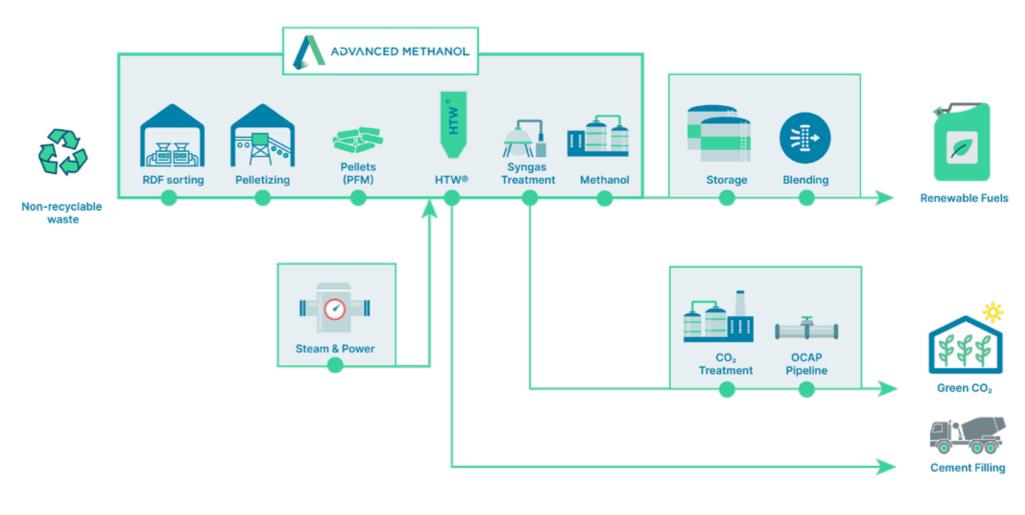
**Sustainable Aviation Fuels** 



High Growth End Markets (e.g. Chemicals)

# Advanced Methano facilities

Our flagship facilities in the Port of Amsterdam and Port of Rotterdam



GIDARA Energy's Advanced Methanol facilities in Amsterdam and Rotterdam will produce approximately 180.000 tons of advanced methanol per year by converting local non-recyclable waste equivalent to that of 580.000 households yearly, which otherwise would be landfilled or incinerated.

The advanced methanol meets governmental objectives to achieve CO<sub>2</sub> emission reductions defined in the European and national frameworks. The produced renewable fuel will replace fossil fuels, creating significant carbon savings.

# We make sure our waste isn't wasted

### **GIDARA Energy**

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