

Waste Gasification

A proven solution towards **Advanced Biofuels**

GIDARA[®]
ENERGY



Background

- ✓ GIDARA has acquired the proven and applied HTW® biomass/RDF gasification technology
- ✓ GIDARA Energy is building an advanced biofuels facility in Amsterdam “Advanced Methanol Amsterdam (AMA)” that converts refuse derived fuel (“RDF”) and waste wood into advanced bio-methanol
- ✓ GIDARA Energy consists of:
 - Ara Partners, an industrial private equity fund
 - G.I. Dynamics, an engineering and project development firm targeting renewable infrastructure

GIDARA – AMA Project: Vital Statistics

Plant Location in Amerika haven Amsterdam:



Plant #1: Project Schedule

- | | |
|----------------------|----------------|
| ✓ Basic engineering: | Completed |
| ✓ FEED: | Ongoing |
| ✓ Start of EPC: | Q1-2022 |
| ✓ Operational: | Q1-2024 |

Technology: Number of Plants Built

- ✓ HTW® 2.0 Technology
- ✓ 4 Plants (Germany, Finland & Japan)
- ✓ Existing Demo & Testing Facility

Equity Sponsor: Project Developer:

- ✓ Ara Partners
- ✓ G.I. Dynamics

Ara Partners

Ara Partners makes buyout and growth investments in companies targeting decarbonization of the chemical, materials, industrial and energy industries. Ara targets companies that provide the building blocks necessary to run the global economy. Ara focuses on high-growth businesses with minimal technology risk or commodity exposure.

The Ara Strategy targets investments driven by newly emergent demand for profitable companies with superior business models made possible by decarbonizing the fundamental products that underpin the global economy.

Ara Focuses on high-growth businesses with minimal technology and commodity risk.



Ara Partners



Industrial &
Manufacturing



Chemicals &
Materials



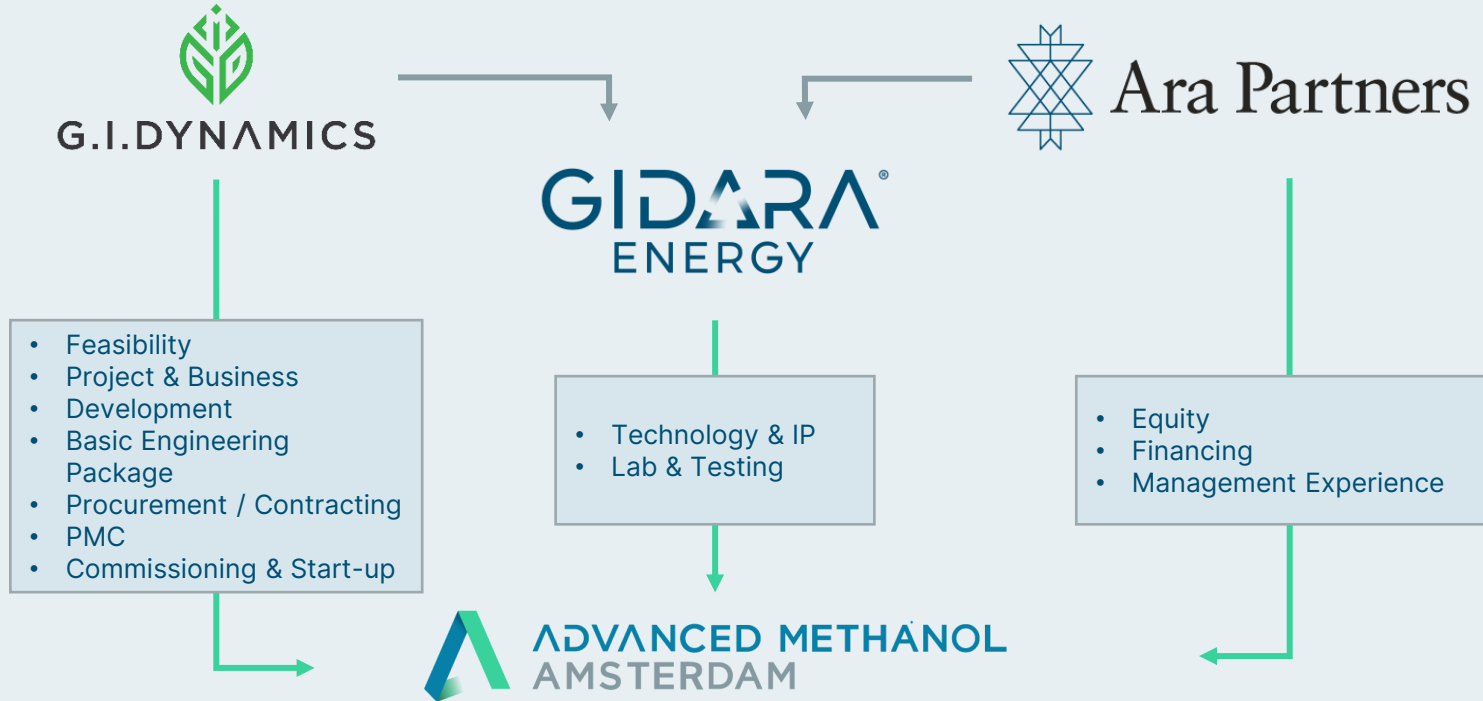
Food & Agriculture



Energy Efficiency &
Green Fuels

GIDARA Energy Structure

GIDARA is jointly owned by **Ara partners**, US private equity firm, and **G.I. Dynamics**, Dutch engineering and project development firm, for the sole purpose of building Renewable Gasification to (Bio-)Fuel plants.





**Non-Recyclable
Waste**



Syngas



**Advanced
Biofuels**

GIDARA's products serve the high-growth European market

Compliance with RED II
for Advanced Biofuels.
Plus Support in EU Waste
Management



Advanced
Biofuels (RED II)



Waste
Incineration &
Landfill

Compliance with **EU RED II**:

- Bio-syngas to downstream applications is in full compliance with RED II.
- By 2030, all EU member states need to blend 3.5% Advanced Biofuels.

Alignment with **EU Waste Management Directives**:

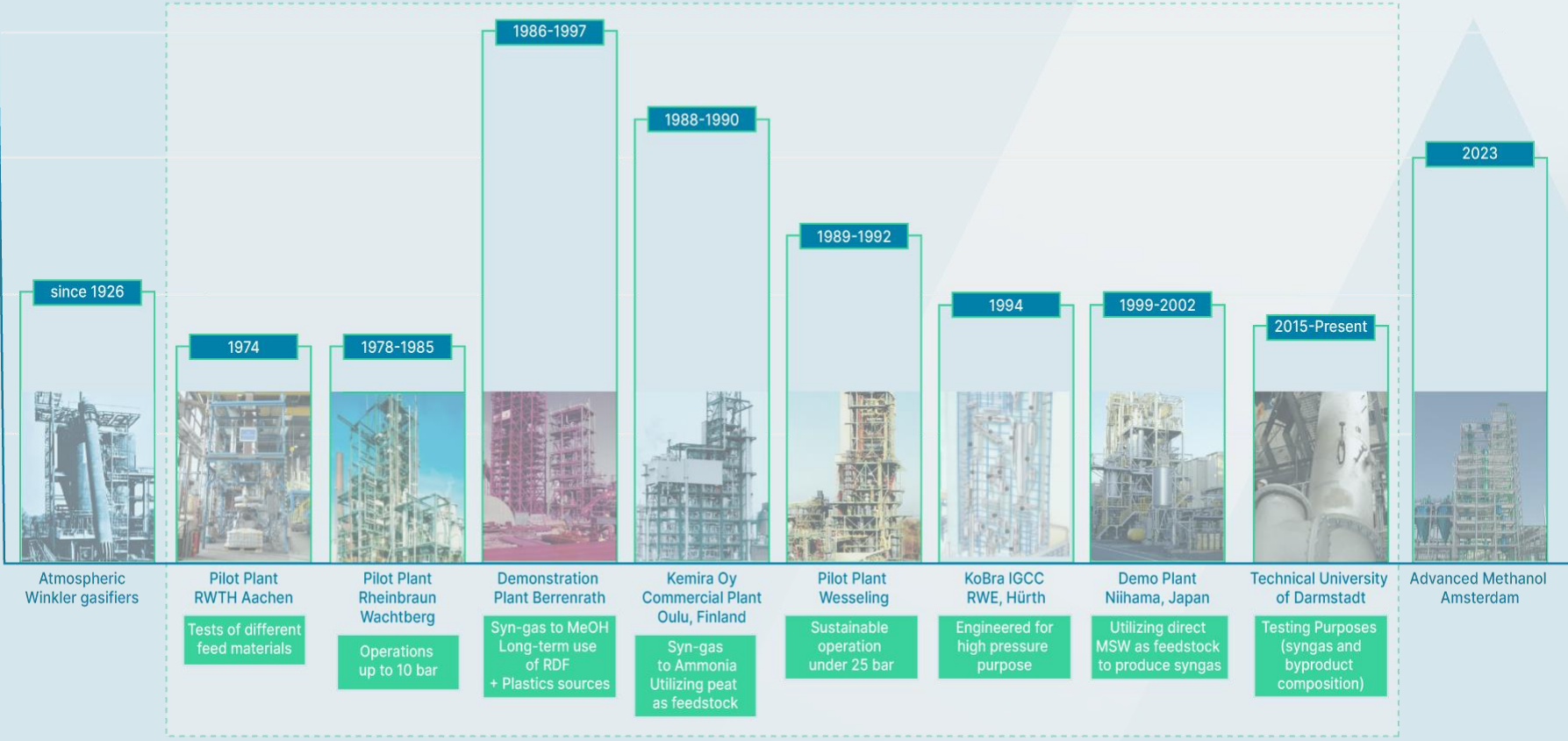
- Current non-recyclable waste can have an extra life, whereby no waste incinerated or landfilled is needed.

Winkler

High Temperature Winkler (HTW®)

HTW® 2.0

25 meters
20 meters
15 meters
5 meters



Proven Technology



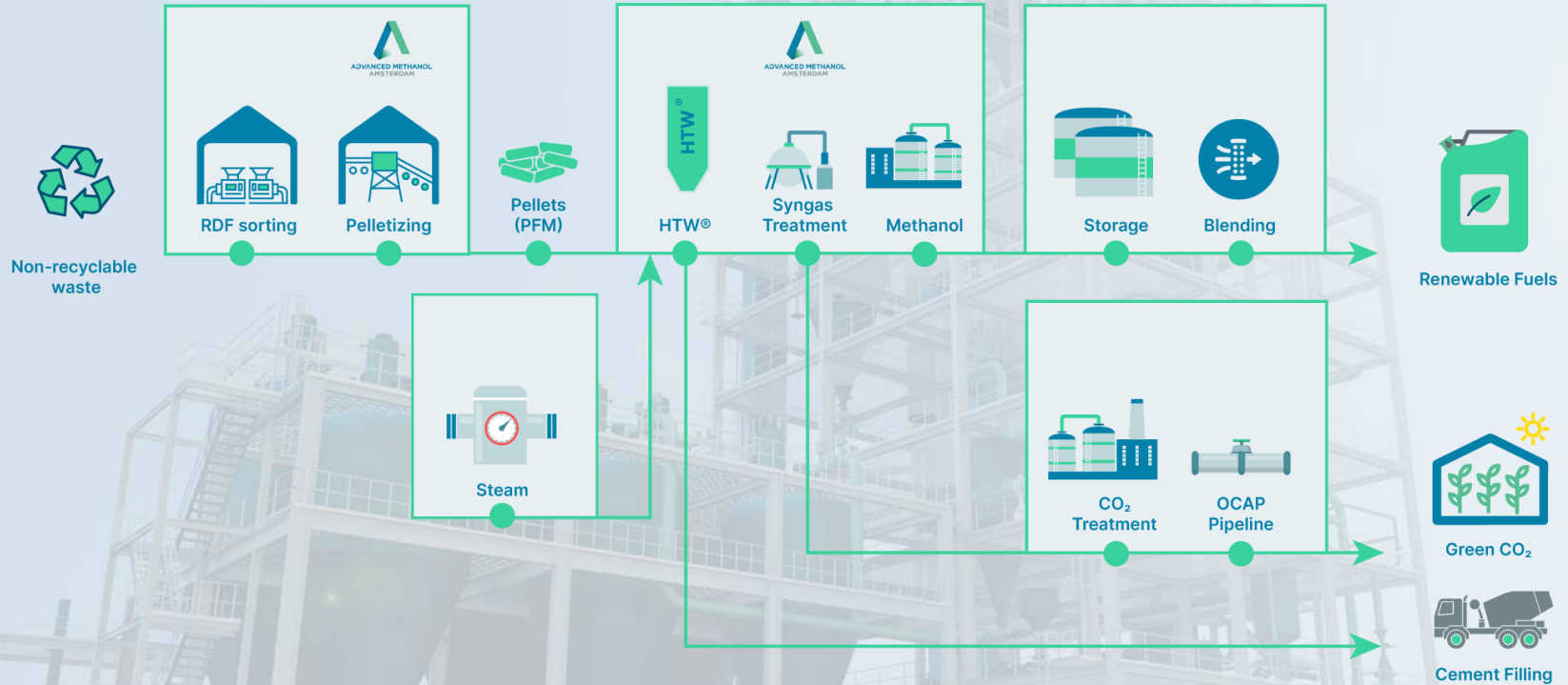
Versatile feedstock + end product (Syngas)



Experienced team



AMA – Process Flow





#	Interface
1	PARO supplying waste wood and RDF
2	Pelletizing Company with conveying line to Gasifier
3	Methanol
4	Blended fuel – RED II requirement for bp
5	Dust and bottom product to cement industry
6	Linde/OCAP to export CO2
7	Steam/Power supply

voorbij prefab

1 PARO

5

2

Zenith Energy

3

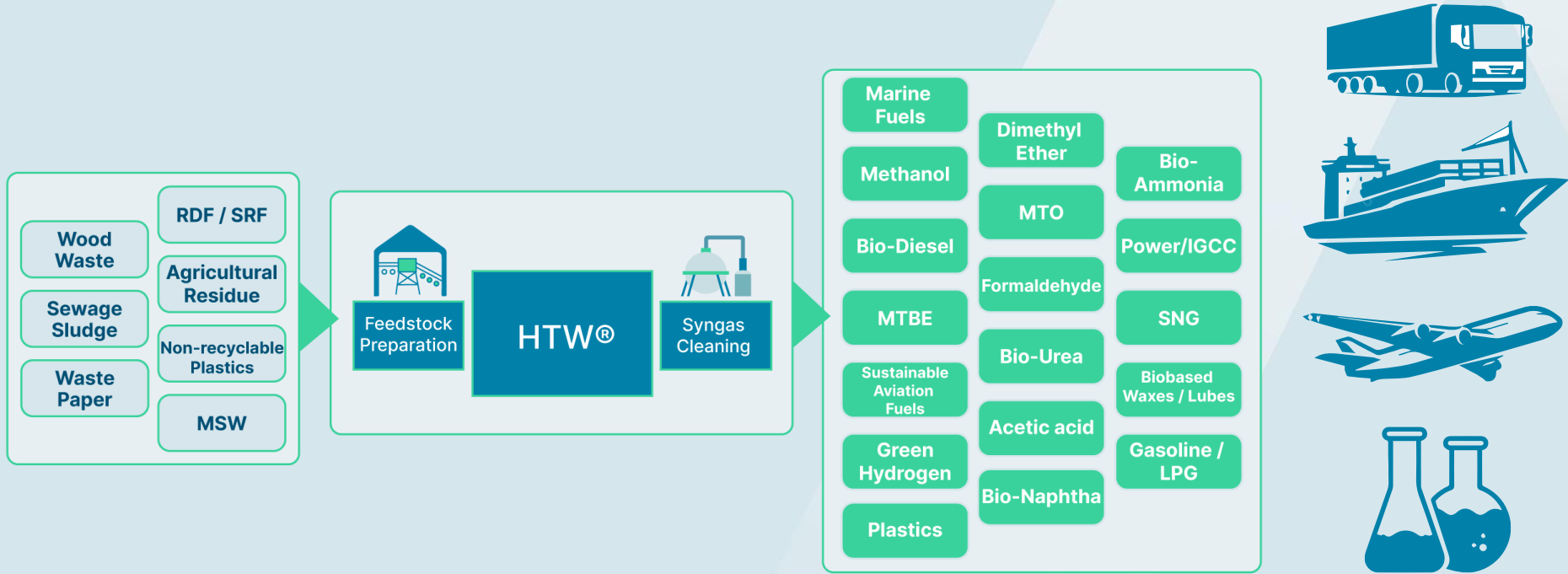
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6

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Feedstock and Products



GIDARA Energy

We make sure our Waste isn't Wasted