SeaH4

ALGAE-BASED BIOFUELS

IMO INTERNATIONAL MARITIME ORGANIZATION

Background & Needs of the Innovation

3Gt of CO_2e

Africa's ports underperform as trade hubs

Inequality

Energy access & ownership are very concentrated

Dependency

300 Mt of fuels consumed by shipping annually

Economy

2050's infrastructure is built today

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Process

Unique Selling Points

- Solving the issue of **sustainable feedstock supply** at scale.
- African-borne solution **maximising localisation.**
- Production and supply adjacent to **main trade routes** between Asia and Europe.
- Enabling the continued use of the established fossil **fuel infrastructure, carbon neutrally**.

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Accelerate energy access for people of Africa and ensure a

Just Energy Transition to low carbon economies.

- **Reduce emissions & health burden**
- **Improve GDP & trade balance**
- **Creating pull for deep sea trade**
- **Impact on the Labour market**

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Comparison to other green energy solutions

	Safe to Humans & Nature	No Competition with Food	Energy Density as blend-in Fuel	Ready to Go	Unlimited Scalability
SeaH4	✓	✓	✓	✓	✓
Green H2	✗	✓	✗	✗	✓
Batteries	✗	✓	✗	✓	?
Ammonia	✗	✓	✓	✓	✓
HVO	✓	✗	✓	✓	✗
Ethanol	✓	✗	✓	✓	✓
Lipid Extraction *	✓	✓	✓	✗	?
Solar	✓	✓	✗	✓	?

** SeaH4's process is inherently different from Lipid extraction from micro-algae*

SeaH4

Pioneering **socio-economic development** in underdeveloped, low-to-no value natural areas

Transformative impact on SDGs

Affordable & Clean Energy
15k t of carbon neutral fuel/a

Climate Action
42k tons/a CO2e

Life under Water
13k t of dissolved CO2

No Poverty
enabling salaries for 1000ppl

Good Health
particle free, NOx and sulphur free

Decent Work & Economic Growth
spearheads for economic hubs & job creation

Reduced Inequalities
Designed for rural coastal communities

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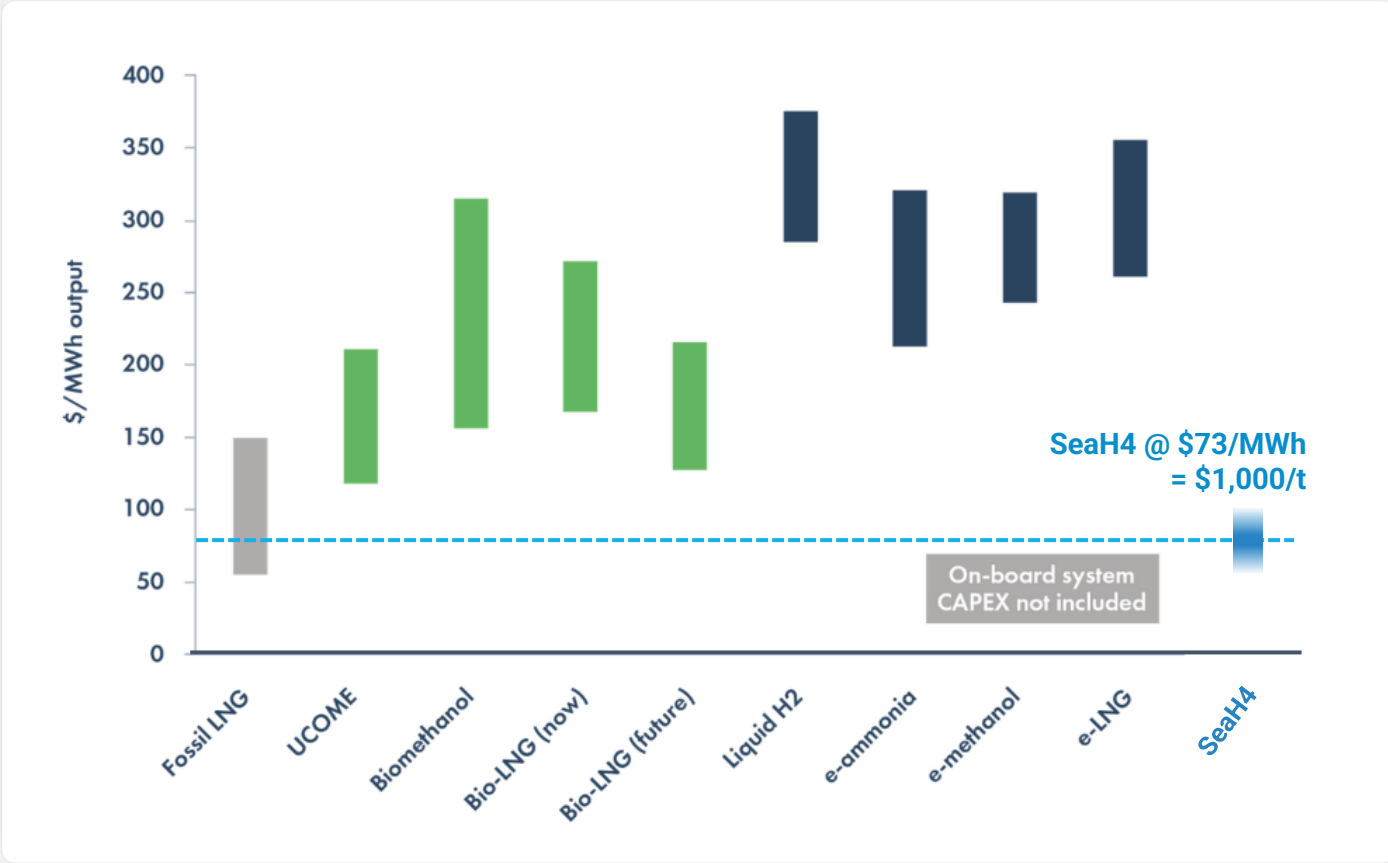
Viability of cost

Cost forecast on renewable bunker fuels for shipping



Source: www.sea-LNG.org + SeaH4

SeaH4

Profitability

	Jaques Saade	ValeMax
Life time	14yrs	30yrs
Life time CO_2 savings	1.400.000t	2.100.000t
Life time CO_2 savings	**133mn EUR**	**200mn EUR**
Construction Cost	**120mn EUR**	**105mn EUR**
Annual Bunker Cost	**33mn EUR**	**23mn EUR**

Vessel Amortization via Carbon Credits: 12yrs

Plant Amortization via Bunker Cost: 10yrs

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Geostrategic Context

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Established Partners

GreenVoyage 2050

FREEPORT SALDANHA

transport
Department:
Transport
REPUBLIC OF SOUTH AFRICA

BOld

CFA
Climate Finance Accelerator

OCEANHUB AFRICA

ENERGY INVESTMENT VILLAGE

BLUE INVEST AFRICA

CLEAN TECH OPEN
2022 COHORT

LIBERIAN REGISTRY

SEA-LNG

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Growth & Development Path

2023

PROTOTYPE PHASE
2x Scientists & 6x management

Outcome:
IP | Detail design for next phase

2024

PILOT PHASE A
25x management & design

Outcome:
Site selection & procurement | EIA | Licenses & permits for pilot and full scale

2025

PILOT PHASE B
125x full staff range

Outcome:
First revenue | Launch of commercial products | Kickoff full scale plant installation | Industry validation

Revenue:
1t of CH_4 | 1t of CO_2 daily

2025

PAN-AFRICAN BRANCH OUT
5x development team per country

Outcome:
Breaking ground for additional plants globally to accelerate scale up in MENA region

2027

FULL SCALE PRODUCTION
700 - 1 000 full staff range

Outcome:
Achieving profitable operation

Revenue:
15k t/a LNG
13k t/a CO_2
42k t carbon savings/a

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