



Company Presentation

July 2021

Arbaflame creating value from certified bio-waste



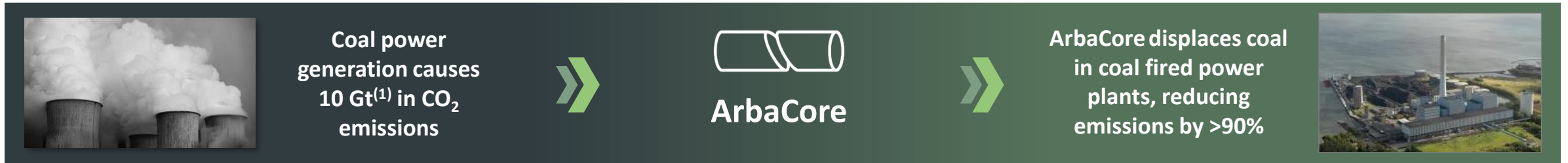
ArbaRaf



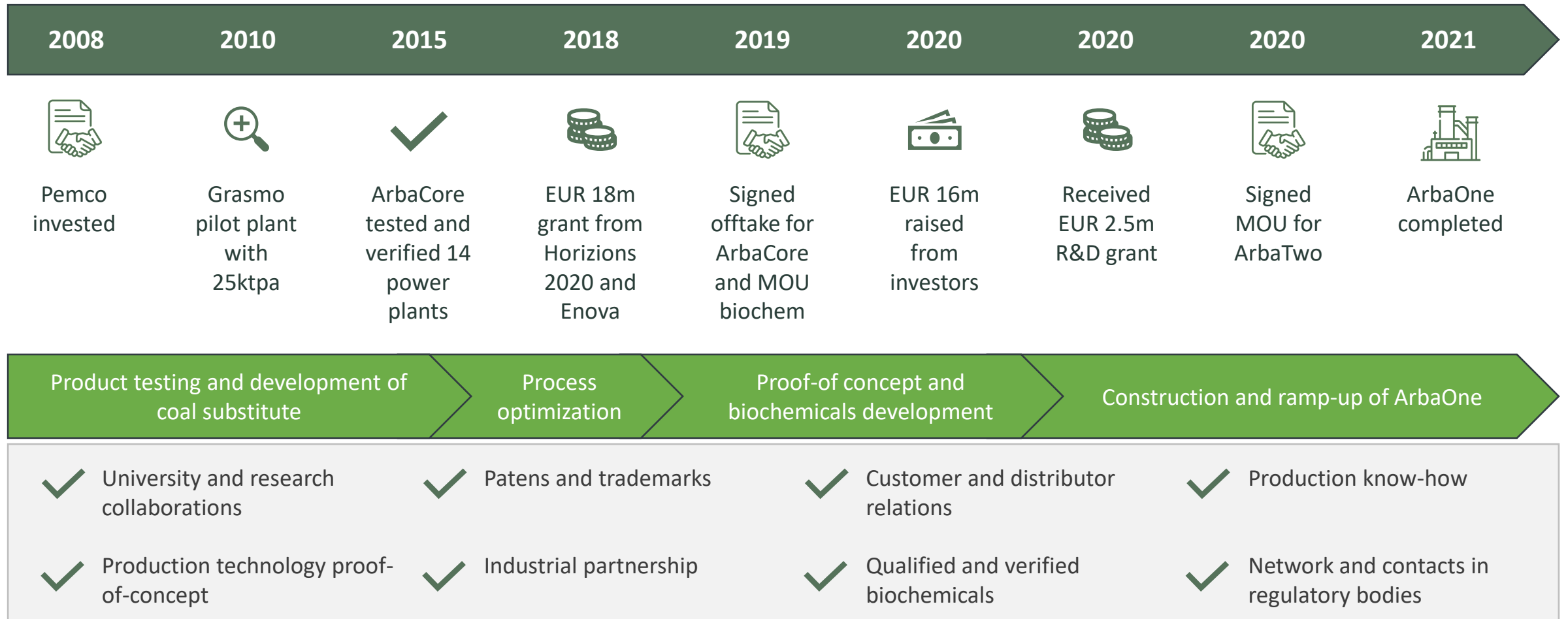
Arbaflame's production process yields high-value bio-chemicals that are used in a wide range of applications



Arbaflame reduces CO2 emissions with a product portfolio that contributes to the circular economy

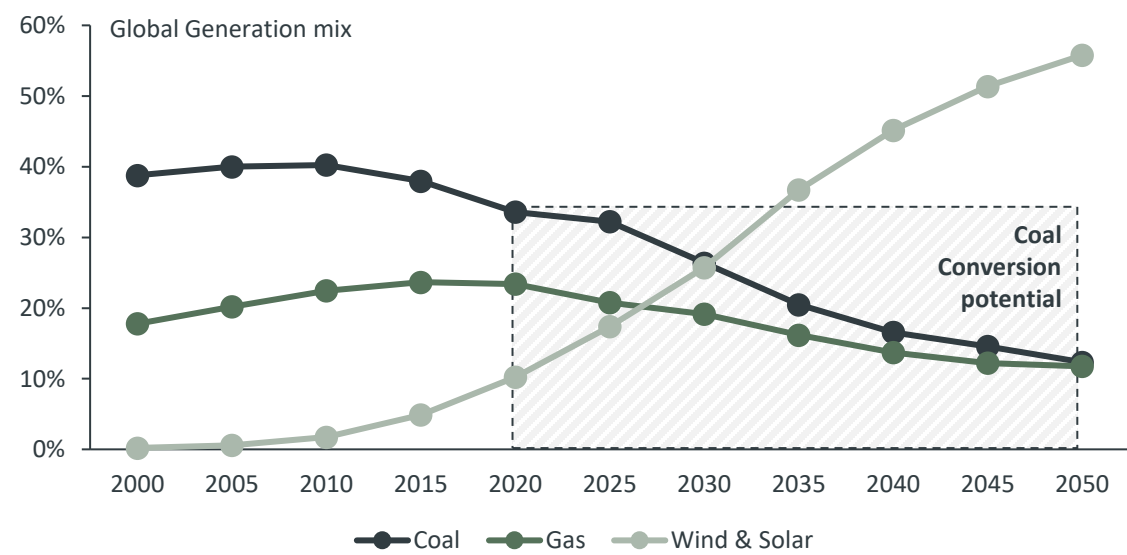


More than 10 years development towards first commercial plant

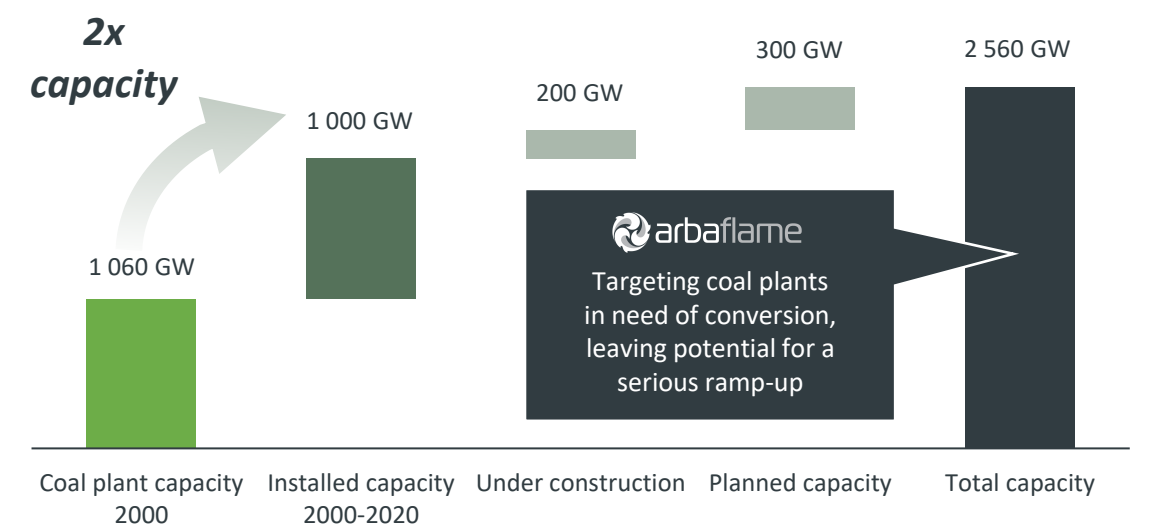


Vast conversion potential in the EU with major upside potential globally

More rapid phase-out of coal is needed



Since 2000, the world has doubled its coal-fired power capacity

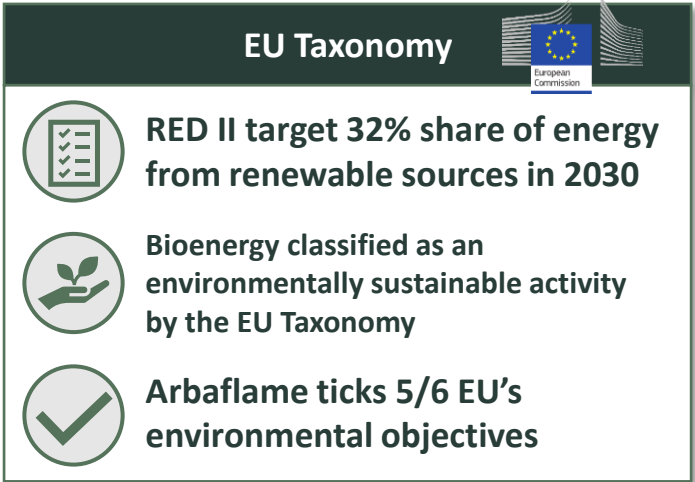
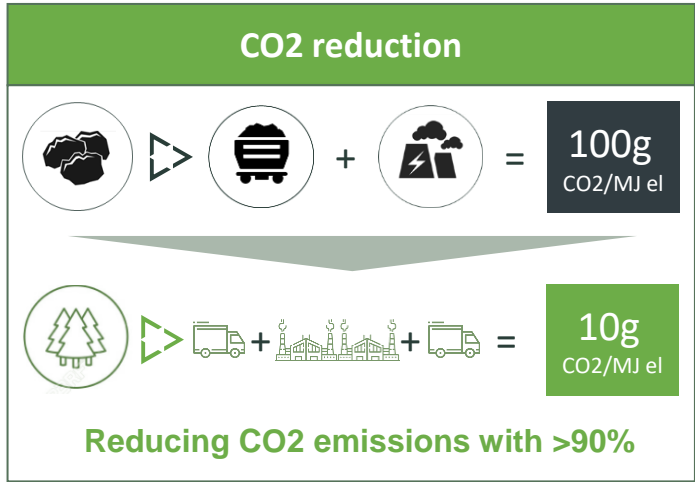


EU is leading the phase-out of coal



Source: Bloomberg New Energy Finance; Hawkins Wright, Black Pellet Market Outlook 2020; United States Department of Agriculture; Renewable Energy Institute, Japan; FutureMetrics, Japan Biomass Outlook, Fortum; Carbon Brief; S&P Global Market Intelligence

Arbaflame provides the solution for displacing coal-fired power generation



Displacing coal

With sustainable bio-waste

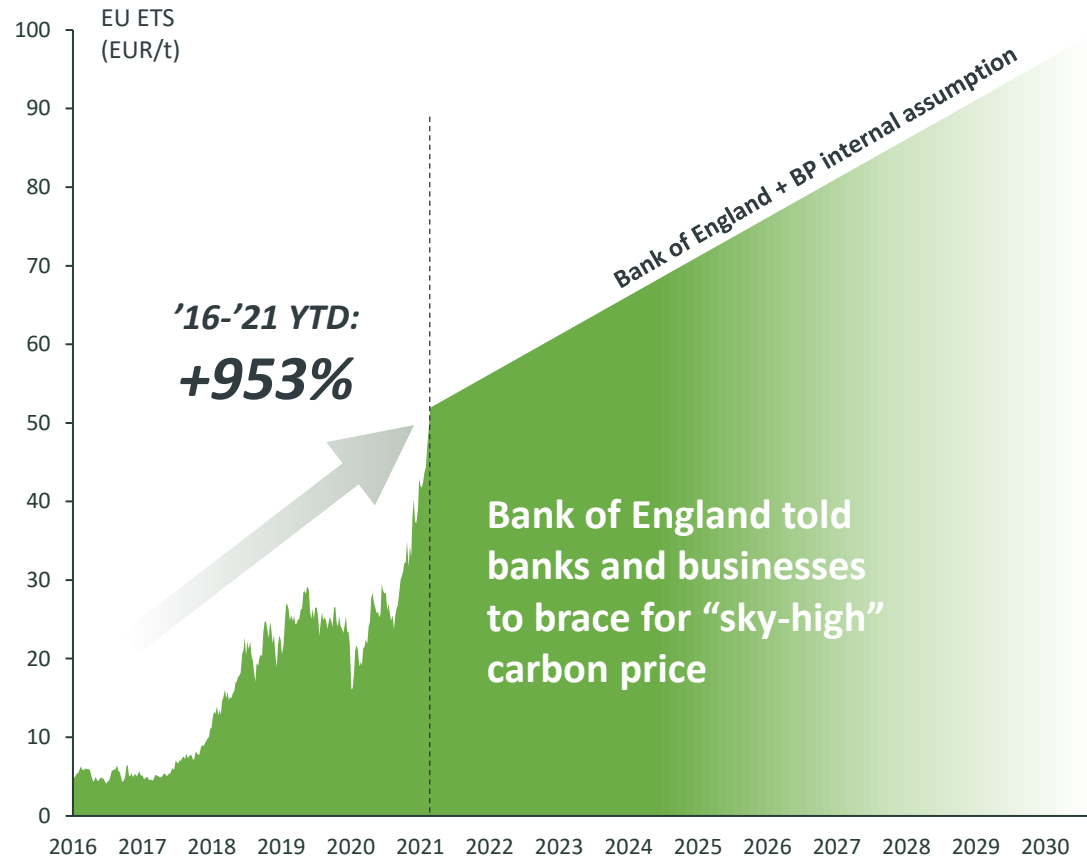
Very well positioned for the full EU Taxonomy roll-out

Arbaflame's process is a natural form of carbon capture²⁾ that can be scaled with immediate beneficial environmental impact

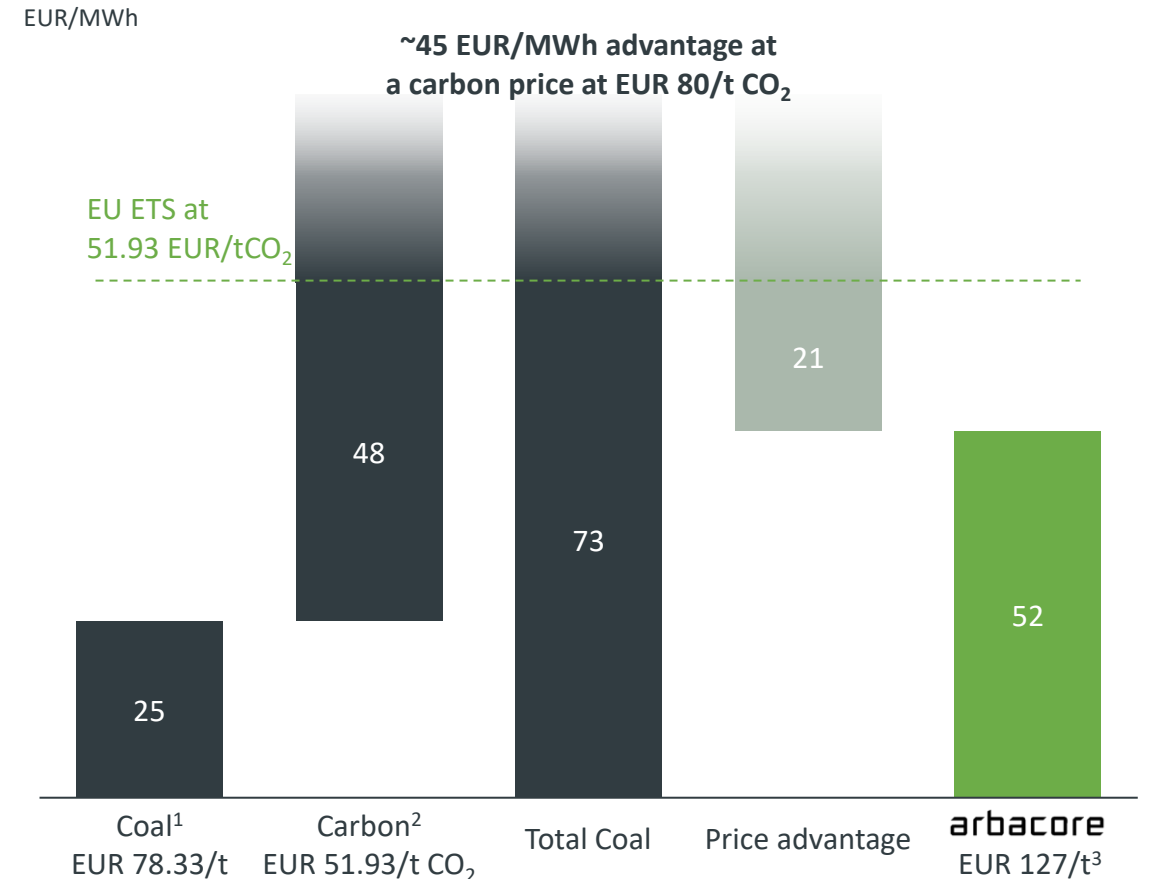
Source: Company information
Note: 2) FSC = Forest Stewardship Council, PEFC = Programme for the Endorsement of Forest Certification, SBP = Sustainable Biomass Program Sequestration...

ArbaCore having a significant cost advantage of coal

Carbon prices are expected to continue its ongoing rise...



...giving ArbaCore a cost advantage over coal



Source: Factset as of 10.05.2021; Bank of England; BP

Note: 1) Coal (API4) price per 21 April 2021, assumed calorific value of 25GJ/t, 2.9kg CO₂ per kg coal and assumed coal plant efficiency of 45%; 2) ETS price per 21 April 2021 and assumed coal plant efficiency of 45%; 3) Expected production cost of ArbaCore for ArbaTwo

ArbaCore is a superior coal substitute compared to white pellets

ArbaCore advantages over white pellets for coal replacement



Coal-fired power plants can switch to ArbaCore with minimal CAPEX compared to white pellets



Water resistant – can be stored outdoors



40% lower volume for same energy content
→ lower logistics costs



Safer handling



Outstanding mechanical properties
→ lower particle size distribution



Lower handling, storage and transport cost
→ can be handled similar to coal

ArbaCore has been successfully verified in 14 coal power plants



ArbaCore can be stored outside, and coal firing power producers can utilize existing equipment

“

*We selected the Arbaflame pellets
based on superior safety and fuel
properties*

”

Les Marshall,
Senior Technical Officer, Ontario Power

ONTARIO
POWER
GENERATION



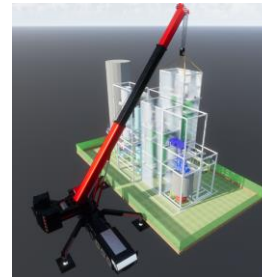
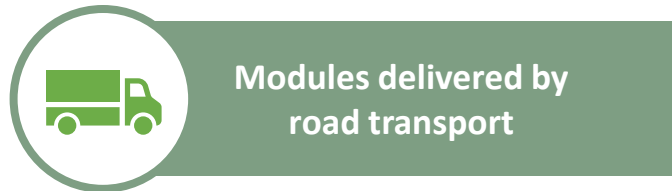
- Located outside of Kongsvinger
- Production capacity: 70,000 Te per year / nameplate capacity of ~80,000 Te per year
- Bio-chemicals (1/3 of value creation - phase 1)
- ArbaCore off-take with Power Plant Rotterdam corresponding to a backlog of EUR 68.5m
- ArbaRaf LOI with TransFurans for off-take of full capacity of chemicals for the next 5 years
- Start Production: 2021
- CO2 reduction of 140,500 Te/year
- Feedstock secured from adjacent sawmills

Step-wise roll-out of production capacity in both short- and long-run

Reduce suppliers and prefabricate modules assembled on site will reduce cost & lead time



- Compact design based on standard components
- Scalable in accordance with required capacity



- All modules delivered by road transport
- Close supplier collaboration & frame agreements



- Local EPC partner performing construction
- Plant optimization by centralized digital monitoring & analysis


Contributing to the transition with sustainable and value adding bio-chemicals

Bio-products from condensate

FURFURAL

Coatings, polymers, casting resins

PHASE 1: INSTALLED




Market value 2019
USD 815 million

BIO-FUEL

Methanol, methane gas

PHASE 1: INSTALLED



Market value 2020
USD 20 billion

AROMATICS

Food flavoring

PHASE 2: UNDER VERIFICATION



Market value 2020
USD 455 million

Filtrate based products from biomass

HMF

Bioplastics

PHASE 3: UNDER R&D

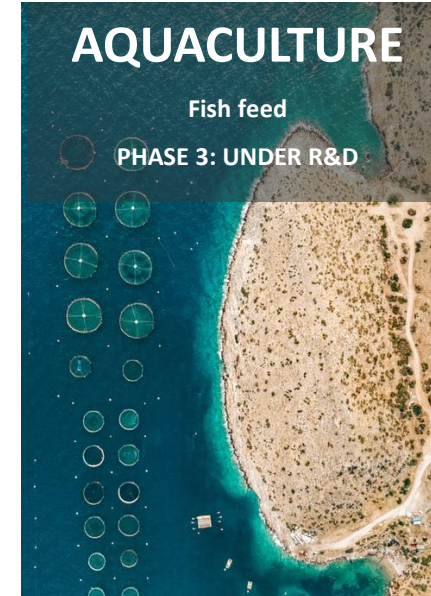


Market 2020
USD 5 billion

AQUACULTURE

Fish feed

PHASE 3: UNDER R&D



Market value 2019
USD 85 billion

Liquid markets that can easily absorb Arbaflame's production in the foreseeable future

Arbaflame has a strong team and quality partners executing the R&D programs

CURRENT R&D TEAM



CTO
Rune Brusletto



Process engineer
Stine Johansen



Process engineer
Luca Zapetti



Developer
Hans Martin Storø



Research Specialist
Dr Guianluca Marcotulio



PhD candidate
Dag Helge Hermundsgård

R&D PARTNERS



32 highly skilled scientists involved in the ongoing work – average of 16 FTEs over the next 4 years

ASSOCIATED/ SUPPORTING PARTNERS



Three R&D projects fully funded

EUR
10m¹



Constructing small demonstration unit for testing different types of feedstock/ waste products from forestry & agriculture

EUR
0.8m



Increase yield of bio-chemicals (furfural & HMF)

EUR
1.75m



Optimization of process parameters to demonstrate that enzymes from wood sugar can grow to single cell proteins for fish food

Arbaflame Highlights

1

Strong fundamental market drivers

Significant current demand for ArbaCore; existing coal-fueled power producers in Europe need to convert or to shut down⁽¹⁾

2

Superior product with high ESG impact

ArbaCore has superior qualities and economics compared to available alternatives

Displacing coal with ArbaCore reduces CO2 emissions with >90%¹

3

First full-scale project in operation 2021

Construction of ArbaOne completed in H1'2021 following 10 years of R&D and testing.

Capacity of 70,000 t ArbaCore and target volume of 2.825 t of bio-chemicals

4

Attractive project economics with high scalability

Standardized modular design driving down cost and ensuring scalability.

Several new projects in the pipeline

5

Proprietary process yielding high-quality bio-chemicals

ArbaRaf is a proprietary production process following ArbaCore with significant positive environmental impact and higher earnings capacity