

sheet n°07 -1/2 - Biofuel production from microalgae

Description



Unit for the production of biofuel from oil extracted from microalgae with integrated cultivation. The unit also includes the valorisation of the waste from the oil extraction. Capacity of approximately **22-25 K tonnes** of biofuel. Production increasing with the extension of the production capacities

Main customers : Automotive and aerospace industry

Branch and sub-branch: Biotechnology / Marine biotechnology



HS Code² : 3826

Key facts

- Project strongly correlated with ANDA's aquaculture plan to develop the aquaculture sector (including marine biotechnology)
- Availability of microalgae for biofuel production in the region
- Significant international potential: global move towards sustainable and renewable energy sources, SAF
- Global biofuel import growth between 2015 and 2019 of +23% p.a. to reach USD 16.3 billion

Prerequisites (3)

- Need to select the most oil-rich microalgae to achieve the desired level of profitability
- Need to valorise microalgae residues after oil extraction and gradually increase production to ensure profitability

Market indicators

Target market(s) :

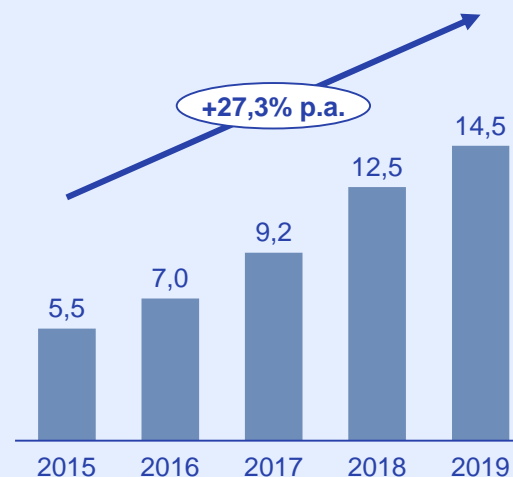
Target market(s), (from highest to lowest priority) to be addressed :

+ Exports mainly to Europe (Netherlands, Belgium, France...)

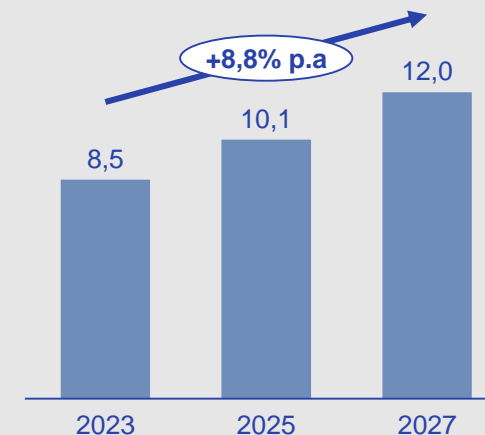
- National (including local) to a lesser extent

Market size and development

Europe's biofuel imports in USD billion⁽⁵⁾



Estimated evolution of the global algo-fuel market in USD billions⁽⁴⁾



(1) Product Complexity Index: Diversity and sophistication of the know-how required to produce a product. The PCI is calculated according to the number of countries that produce the product and the economic complexity of these countries. The most complex products, those that only a few countries can produce, have the highest PCI (e.g. electronics, chemicals) vs. the least complex products (e.g. raw materials, agricultural products) Source: Harvard Economic Complexity

(2) Customs nomenclature taking into account the following codes: 382600. Source: TradeMap

(3) Globe News Wire survey of the algae biofuel market

(4) History of biofuel imports. Source: TradeMap



Sheet n° 07 - 2/2 - Biofuel production from microalgae

Financial indicators (indicative) :

Potential investment	150 - 200 Mns MAD
Turnover	50 - 100 Mns MAD
Estimated selling price	300 - 350 EUR/Tonnes
ROI	8 - 10 %
EBITDA (as % of sales)	27%
Jobs	50 - 100

Human resources

HR skills needed

- Biotechnology engineers, chemical engineers, renewable energy engineers, laboratory personnel, labourers, maintenance and management personnel, development

Training offers

- Aquaculture sector - CMC Agadir

Raw materials and suppliers

Main inputs

- Water, fertiliser, oil-rich microalgae

Main suppliers

- Morocco (eg. Feedalgae)

Investment elements

Potential land

Priority provinces

- ✓ Boujdour
- ✓ Tarfaya

Type of land

Private state domain (e.g. sites identified by ANDA)

Area

15 Ha

Average land price

Unified Regional Investment Commission (CRUI)

Mode of mobilisation

Unified Regional Investment Commission (CRUI)

Main investment benefits

Grant

Investment Charter

Support for training

IDMAJ Programme, TAHFIZ Programme, TAEHIL Programme

Other

Financing by Green Invest, Support from ANDA: training support, tax incentives, technical and economic monitoring

Contacts

 Full name :
Mohamed Lamine Mbirkat

 Telephone : 0661389782

 E-mail : mbirkat@gmail.com