



GLOBAL BIOENERGIES

*Building a New
Energy World*

January 2018



This presentation contains certain forward-looking statements that have been based on current expectations about future acts, events and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward-looking statements.

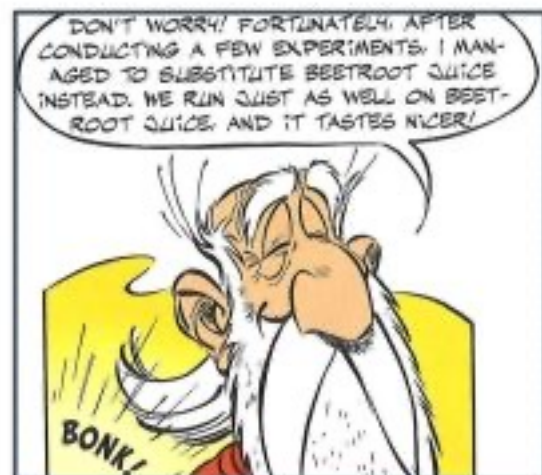
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Renewable oil : an old dream



(...)



Asterix and the Black Gold - 1981

We are part of the change

Using breakthrough innovations,
we convert renewable resources
into drop-in fuels and materials.

See slide 11

See slide 12

See slide 13

We jump the wall

- Bio-ethanol, the first global industrial biotech success for alternative fuels has reached its own limit:

⊖ Ethanol --> 10% blendwall in gasoline ⊖

- At Global Bioenergies, we produce the same fuels and chemicals that are derived from the refining of oil.
- Because our products are chemically identical to those derived from oil:
 - they can be mixed to fossil products without any limit
 - there is no need to invest in specific infrastructure to use them

- It is called a « drop-in » technology



Industrial biotechnology – the road to maturity

~100 industrial biology companies worldwide are moving the field across the Gartner Cycle



2018 : Climbing the slope of enlightenment ?



False ideas

« **Biofuels starve the planet !** »

- False, 1st and 2nd Generation resources are globally oversupplied and 1/3 of food production is wasted today



« **They will never compete with oil derivatives !** »

- False, biofuels compete today in premium markets
- Oil prices recover and competitiveness increases



« **Electric vehicles are THE solution !** »

- False, but will still take a significant stake in the future energy mix
- EV deployment will be slow because it faces several barriers: autonomy, grid upgrading, real GHG savings...



Issues we address

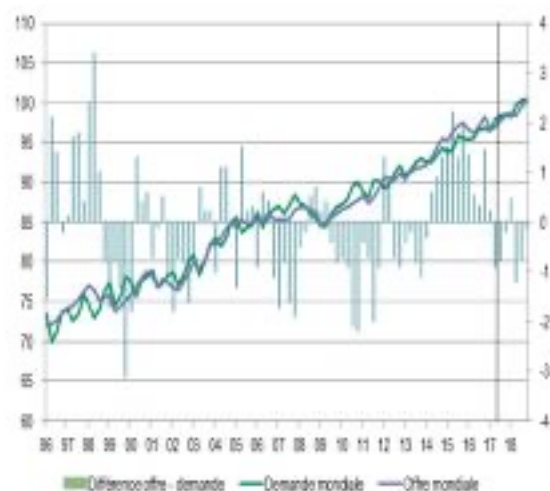
Oil dependency



Climate Change

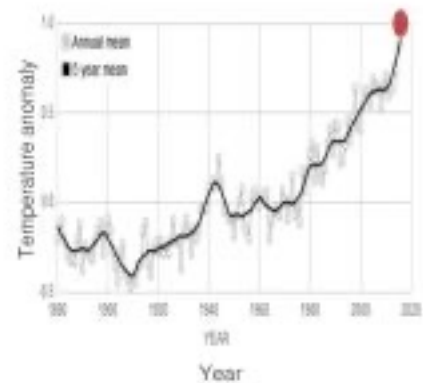
Oil dependency

- Conventional oil production has peaked
- Oil demand increases steadily
- Non-conventional oil (Shale, Oil sands, Deep offshore) is filling the gap for now - No guarantee it can last for long...
- Catastrophic scenarios if oil becomes scarce - Need to prepare solutions to complement oil
- Global Bioenergies' technologies produce key building blocks for fuels and materials
- Using agricultural and forestry surpluses, long term target of 5% of present worldwide oil production



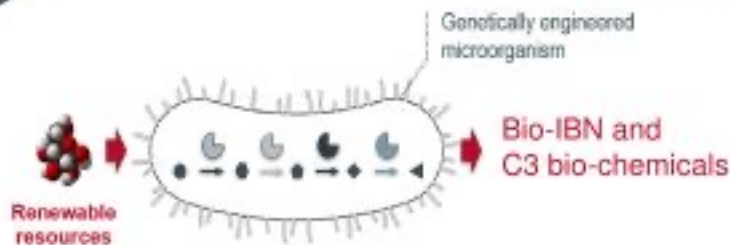
Climate Change: potential for global impact

- Climate change metrics
 - Temperatures already 1 °C above historical average
 - Paris Agreement aims a 2°C increase maximum
 - If nothing is done rise could reach 5 °C
- Green House Gas emissions ⁽¹⁾
 - Have reached 53Gt per year in 2017
 - Must be lowered by 11Gt in 2030 to meet Paris objectives
 - Must be negative by end of century
- Great potential in Transport sector. Regulations shall promote ⁽²⁾
 - Efficiency (35% of 2030 objective)
 - Biofuels (6% of 2030 objective)
- Global Bioenergies' drop-in products can be a significant part of the solution

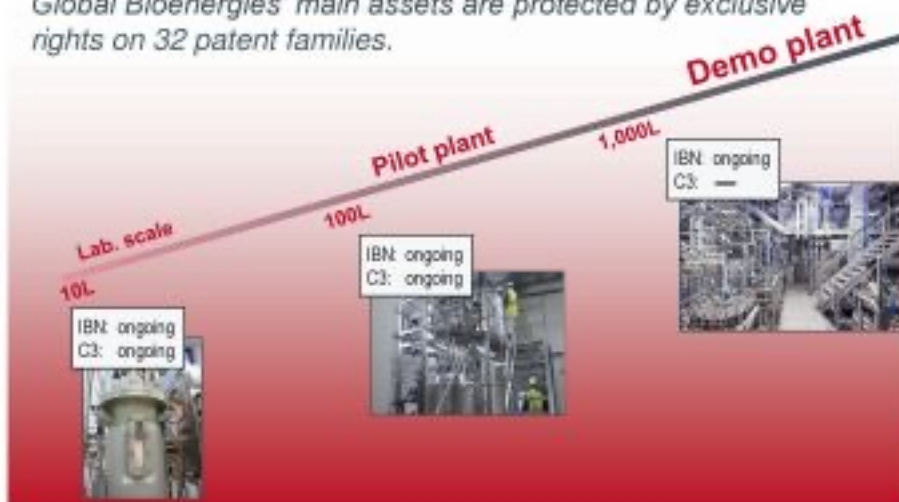


(1) Total Green House Gases expressed as tons of CO₂ equivalent
 (2) UN Environment – Emissions Gap report 2017

Breakthrough technologies maturity



Global Bioenergies' main assets are protected by exclusive rights on 32 patent families.






Next stage*

Commercial Plants

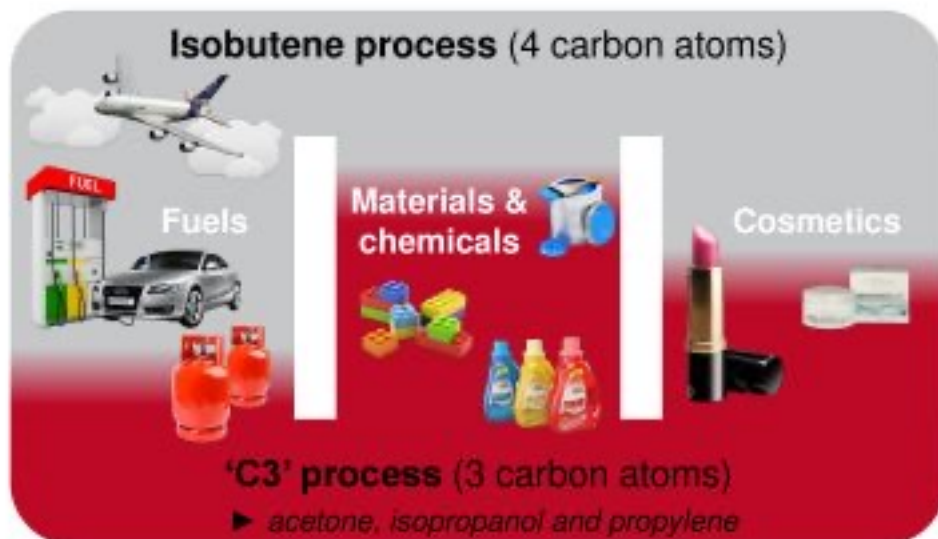


* Subject to reaching commercial performances

Three generations of feedstock

| Availability | Today | Short term | Longer term |
|--------------|---|---|---|
| | <p>1G Food crops</p>  <p>Traditional feedstocks Sucrose: Beet, cane Glucose: corn, wheat</p> | <p>2G Wood chips, straw, bagasse</p>  <p>Advanced feedstocks Forestry: wood chips Agri: wheat straw, corn stover...</p> | <p>3G Industrial waste gases</p>  <p>Emerging feedstocks Steel mill syngas Concentrated CO₂</p> |
| Potential | Cost of resource | | Environmental impact |
| | | | |
| Prospects | Major agricultural players | | Present: steel mills (syngas) Future: all CO ₂ -emitting industries |
| | | Forest operators | |

Two processes addressing huge markets worldwide



IBN-One: first commercial plant project

- ▶ Joint-Venture between Global Bioenergies and Cristal Union, supported by the ADEME *Investissements d'Avenir* program



- ▶ Estimated CAPEX: €115 million to be funded by
 - Cristal Union 25-33%
 - Public & Private infrastructure funds 25-50%
 - Banking debt ~25%
 - Global Bioenergies 1-2%

- ▶ Commercial development:
 - First commercial agreements with **ASPEN** and **Butagaz**
 - Collaboration with **L'OREAL**
 - Would be profitable in Jan. 2018 environment

- ▶ Commissioning and start of commercial operations targeted in 2021

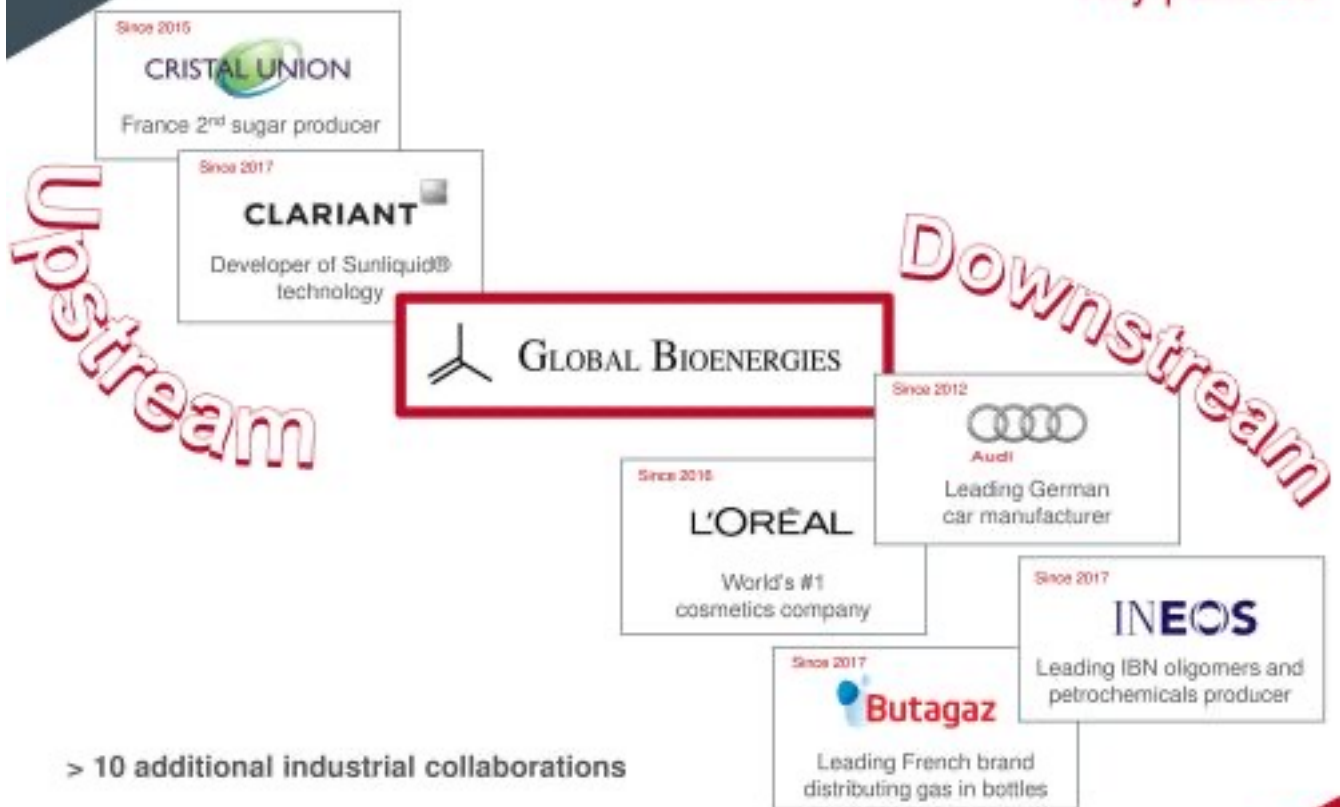
- 1 Production** - 200kt industrial sucrose are converted into 50kt gaseous, low purity isobutene
- 2 Purification** - isobutene is isolated from surrounding fermentation gases
- 3 Shipping** - Liquid high purity isobutene (99.7%) is stored and shipped for chemical applications
- 4 Conversion** - Part of the production is converted on site into bio-fuels



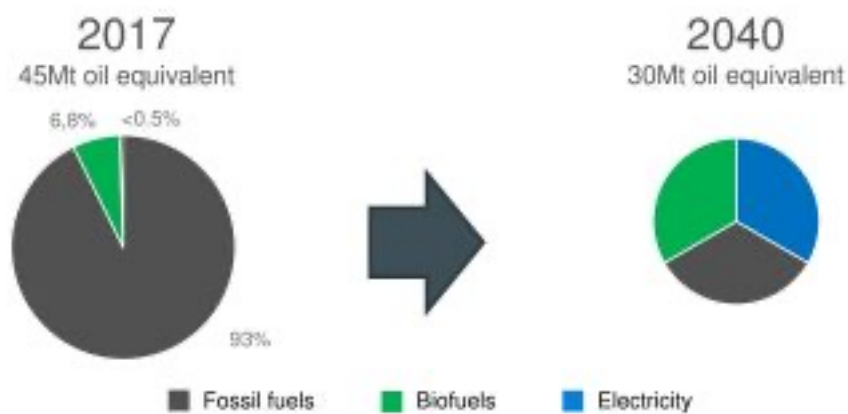
A multi-faceted business model

- Technology licensing to exploiting industrialists. We target:
 - \$1million upfront per 10,000 tons capacity
 - 5% royalties on sales
 - For a typical 50,000 tons project: €5m upfront + €5m/yr royalties
 - Global Bioenergies would be profitable with only 3 licenses
- Engineering services during the design and construction phase of plants
- Marketing and retention of commercial rights
 - to avoid competition between licensees, and
 - build the identity of the company on the product

Key partners



Our vision for France's road transport



Transition Pillars

- Consumption reduction (better cars, shared transportation...)
- Biofuels deployment (x2 in acreage)
- Increase in renewable electricity (x3), new infrastructures, grids

Impact

- Oil consumption down 75%
- CO₂ emissions down 60%

Market for 60 new bio-gasoline factories and a vibrant local economy

Our vision 2040 for the world's road transport

- No reduction in road transport consumption yet, but no more growth (better cars and shared transportation to progressively balance demand growth from emerging countries)
- EV accountable for 10% of the transportation energy, driven by Asia
- Biofuels to increase from 1% today to 5% in 2040:
 - Driven by Europe and the Americas
 - Production of 250 million tons biofuels per year
 - 5000 production plant (size of IBN-One)
 - 10% of the world arable land and 5% of the world forestry output
 - CO₂ emissions reduced by about 500 million tons annually

Management

Executive committee



Marc Delcourt
Chief Executive Officer



Samuel Dubruque
Chief Financial Officer



Macha Anissimova
Chief Scientific Officer



Frédéric Pâques
Chief Operating Officer



Bernard Chaud
Head of Industrial Strategy



Luc Mathis
Chief Business Officer



Jean-Baptiste Barbaroux
Chief Corporate Officer

Vice presidents



Dr. Richard E. Bockrath
VP Chemical engineering
Former Technical Director at DuPont



Dr. Charles E. Nakamura
VP Metabolic engineering
25 years at DuPont.
Received ACS award in 2007



Claudia Erning
VP Investor Relations
Former Head of ECM
Origination at Berenberg Bank

Board of Directors

Board of Directors



John Pierce – Chairman of the Board

Leading American figure of the industrial biology sector, former Chief Bioscientist of BP



Marc Delcourt – Co-fonder and CEO

Entrepreneur with a scientific background. Has founded and managed industrial biotechs since 1997



Philippe Marlière – Co-founder and President of the SAB

Visionary scientist. Has pioneered the translation of biology into industrial applications



Sébastien Groyer – Partner at Seventure Partners

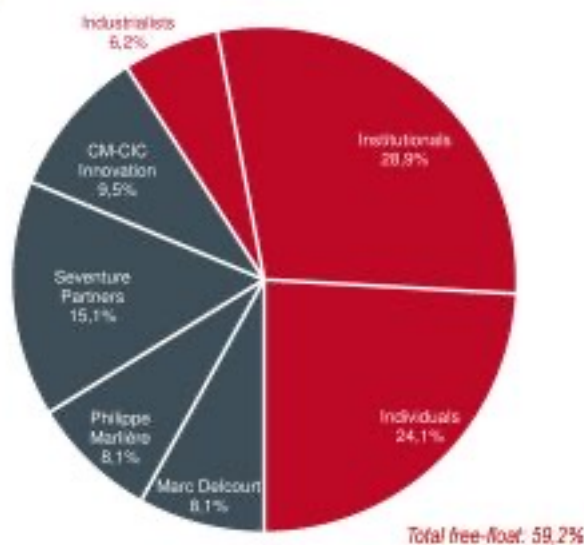
Has participated in the investment, administration, market launch or takeover of about 20 innovative companies



Karine Lignel – Director at CM-CIC Investissement

A trained engineer active in Venture Capital since 2000

Shareholders and equity financing

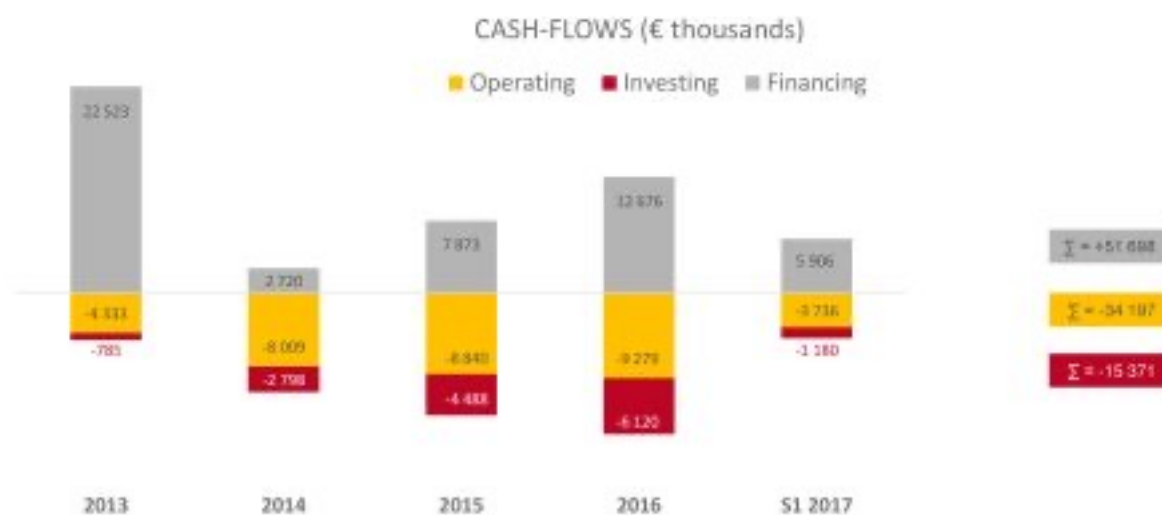


- ▶ 68 million euros raised to date
- ▶ Market cap ~€75m

| Average daily liquidity | |
|-------------------------|-------|
| 2012 | €16k |
| 2013 | €32k |
| 2014 | €77k |
| 2015 | €96k |
| 2016 | €90k |
| 2017 | €120k |

Existing shares as at Dec. 31st, 2017 4,487,501
 + Dilutive instruments (stock-options, warrants...) + 633,251
 including stock options for employees: 214,732
Fully diluted: = 5,120,752

YEARLY CASH-FLOWS



- ▶ All major investments behind (laboratory equipments, Pomacle, Leuna)
- ▶ Cash in hands as at Sept 30th, 2017: €17m

An intense newsflow expected on the short term

- 1 Shipment of Isobutene to several industrialists for technical validation and market testing
- 2 Progresses in IBN and C3 processes performances and scale-up
- 3 2nd Generation: progress in existing and new collaborations
- 4 3rd Generation: technical validations
- 5 IBN-One:
 - Financing of the final engineering phase
 - Off-take agreements
- 6 Build up of a portfolio of commercial plants projects

Jean-Baptiste Barbaroux
Head of Corporate Development

jean-baptiste.barbaroux@global-bioenergies.com

Tel: +33 (0)1 64 98 20 50

www.global-bioenergies.com