



Rabobank

Sustainable Biomass Valorisation

- Rabo vision & strategy
- Agriculture 2.0
- implications for Financing



SAHYOG-symposium, Utrecht 28 October 2013

Daan Dijk

Rabobank at a Glance



Rabobank



Performance 2012

- Total Assets : € 752 bn.
- Tier I Ratio : € 17,2 %
- Net Profit : € 2,1 bn.

Mission: Enabling Real Value Creation

Strategy:

- Leading global Food & Agri bank
- Top bank in terms of sustainability

Cooperative structure, cross guarantee system



9 million clients, 1.9 million members, 48 countries

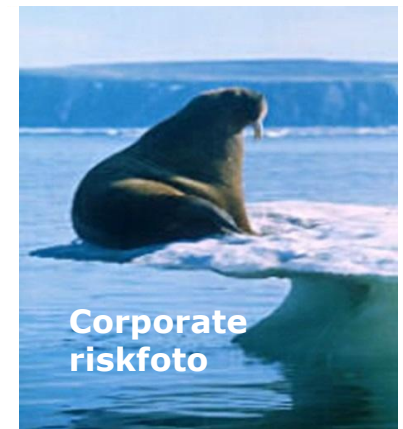
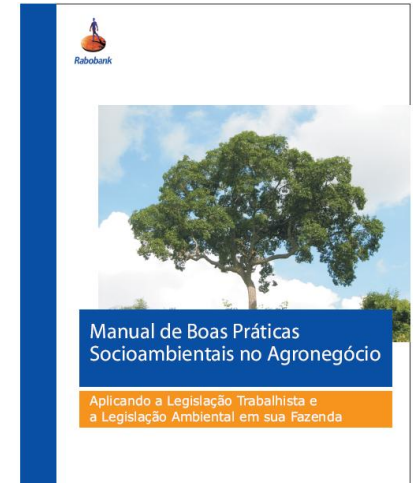
Since 1898, Through, By and For our Clients



Rabobank

Our Strategy

- Accelerating sustainable agriculture & food supply
- Support self organization of local communities through our local banks & Rabobank Foundation
- Promoting the transition to a circular economy

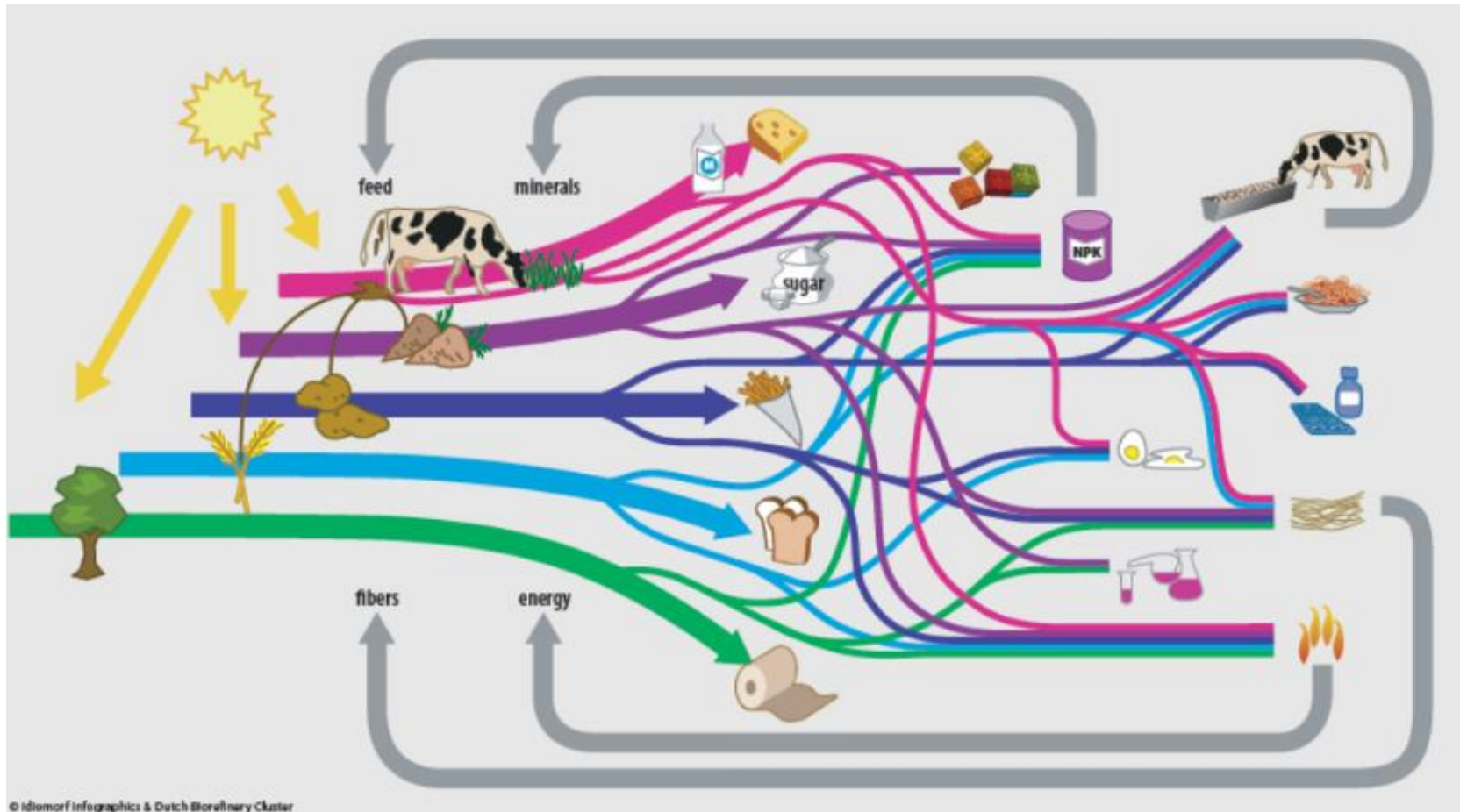


Hard nosed sustainability metrics

Agriculture provided renewable food & non-food products for ages

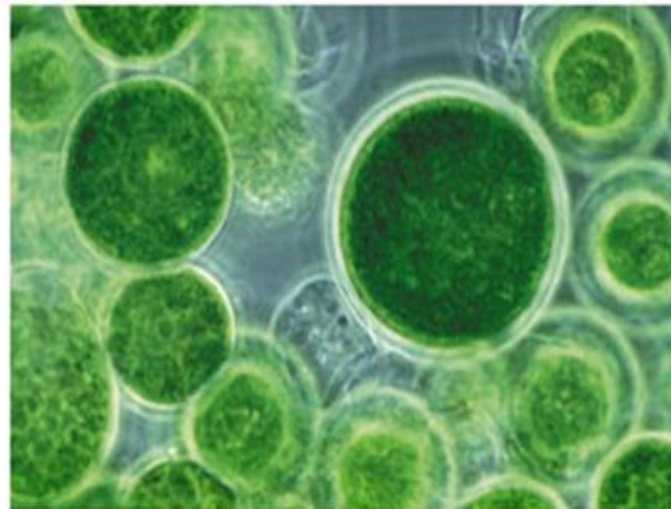


Rabobank



We expect : further integration of supply chains, more high value products

Agriculture 2.0

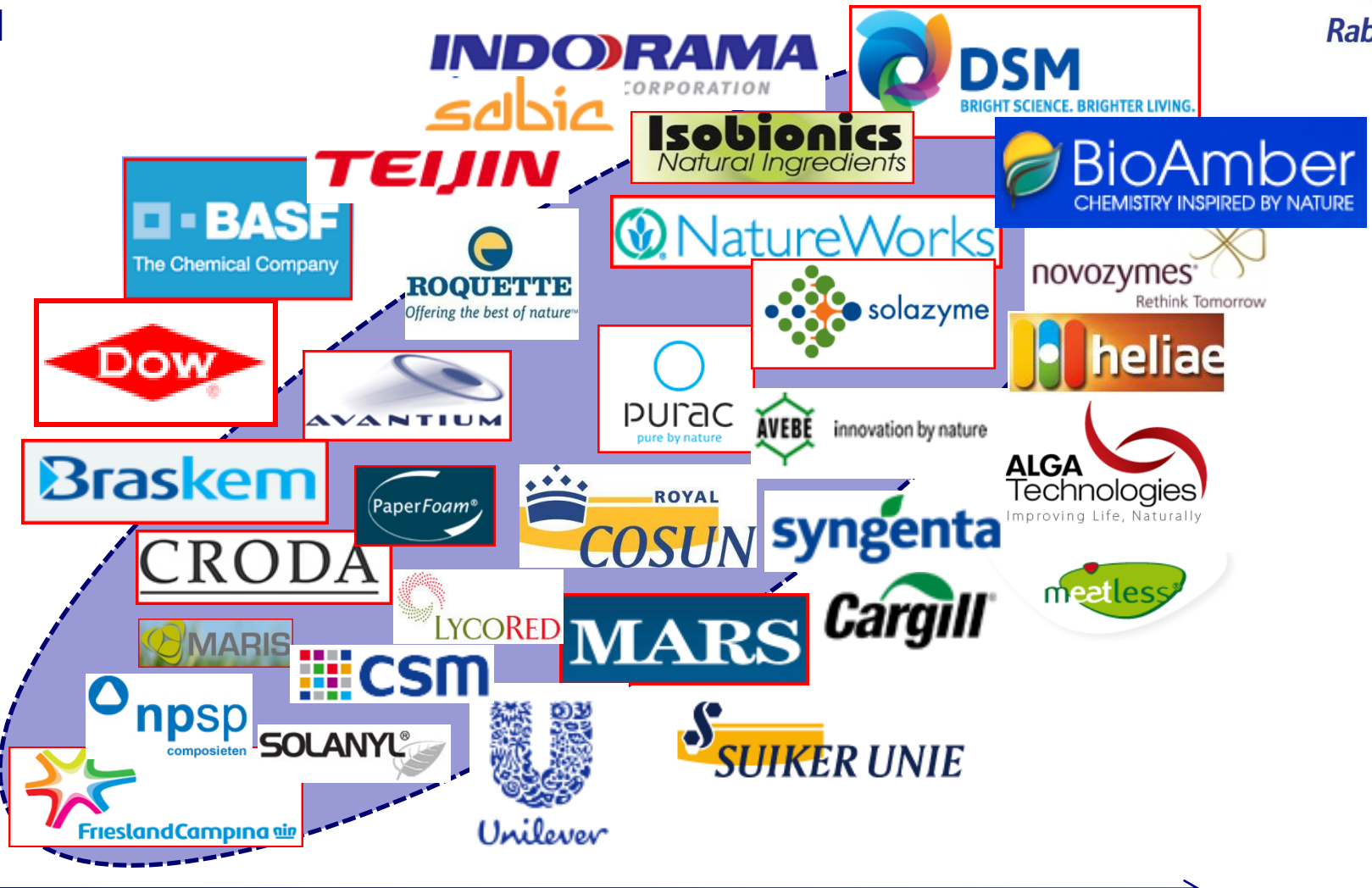


Biomaterials: the new innovation wave



Rabobank

Chemical industry



Food & Agri Industry

Agriculture takes centre stage again in providing Food, Feed and Functionals

Bio Chemicals & Materials



Rabobank

New ways of working with nature:

- To provide superior products: Food, Feed, Fibers
Functional molecules , Fuels



Value Drivers :

- Environmental: lower footprint , less waste
- Economic: cost of feedstock, carbon or waste taxation
- Strategic: licence to operate , branding , renewable

Inputs :

- Solar Energy, CO₂, Water, Soil
- Human Ingenuity ,Enabling Capital



Copying Nature on an Industrial Scale

Renewable energy from whisky by-products



General

- biomass CHP plant produces 7 MW of electricity and 10 MW of heat
- fueled by draff, a by-product of the malt-whisky distillation process
- The power produced serves over 12.000 households
- Heat used to dry pop ale => feed
- CoRD, a consortium of leading distillers (Ben Riach, Pernod Ricard, Edrington, Campari, ThaiBev and Bacardi) provides the fuel

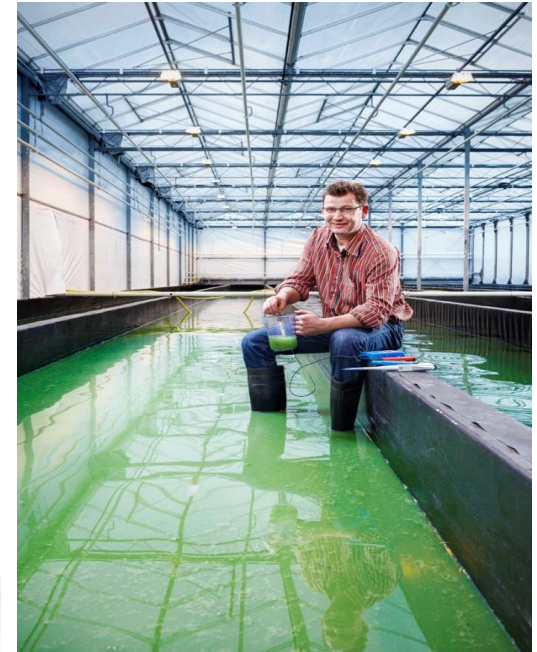


Financials

- Total investment : 61m GBP
- Rabo Project Equity provided ca 45% of the share capital




Agriculture from energy independence to net supplier



1 van 15



The PowerPlane: Airborne Wind Energy competitive with fossil fuels



The Hague, January 2012

Dit project is mede gefinancierd met steun van het Europees Fonds voor Regionale Ontwikkeling van de Europese Commissie www.europa.eu

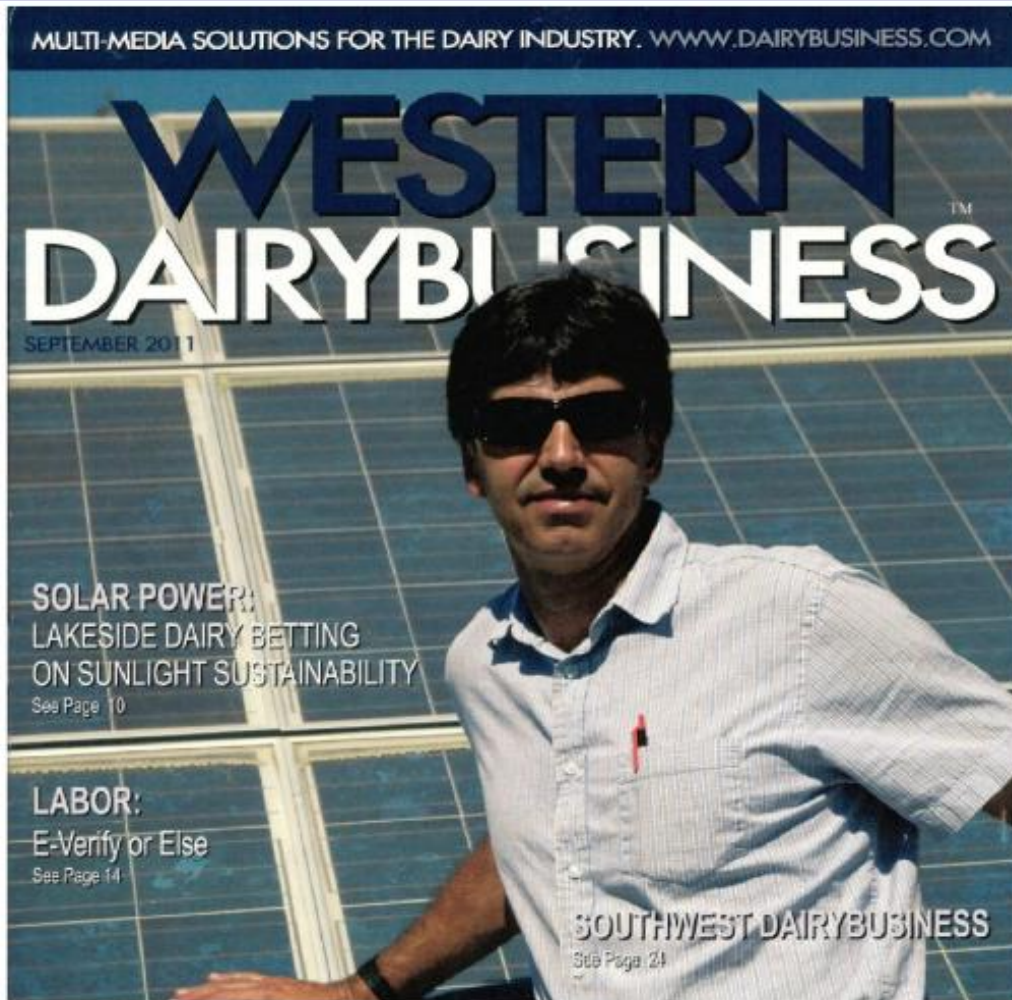
A slide from a presentation. It features the Ampryx Power logo at the top right. The main title is "The PowerPlane: Airborne Wind Energy competitive with fossil fuels". Below the title is a photograph of a white aircraft flying in a clear blue sky, connected to a wind turbine on the ground by a thin cable. At the bottom, it says "The Hague, January 2012" and includes a small European Union flag logo with text indicating the project is funded by the European Union.

Energy as a useful byproduct

Solar Energy: a low risk crop



Rabobank



Bloomberg

Rabobank to Fund \$50 Million in Sungevity Rooftop Solar Leases



Walmart   SolarCity

Save money, good marketing, energy independent



Implications of the Biobased Economy

F&A sector :

- Agriculture to take centre stage again in the post oil era
- Renewable high quality food & non food products
- Multiple value chains => more income per ha
- Higher investment levels => boost productivity
- Opportunities for Forward integration

Rabobank

- Global F&A Network , sector knowledge
- M&A, advisory , co-operative support
- Project finance , Trade & Export finance
- Early stage financing



The Chemical sector has always been a major supplier to the F&A sector

- F&A is a major customer and source of income for the chemical industry
- The 50/60s saw Phenomenal growth thanks to
 - fertilizer, herbicide, pesticides
 - food preservation products etc
 - Pharma products for animal health
- Monsanto , Dow , Dupont, BASF are major players thanks to their long relationship with the sector



Today the F&A sector is a major supplier of feedstock to the chemical industry



Rabobank

The case for forward integration

ROI expectations in F&A differ from those in the chemical industry

- Farmers : 2 - 5%
- Sugar mills : 6 - 15%
- Ethanol : > 15%
- Ethylene : 25 - 30%



F&A sector can benefit by various forms of forward integration:

- Long term supply contracts (sugar, starch)
- Joint Ventures with the chemical industry (Bioamber, Nature Works)
- Full integration

Today we see JV's , long term contracts , take overs of small biotech firms



Rabobank

The future is bio-inspired

Time to :

- Co-operation with Nature
- Progress to Circular economy
- Bank with both feet on the ground



Resources are finite, Human ingenuity and solar energy are infinite

Investment case



Rabobank

Description

- High quality proteins as a sustainable alternative for fish meal, based on insects fed in organic waste streams.



Investment rationale

- First mover in large scale insect production facility
- Growing shortage of high value proteins in feed sector and anticipated price increase of high value ingredients
- Strong management team with strategic and operational drive
- Sustainable solution
- User case for organic waste management companies

Challenges

- Final approval for usage in feed industry
- Security and quality of input
- Quality and set off output
- Price volatility of output

Our added value

- Access to capital (also debt)
- Lead investor, attract relevant co-investors
- Strong and unique network in feed industry
- Access to knowledge (e.g. WUR, Rabo FAR)
- Partner of management on strategic level (partnerships, roll-out plan, exit etc.)

Investment case



■ Description

- High quality meat replacement based on natural fibers.



■ Investment rationale

- Unique quality product (bite, taste, application)
- First mover in hybrid meat proposition
- Shortage of beef, upward price pressure
- Senior management team with strong network in meat industry
- Sustainable solution (every kg of beef requires multiple kg of grain)

■ Challenges

- Conservative value chain where retail is decision maker
- Price-driven meat processing market with low-interest in sustainable solutions
- Only a few brands active, most private labels
- Development of new consumer brands is capital intensive

■ Our added value

- supportin subsidy schemes
- Access to capital (also debt)
- Lead investor, attract relevant co-investors
- Strong and unique network in international food industry
- Access to knowledge beef, pork and poultry industry (e.g. Rabo FAR)
- Partner of management on strategic level