

Attracting Investment

Investment Trends and
Perspectives on Jatropha

June 2008
Euro-Latin Capital
Christian Langaard

2008 Jatropha World
Miami
11th June, 2008


EURO-LATIN
CAPITAL

Today's agenda



Risk Appetite for Biofuels

Investment Trends and perspective on jatropha

Selection Criteria and characteristics of successful operation

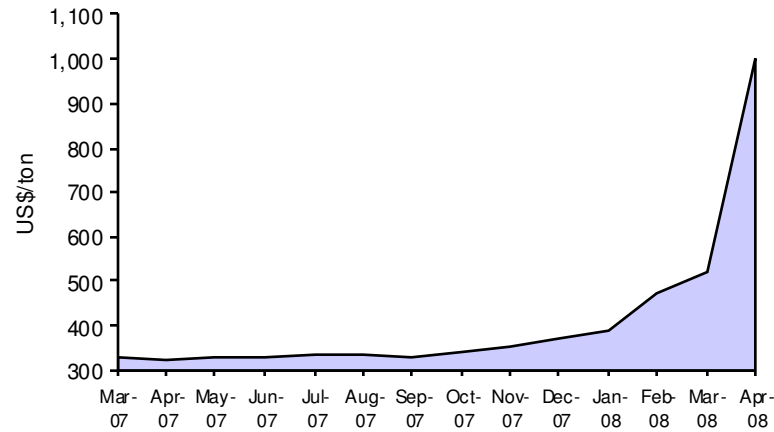
It's bad !

- Financial, Economic, Mortgage and Housing crisis

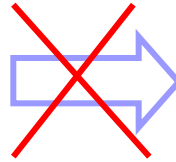


- Food Crisis

Rice Export Prices



The culprit: Biofuels is an easy target – reality different



Food inflation

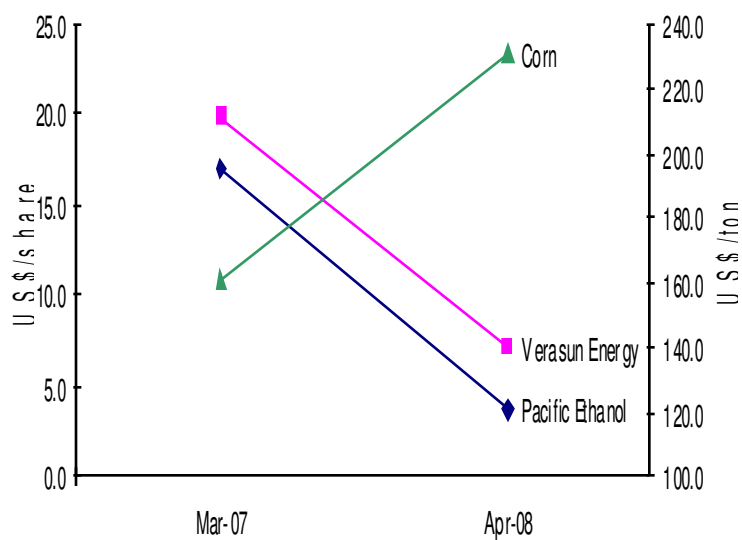
- **Reasons for food price inflation;**
 - High oil price impact food production costs (energy, fertilizers)
 - Strong increase in food demand, esp. China and India
 - Weather/crop-failures, i.e. climate change itself
 - US Dollar weakness, etc.
- **Biofuels represent <1% of the global available arable land**
- **Very small % of biomass used for biofuels, e.g.**
 - 18-20% of Soybean biomass is oil, so,
 - If biofuels share of global soybean oil is 10%;
 - <2 % of Soybean biomass used for biodiesel
- **Reality for corn and rape worse, but grossly exaggerated**

“The tail wagging the dog?”

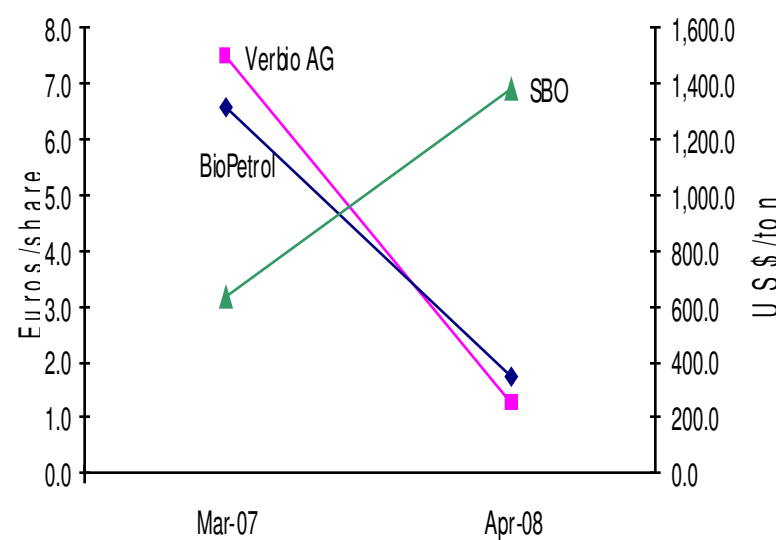
Biofuels feedstock crisis

But the food price inflation did provoke a biofuels crisis...

Comparison between Corn and corn-based Ethanol stocks prices



Comparison between SBO and Biodiesel stocks prices



... because we are using the wrong feedstocks

Poor practices compromised industry perception

12-18
months ago

- **Biofuels – “saving the planet” (UN)**
 - reduce CO2 emissions
 - reduce energy dependence on hostile regimes
 - providing rural jobs
 - huge IRR expectations

1+ year
later

- **Biofuels – “crime to humanity” (UN)**
 - people die of hunger
 - pay more taxes (biofuel subsidies)
 - plants close down
 - accused of polluting more than oil we replace

“The wheels came off!”

How to deal with this reality => Sustainability focus

Good or bad news for jatropha?

- **YES** – the oil does not compete with food
- **NO** – if it competes with grains for land
- **CHALLENGE:** get meal to provide food

“The world is dying of hunger – and we want to plant... poison” ?

The totality needs to be good

- **Maximize use of all the biomass**
- **Generate crops between rows**
- **Inter-cropping & silviculture**
- **Optimize food-value of by-products**

... to preserve the support for jatropha

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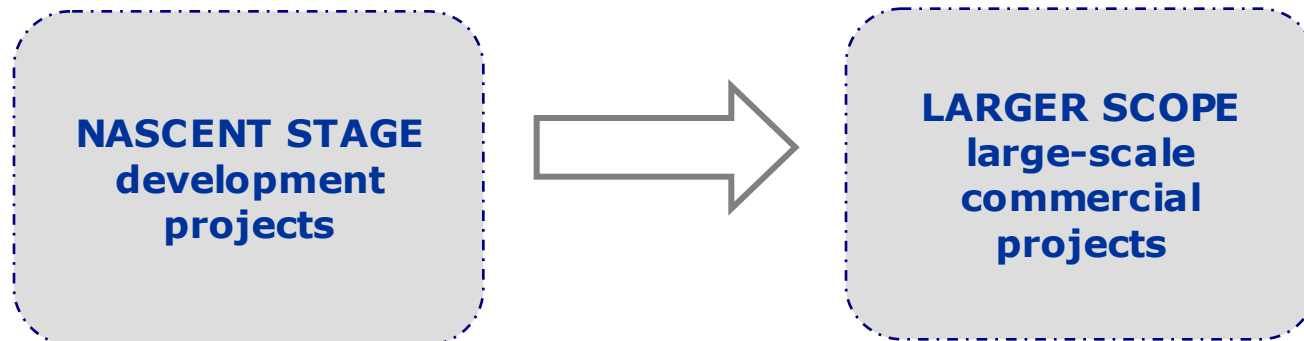
Selection Criteria and characteristics of successful operation

Favorable dynamics for jatropha

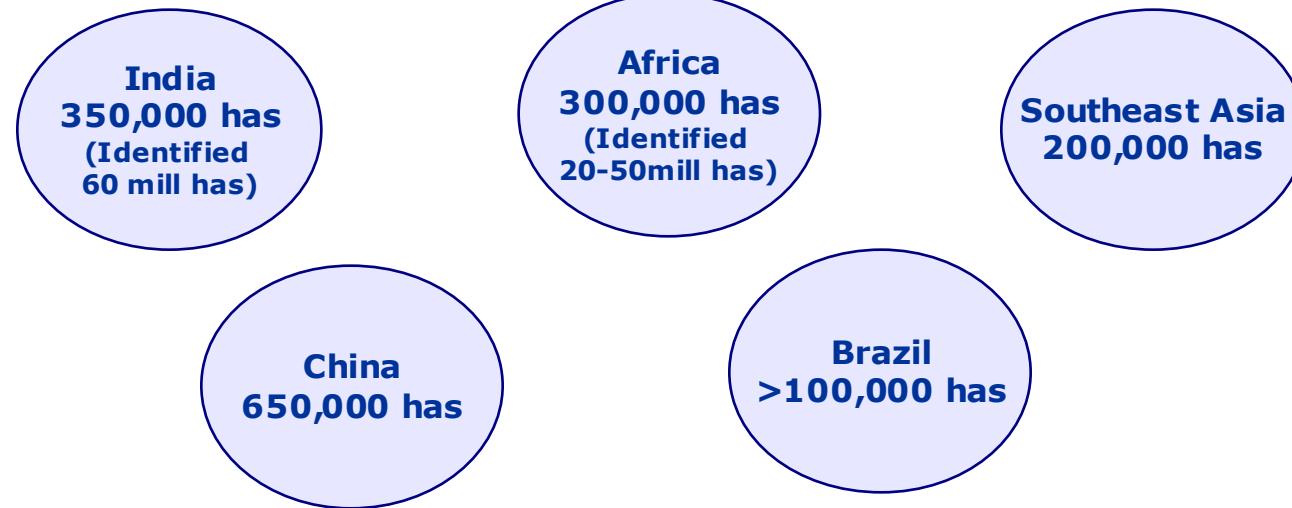
- **Non-food biofuel feedstocks on marginal land have sustainability advantages...**
.... but must be balanced with limited use of water and fertilizer
- **Opportunities in the production of lower cost and alternative or high-yield feedstock**
.... but must meet sustainability criteria..
- **Expansion of commercial-scale jatropha production from India into Africa, Southeast Asia and Latin America**
- **Participation by governments and energy majors in the cultivation and production of jatropha**
- **Jatropha-based projects are being developed as dual purpose entities-**
 - for government programs, and
 - for addressing rising global biofuels demand

Strong support for jatropha plantations

- **For economic development**
- **To alleviate concerns among larger biodiesel consumers worldwide related to:**
 - **Elevated feedstock cost**
 - **Security of feedstock supply**
 - **Food vs. fuel debate**



World Planted Area – Current plans



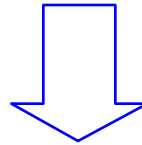
Huge growth in jatropha plantations, but;

- *How much oil is actually being produced? Where?*
- *At what total cost?*
- *Can the by-products provide sufficient revenues?*
- *Who can actually supply and at what price?*

Source: Thai jatropha

The future and growth prospects

**Jatropha will play significant role as
biofuel feedstock if;**



- **Planting is done in a sustainable manner with minimal resource use (land, water, fertilizer)**
- **Harvest problems are solved, e.g. cost & toxicity issues**
- **By-products are utilized for animal feed to keep oil costs competitive**
- **Projects are actually built and proven at a reasonable cost**
- **Logistics and transportation issues are resolved**
- **Sufficient scale can be achieved**

Sustainable projects will attract capital

Biofuels investments will be channeled

- 1) Upstream**
- 2) To sustainable feedstock sources**
- 3) To second generation projects**

If you meet common-sense objectives:

- 1) Don't use prime agricultural land for fuel crops that compete with food**
- 2) Secure supply of low-cost feedstock from sustainable sources**
- 3) Maximize life-cycle Co2 reductions**
- 4) Pursue transport efficiency in feedstock sourcing and product delivery**

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Selection Criteria and characteristics of successful operation

Key selection criteria

Critical

LOGISTICS

- Location
- Distance to crush plant, biodiesel plant and market for oil and meal
- Rail, road and shipping infrastructure

PRODUCTIVITY/EFFICIENCY

- Soil fertility
- Water access, irrigation
- Species selection/seed availability
- Crush-and harvest technology
- Intercropping and silviculture
- Carbon credits prospects

LAND SECURITY

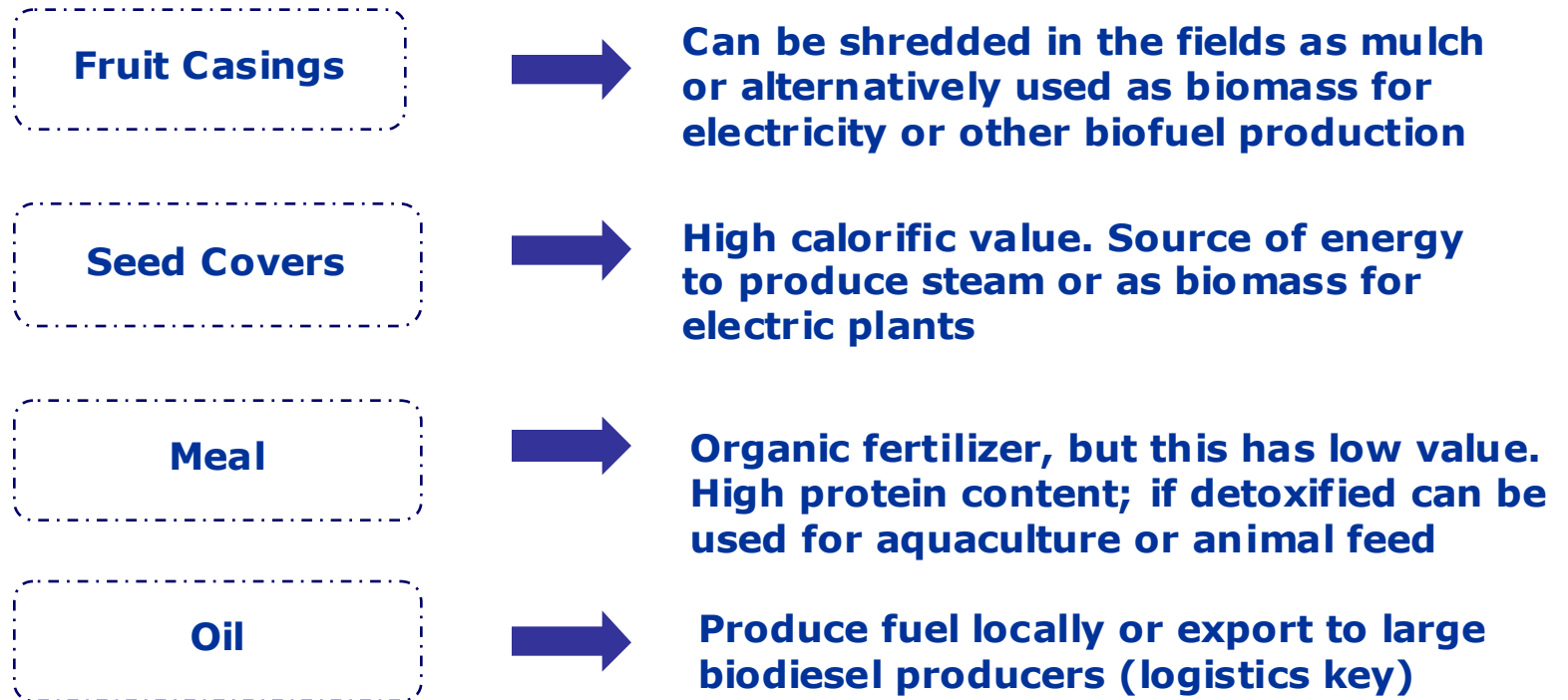
- Legal and permit status
- Long term lease and rent contracts
- Political and social dynamics/support

SUSTAINABILITY AND SOCIAL ISSUES

Key selection criteria

- **First consideration in looking at possible plantations**
 - Access to water rights - feasibility for irrigation
 - Permit requirements
 - Studies necessary to undertake planting
- **Cost of land/rent, yield expectations and location/logistics**
- **Species selection**
 - Seed Availability
 - Fertilization
 - Control of disease and pests
- **Intercropping and silviculture**
 - Secondary crops effects
- **Land status relative to earning carbon credits for tree planting**
- **Harvest plan, cost and feasibility of mechanization**
 - Value of labor in the region
 - Geographic contours of the land
 - Type of equipment
- **Crush technology and cost**

Must optimize usage of biomass



Identify markets for the entire biomass

Investors want to see maximized returns and minimized waste

OPTIMIZATION IS CRITICAL TO ECONOMIC SUSTAINABILITY

Conclusions

- **Jatropha can be the “future biofuels feedstock” (Goldman Sachs)**
 - **The main challenges are**
 - a) **logistics,**
 - b) **optimum usage of biomass and land area**
 - c) **achieve scale and sustainable, long term profitability**
 - d) **anticipate propaganda war and prepare answers/solutions**
 - **Lacking proven economic track record and rocky road to success**
 - **Talk is cheap → execute and deliver!**
 - **Investors need answers as to when you will produce, how much oil and at what all-in-cost**
- ⇒ **OVERCOMING THESE CHALLENGES IS ESSENTIAL TO ACHIEVE GOOD RETURNS**
- ⇒ **PROJECTS THAT DO WILL ATTRACT CAPITAL**

Euro-Latin Capital's Biofuels Commitment

- **Specialized team committed to the biofuels industry**
- **Investment manager for biofuels projects, incl;**
 - **Alterra Bioenergy Resources Corp.**
 - **Current production; 50'000 tons p.a.**
 - **Expected 400'000 tons of capacity by the end of 2009**
 - **IPO expected 2010.**
 - **Patagonia Bioenergy**
 - **Unique project at port site for exports from Argentina with 5 year feedstock supply contracts and seamless logistics**
 - **500'000 tons capacity in 2008/9**
 - **Substantial jatropha plantations under development**
 - **IPO expected during 2009**
- **Acted as financial advisor and led due diligence on major biofuels projects in US, Brazil and Argentina**
- **Managed a \$200m Pledge Fund for private equity investors**
- **Co-Founder of Carbon Opportunities Fund**



Christian Langaard
Managing Partner

Phone London: +44 207 993 5545
Phone BsAs: +54 11 4393 6007
Mob: +44 7970 817770
E-mail: clangaard@euro-latin.com
WEB: www.euro-latin.com

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