



Green Pacific Biologicals

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BioEconomy: Why Chile?

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Why Chile?

1. **Business environment and insertion in the global economy**
2. **Private and Public sources of funding**
3. **Biotechnology incubator/facilities**
4. **World-class human resources**
5. **Natural conditions for algae biofuels (Atacama desert)**

GPB's decision to expand in Chile has been fundamental for the growth and success of the company

Why microalgae?

satisfy increasing energy demands

+

mitigate effects of climate change

+

protect increasingly scarce natural resource

- Minimize/avoid competition with arable land for agriculture
- High oil productivity per acre (10x-100X over plants)
- Use waste water and saline water, reducing competition for limited freshwater supplies
- Recycle carbon from CO₂-rich flue emissions from power plants and other industrial emitters

Algae Biofuels challenges

Algae farms projects: hundreds of shallow ponds with controlled agitation, refilling and harvesting and centralized facilities for algae drying and oil extraction



Infrastructure and extraction expenses make algae biofuels too costly (projected at >\$260/bbl)

GPB's solutions

GPB technology: effective algae genetic engineering

GPB's solutions

**Convert more CO₂ into oil
Secrete oil (fat)**

- **Continuous oil production by the same cells**
- **Higher oil productivity**
- **Elimination of costly oil extraction steps**

GPB's solutions can bring 65% reduction in costs

1. Chile Insertion in global economy

1. **Rapid and simple business incorporation (~1 month)**
2. **Lawyers with experience in US/European firms**
3. **Stable institutional framework**
4. **Intellectual Property: part of PCT**
5. **International Banks**
6. **US-Chile Free Trade Agreement**
7. **Good communication and transport infrastructure**

2. Private and Public sources of funding

1. **Solid local venture funds with extensive international network**
2. **Vast and knowledgeable network of angel investors**
3. **CORFO/InnovaChile programs: training, IP, tech transfer, etc**
4. **Other science grants (CONICYT)**

3. Biotechnology incubator/facilities

1. **Access to quality laboratories**
2. **Access to different large equipment facilities (flow cytometry, bioinformatics, analytical chemistry)**
3. **Communication infrastructure**
4. **Reasonable and simple contracts- similar US standards**
5. **Distributor on site: simple access to reagents and equipment for purchase**
6. **Other supporting services (e.g. accounting)**

4. World-class human resources

1. **Quality scientist with focus in biotechnology projects**
2. **Expertise in algae growth and algae products**
3. **Scientist trained in US or with experience in US biotech**
4. **Lower labor cost than comparable resources in US**
5. **Can-do attitude- GPB lab online 3 days after earthquake**