The promise of alternative proteins

Good Food Institute (GFI) APAC

Asia-Europe Environment Forum Annual Conference | SMEs Going Circular: Decarbonisation of Food Supply Chains
Meat demand is skyrocketing as global demographics shift

Source: Asia Research and Engagement (2018). Charting Asia’s Protein Journey
Circularity is limited by structural inefficiency in our food system.

Cycling calories through animals in this way is equivalent to 87-97% food waste in production.

Source: Shepon, et al., Energy and protein feed-to-food conversion efficiencies in the US and potential food security gains from dietary changes.
Industrial animal agriculture is responsible for 14.5% of greenhouse gas emissions—a higher share than the transport sector.

3/4 of agricultural land is used for raising and feeding livestock yet this only provides 1/3rd of the global protein supply.

Source: United Nations (2006). Livestock’s Long Shadow; World Resources Institute (calorie formula); UN FAO (land use statistics)
Science and tech have unlocked new avenues of innovation

Plant-based

Fermentation

Cultivated
...enabling us to find alternatives to make meat more efficiently

Replacing conventional meat with plant-based meat reduces environmental impacts by:

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<tbody>
<tr>
<td>Land use</td>
<td>96%</td>
<td>97%</td>
<td>98%</td>
<td>96%</td>
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<tr>
<td>Water use</td>
<td>96%</td>
<td>95%</td>
<td>98%</td>
<td>96%</td>
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<tr>
<td>Air pollution</td>
<td>93%</td>
<td>95%</td>
<td>99%</td>
<td>93%</td>
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<tr>
<td>Toxic chemicals</td>
<td>83%</td>
<td>92%</td>
<td>98%</td>
<td>83%</td>
</tr>
<tr>
<td>Greenhouse gas emissions (CO₂-eq)</td>
<td>86%</td>
<td>92%</td>
<td>98%</td>
<td>86%</td>
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Source: GFI & CE Delft (2021). Lifecycle Assessment
Our theory of change

Instead of asking consumers to give up foods they love, we can accelerate the transition to alternative meat, eggs, and dairy produced in more sustainable and efficient ways without compromising on the taste, affordability, and accessibility of their animal-based counterparts.
We work in cross-cutting areas to enable the sector to scale

**Policy**
Advocating for fair policy and public research funding for alternative proteins.

**Corporate Engagement**
Partnering with companies and investors to unlock funds, innovation, and scale

**Science and Tech**
Advancing foundational, open-access research in alternative proteins

**ENABLERS FOR SCALE**

- **Cost**
  - the same or less

- **Taste**
  - the same or better

- **Nutrition**
  - profile equivalence
In policy, we link alt proteins to policy goals and drive clarity

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- Securing government funding ➔
- Ensuring a clear path to market ➔
- Advocating for fair labeling ➔
In corporate engagement, we provide know-how and know-who

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- Investor and company directories
- One-to-one business advisory
- Commission and conduct targeted research
In scitech, we publish cutting-edge research and highlight gaps in foundational, open-access research in alternative proteins.

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The science of plant-based meat  ›

The science of cultivated meat  ›

The science of fermentation  ›
Our cross-cutting resources direct efforts to key scaling barriers

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**EXAMPLE DATABASE:**

**Advancing Solutions for Alternative Proteins >>**

<table>
<thead>
<tr>
<th>PRODUCTION PLATFORM</th>
<th>VALUE CHAIN SEGMENT</th>
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</thead>
<tbody>
<tr>
<td>Fermentation, Plant-Based</td>
<td>Raw Materials, Ingredients, &amp; Inputs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNOLOGY SECTOR</th>
<th>END PRODUCT FOCUS</th>
<th>RELEVANT ACTOR</th>
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<tbody>
<tr>
<td>Select...</td>
<td>Select...</td>
<td>Startups</td>
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**Opportunity**

**Repurposing and retrofitting facilities for use in alternative protein manufacturing**

The manufacturing capacity for rapid and cost-effective scale-up of alternative protein production is a current constraint on the growth of the industry. Repurposing and retrofitting stranded or underutilized assets such...

**Animal ingredient substitution**

Enabling easy animal ingredient substitutions in a wide range of food...
We support SMEs across their lifecycle, and system enablers through the following steps:

**Proof of concept**
- **AGRI-FOOD SME’S**
  - Participate in the alt protein sector (growers, suppliers, CPG companies, distributors and retailers)
- **PUBLIC SECTOR**
  - Educate on the alignment of alt proteins with policy objectives
- **PRIVATE SECTOR**
  - Educate on the commercial potential of alt proteins

**Develop**
- **AGRI-FOOD SME’S**
  - Develop, fund, and launch alt protein product offering in the market
- **PUBLIC SECTOR**
  - R&D funding, subsidies
- **PRIVATE SECTOR**
  - Funding, capacity building

**Scale**
- **AGRI-FOOD SME’S**
  - Expand alt protein offering, channels, and markets
- **PUBLIC SECTOR**
  - Regulatory enablement, PPPs
- **PRIVATE SECTOR**
  - Asset partnership, capacity building
Thanks for your time!

Contact me

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Contact GFI APAC
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