

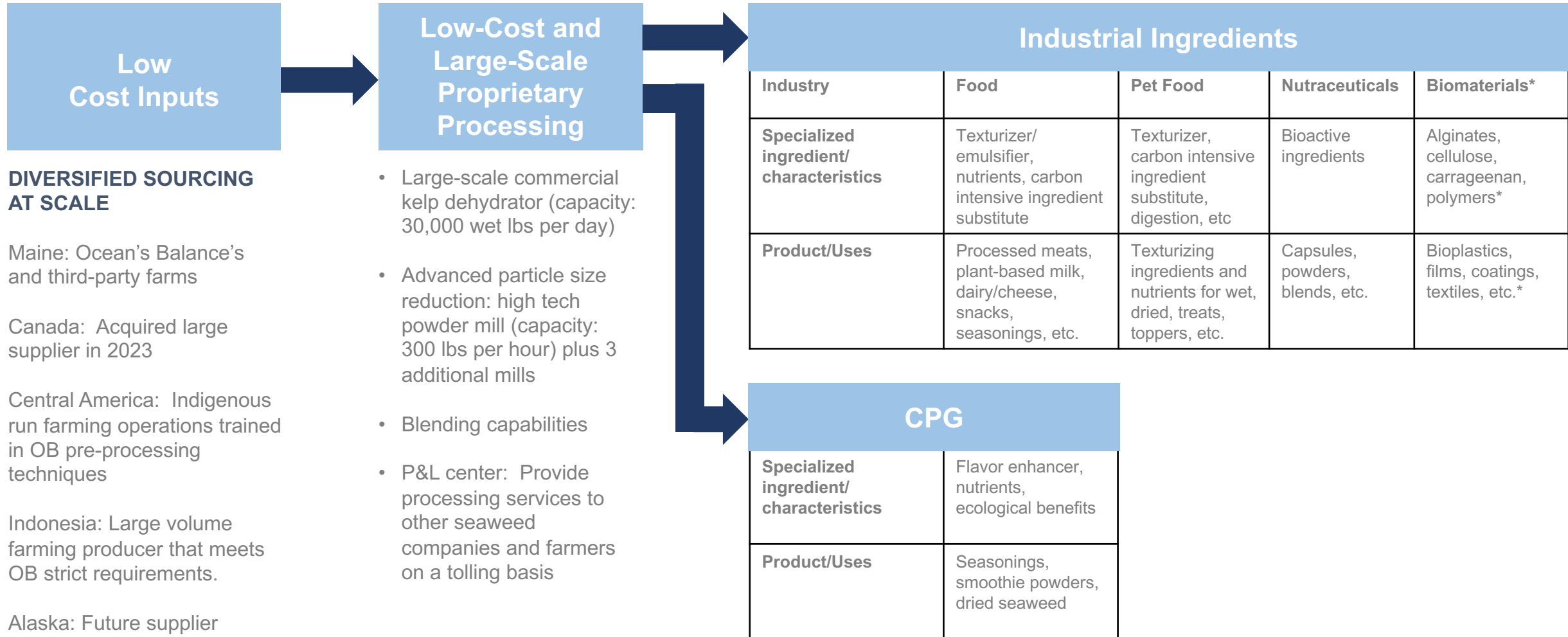
Harnessing the power of the ocean to build a more resilient and climate friendly planet

MITCH LENCH,
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OCEAN'S
BALANCE

Supply Chain to Final Products



* Biomaterials: OB is providing samples to seaweed application companies, but we're not yet manufacturing these products at scale. Building a biorefinery is required to scale these inputs and products.

Just one large multinational food company can dramatically shift the landscape for farmed kelp:

- Annual needs of this real manufacturer for one product line is **2.2 million pounds** of dried kelp
 - If this was farmed kelp it would equate to approximately **22 million** pounds of fresh kelp (Maine and Alaska currently farm approximately 2 million pounds)
- Company is publicly very focused on sustainability goals, but price is obviously a factor
- Current plan is to source wild harvested *Ascophyllum* (rockweed), which can put a strain on the resource as the Asco market is already growing very rapidly.

Why is this large manufacturer not using farmed kelp or even a blend of Asco and farmed?

- **Price is the primary factor: North American farmed kelp is 10-15X more expensive**
- It's a classic chicken or egg paradox: The volumes this manufacturer requires would help scale up the industry and bring the costs down, but they're unwilling to pay a 10-15X premium.

What are some possible solutions to bring the price down and volumes up?

- There are a variety of subsidies from the government and non-profits supporting the farmed kelp industry, but the price of kelp hasn't fallen. Is there a more direct way to fund this goal?
- Institutions such as GreenWave, Woods Hole, U of Maine, and Bigelow are working on projects that will help reduce the costs of seed, farming, harvesting, and processing techniques.
- Backstop the price of farmed kelp to get market going
 - Farmers need to know they have an off-taker so they can invest in equipment, etc., but they also will need to compete on pricing.
 - There may also be a need to provide a subsidy to strategic buyers until market reaches scale.

Processing is often cited as the biggest bottleneck facing the farmed kelp market, but it doesn't need to be.

- As an industry we spend a lot of time reinventing the wheel.
- Ocean's Balance worked with the global leader in manufacturing seaweed processing and biorefinery equipment based in South Africa. Purchased a commercial scale and highly automated dehydrator in May 2023.
- Only dehydrator of its type in North America. It can process 1,000 lbs per hour and it's incredibly energy efficient.
- Created a shared-use drying and milling hub in Maine for all kelp farmers and seaweed companies.
- Have offered to help set-up similar cost-effective turnkey processing hubs in Alaska.

