MVMNT-X, Inc. : Turning Waste CO_2 into Value

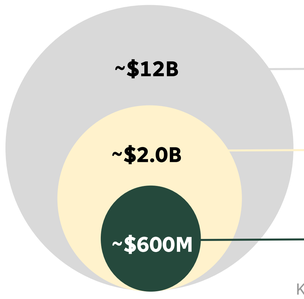
Berkeley DEEP TECH Innovation Lab

Mvmnt-X is developing high-efficiency algae-based bioreactors that convert agricultural waste and CO_2 emissions into valuable outputs such as soil amendments and biofuels. By recovering over **95% of carbon, nitrogen, and phosphorus** from farm waste, the system offers a path to improve **soil health, reduce emissions**, and create **new revenue streams** for farmers. Leveraging **low-cost optical enhancements**, Mvmnt-X's technology **boosts solar photosynthesis by up to 40%** and **lowers biomass production costs by 40%** compared to current best-in-class methods.

Problem Statement

Over **10 billion tonnes of CO_2e** are tied up in globally harvestable biowaste, yet most of it is mismanaged. Livestock manure accounts for **42% (4.2 billion tonnes annually)** of the total biowastes emissions. However, currently available treatment methods remain **costly, land-intensive,** and **difficult to implement,** resulting in many farmers relying on outdated and inefficient manure management. While algae offer a path to valorize these emissions, today's **microalgae farming** is limited by **low productivity and light constraints.**

Market Potential



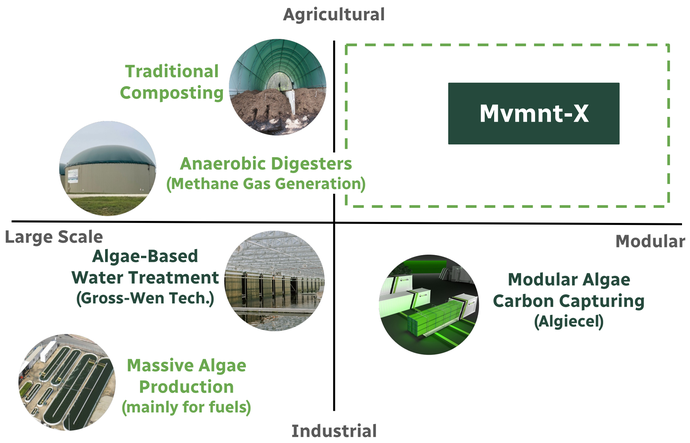
10% acquisition of farms in developed countries (Canada, Japan, New Zealand, Australia, EU, US)

100% acquisition of small farms in the US

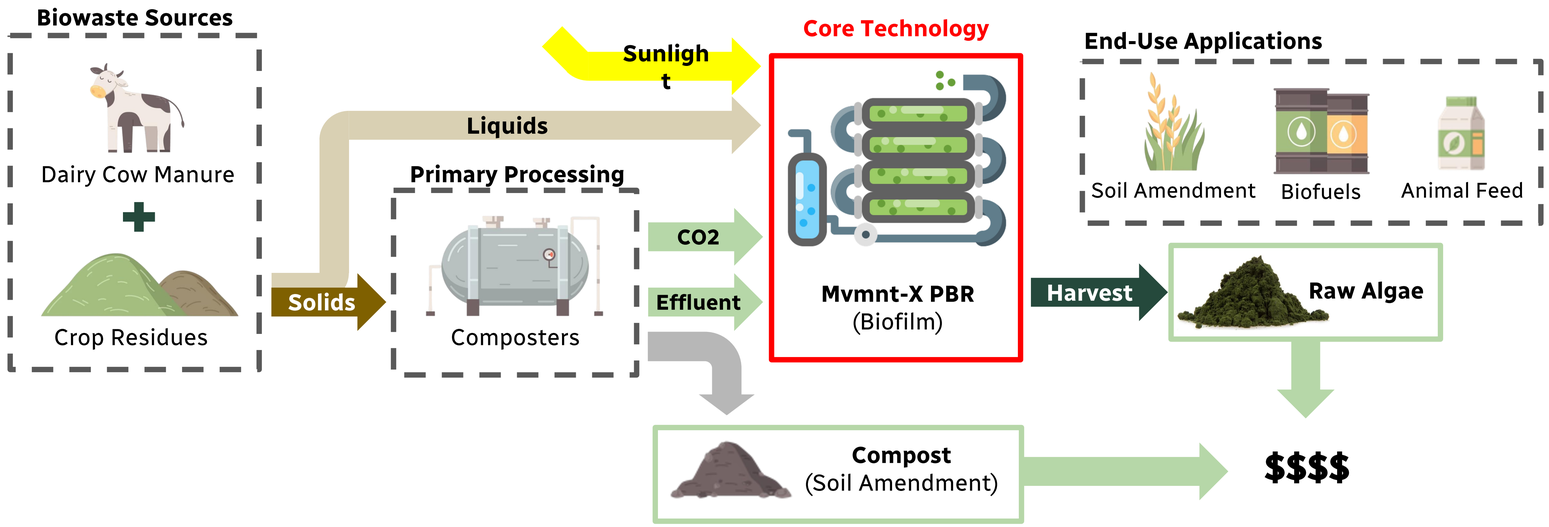
30% acquisition of small farms in the US

Key assumptions:
- $200,000 unit price sold per farm
- 10,000 small dairy farms in US (<600 cows)
- 600,000 dairy farms in developed countries (Canada, Japan, New Zealand, Australia, EU, US)

Competitive Landscape

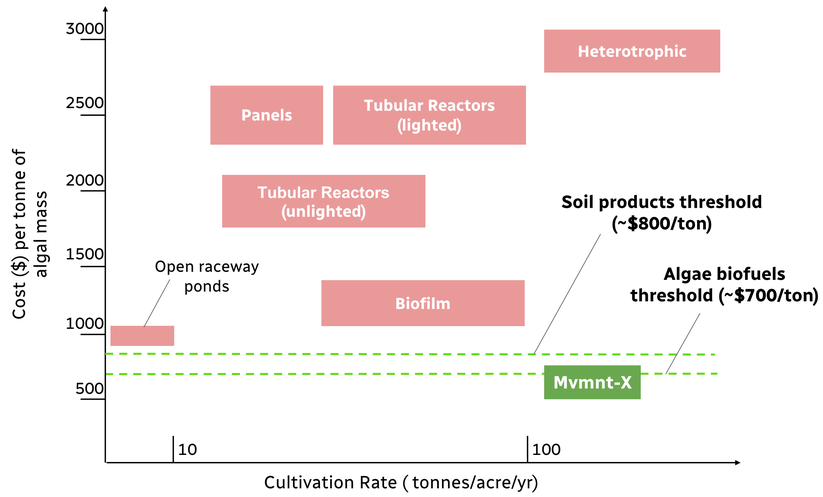


Technology Overview



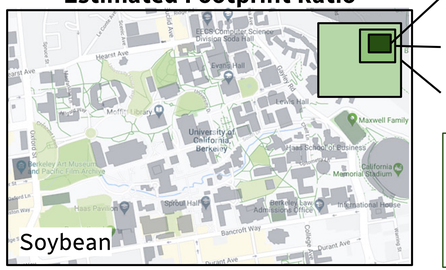
Evaluating Performance Across Algae Cultivation Platforms

Algae Production Cost vs Cultivation Rate



MVMNT-X delivers algae production at **40% lower cost** than the cheapest existing solution, while maintaining a **compact footprint** due to **high cultivation rates**.

Estimated Footprint Ratio



Mvmnt-X

Current best PBR (40 g/m²) - **Cost Prohibitive**

Open Raceway Ponds - **Land intensive**

On average, **Mvmnt-X** is **3x more productive** than current algae technologies, **reducing land**, and **enabling broadscale adoption.**

Biofuels Yield and Cost Across Production Platforms

System	Biomass Output (g/m²/day)	Annual Fuel Yield (gal/acre/year)	Production Costs ($/gallon)
Soybean	3.2	50-66	$3.50
Open Raceway Ponds	10	887	$6.27-$9.84
Current Best PBR	40	4,434	$20.53
Mvmnt-X	**90**	**10,800**	**<<$7.5 DOE target**

DTI Team: Kimberly Surja (M.Eng), Theodore Oentoro (M.Eng), Toshihiro Ura (MBA), Mariana Mazzer (LLM), Kush Dassadia (MEng) |
Founders: Sarah Young, Craig Hetherington, Neil Gupta | **Advisors:** Matthew Rappaport, Leah Edwards, Kavisha Shroff