

An aerial photograph of a city skyline, likely New York City, with numerous skyscrapers. Many of the buildings have green roofs, which are covered in various types of vegetation, including grass, shrubs, and small trees. The sky is blue with scattered white clouds. The text "[Plant it.]" is overlaid on the right side of the image in a large, white, sans-serif font.

[Plant it.]

**Reimagining how food is
produced and
consumed in a city.**

**2/3 of the world's population will
live in cities by 2050**



United Nations, 2018

**1/5 of the world's food is
grown in cities**



FAO, 2018



**Your average
meal travels
1500 km to
reach your
plate**

(CUESA, 2019)



FOOD WASTE



CARBON EMISSIONS



NUTRITIONAL VALUE



FOOD RESILIENCE

**How can we
transform the way
food is produced
and consumed in
the city?**

TORONTO POLICY SUPPORT

- **Ongoing:** TransformTO
- **2018** Milan Food Policy Pact
- **2012** GrowTO: Urban Agriculture Action Plan

OUR SOLUTION



Space Efficient



Consumer Accessible

SPACE EFFICIENT



Vertical Farming

Allows for vertical scaling



Utilize Condo Rooftops

“Wasted space” on rooftops makes up 15% to 35% of the total urban land area



Hydroponics

Grows 5X the food while cutting the required time by 1/2

CONSUMER ACCESSIBLE

2 M

Canadian
households living in
condominiums
(2016)

83.1%

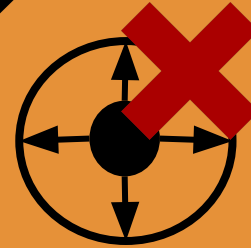
Surveyed people would buy
more fruits and vegetables if
available in their condo

\$20 B

Local food sales in
North America
(2019)



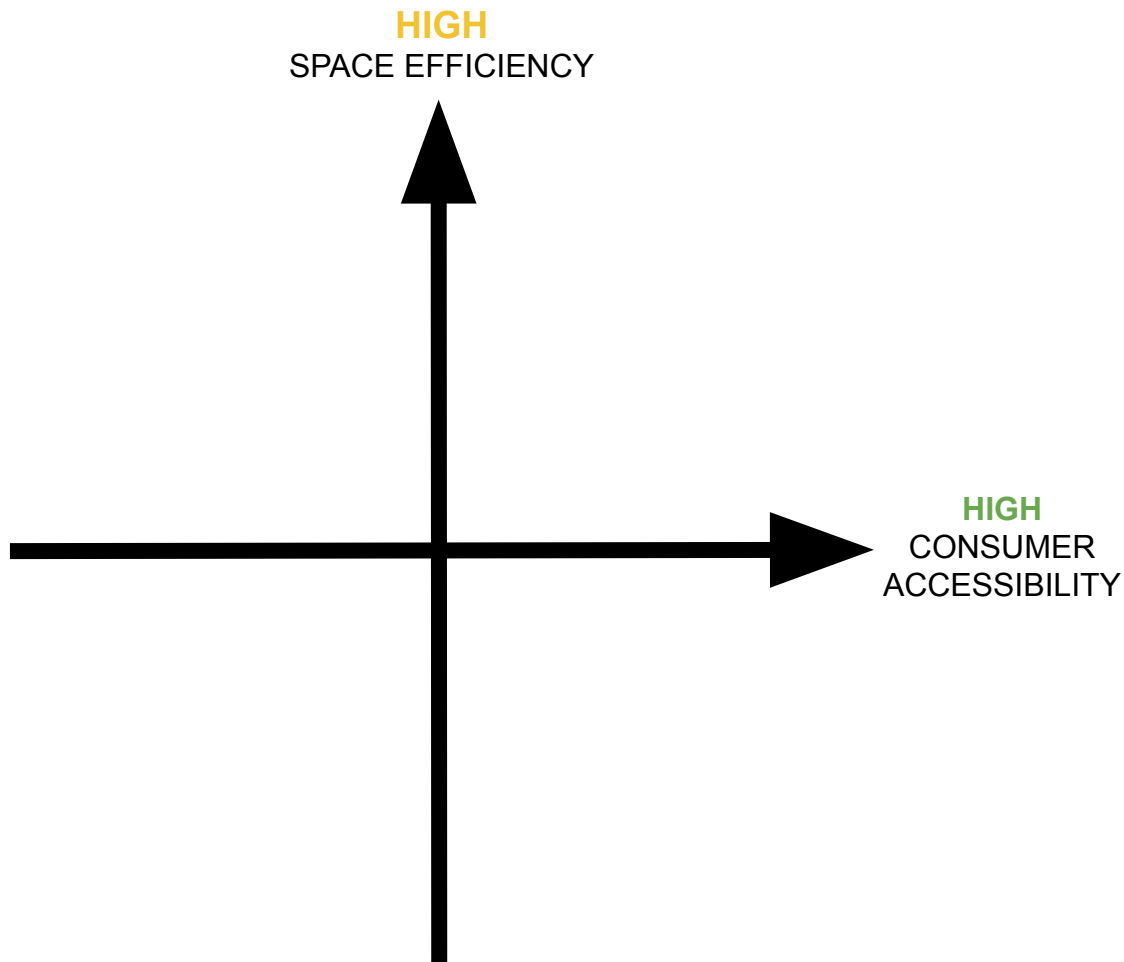
Developers lack **Expertise**



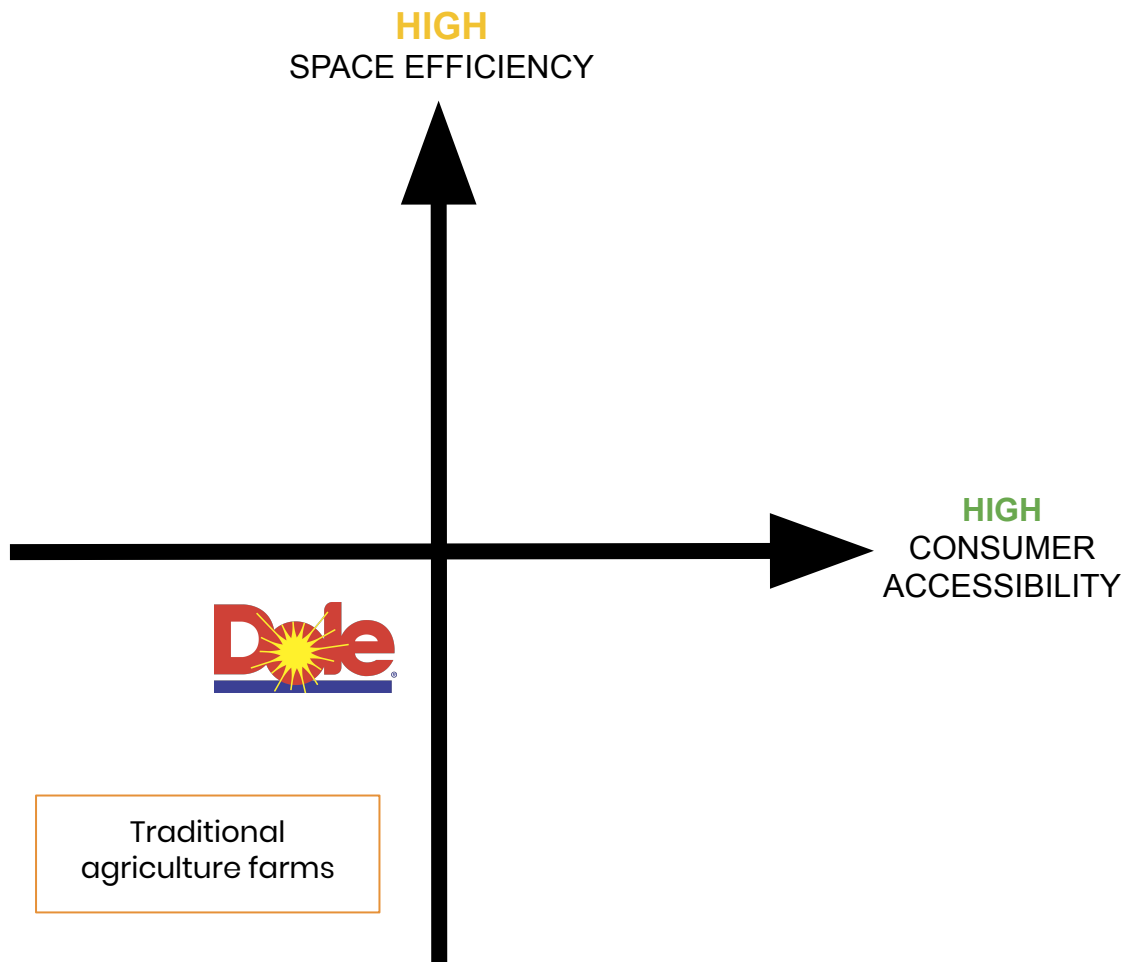
Developers lack **Expertise**

Companies lack **Urban Infrastructure**

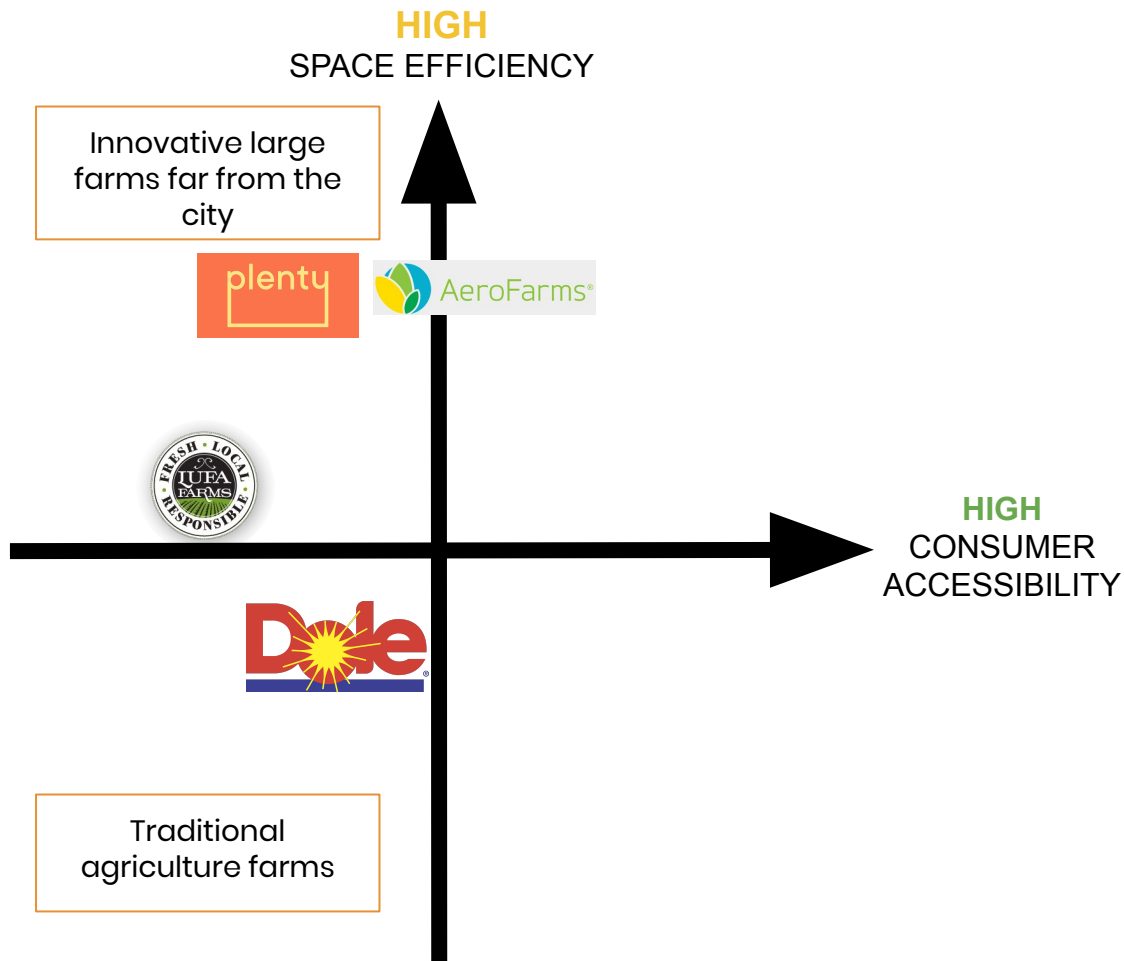
Current options lack the
conjunction of **space**
efficiency and
consumer accessibility



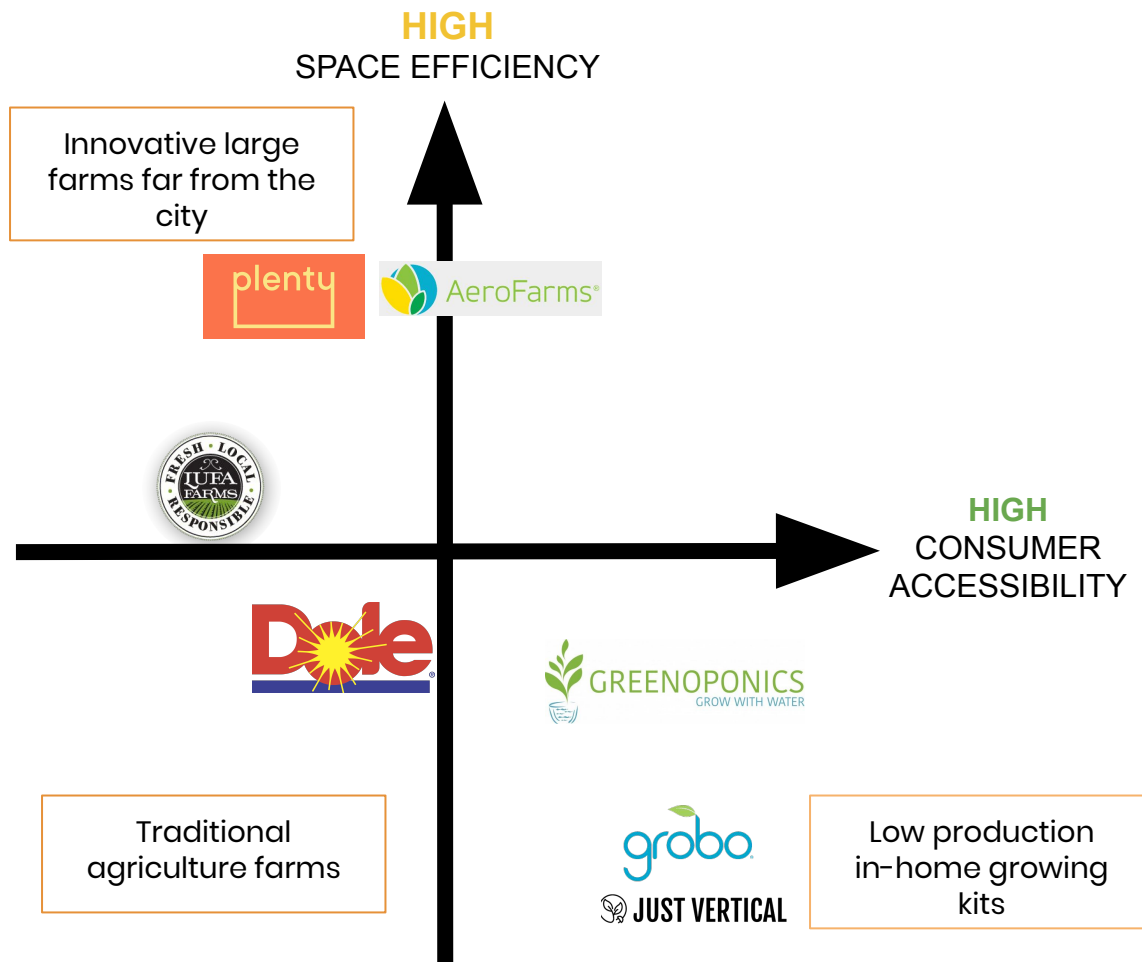
Current options lack the conjunction of **space efficiency** and **consumer accessibility**



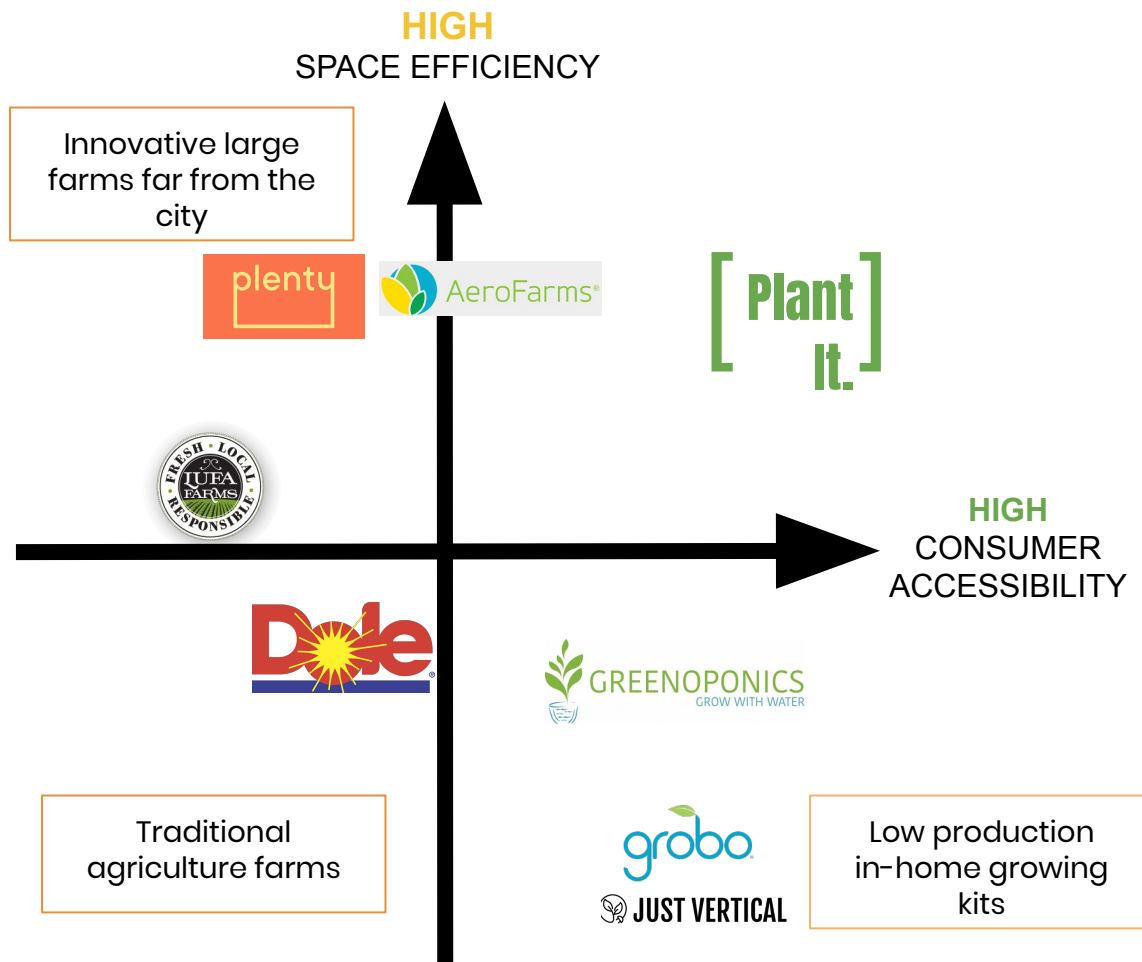
Current options lack the conjunction of **space efficiency** and **consumer accessibility**



Current options lack the conjunction of **space efficiency** and **consumer accessibility**



Current options lack the conjunction of **space efficiency** and **consumer accessibility**



Our Process



Get involved from
the **planning**
stage

Our Process



Get involved from
the **planning**
stage



Assume **full**
responsibility for
the hydroponics
system

Our Process



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Assume **full**
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Sell produce to
Condo Residents
+ Restaurants
+ Food Bank

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Expand by replicating
the system and
creating a network

What's the incentive for developers?



Green Roof Bylaw

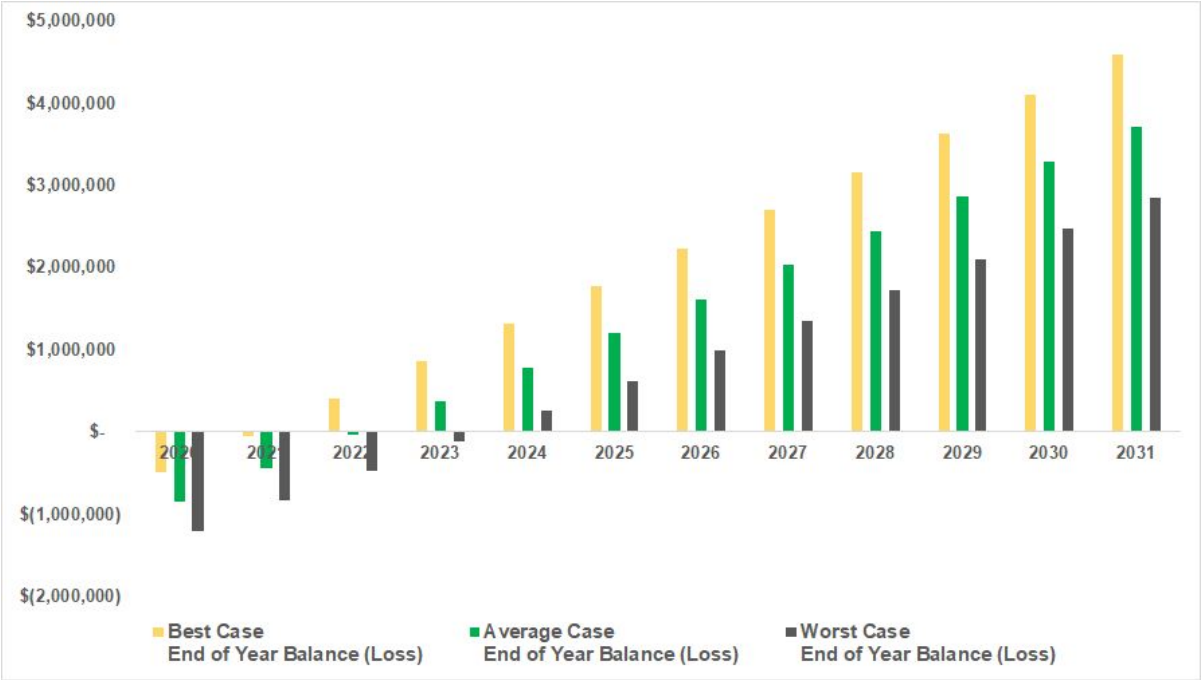


Property Value



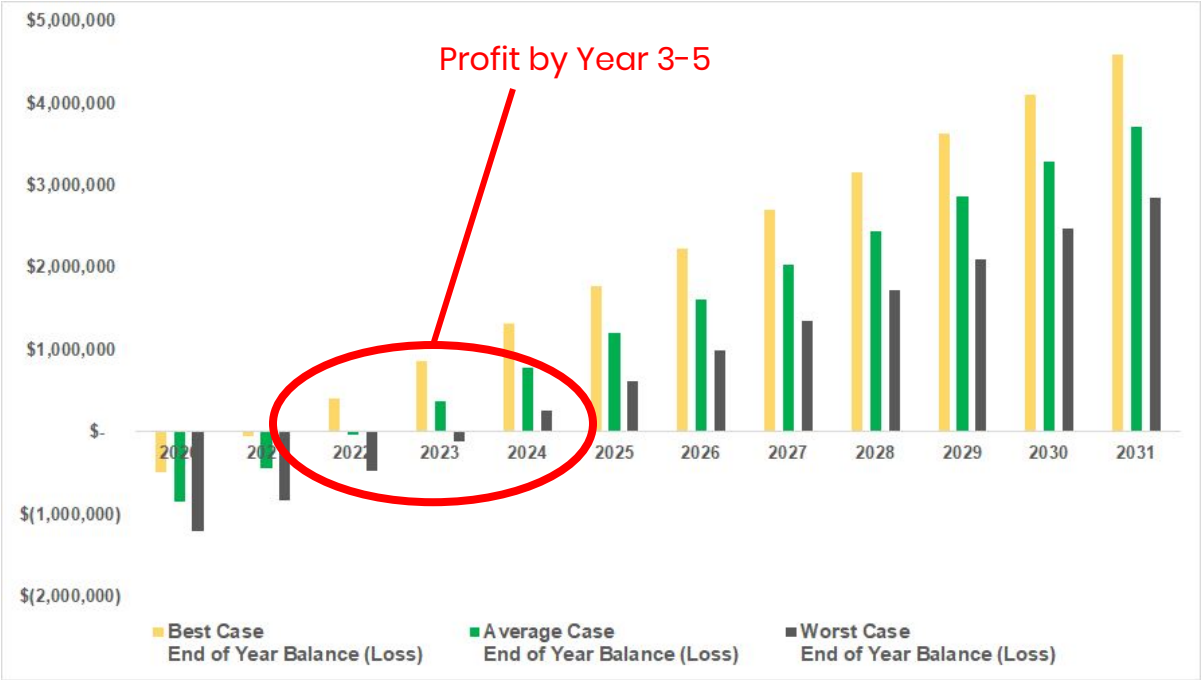
Community Building

Financial Plan



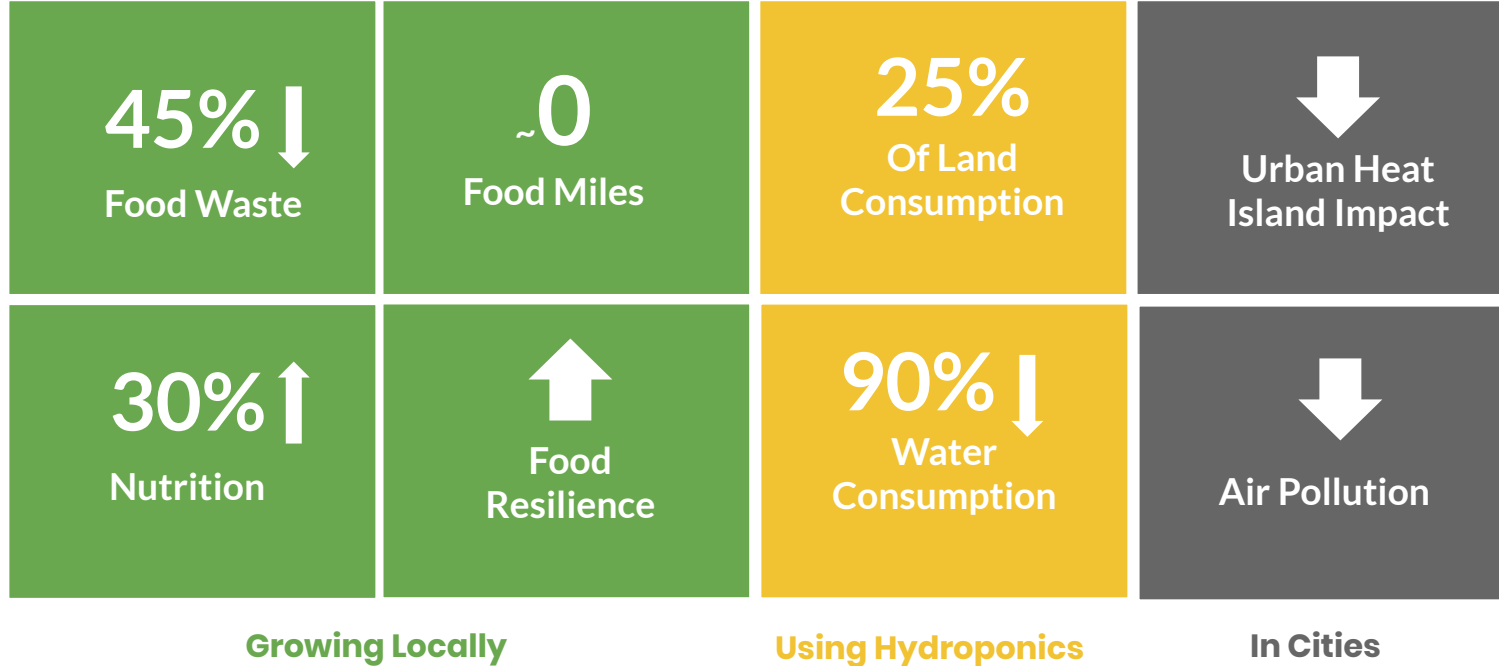
Building Height	150 m
# of Floors	50 floors
# of Units	500 units
Building Capacity	860 people
Weekly Vegetable Consumption (100% Use Rate)	2483 Kg
Weekly Vegetable Consumption (60% Use Rate)	1242 Kg
Available Roof Area	500 m ²
Chosen Greenhouses Footprint (Volume)	45 m ² (98 m ³)

Financial Plan



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Environmental Impact



Reaching 1 Million Consumers

City	Population Living in Condominiums	Green Roof Laws
Toronto	586k	●
New York	1.8M	●
Chicago	540k	●
California	177k	●
Vancouver	135K	●
Total	3.6M	



Our Team



Siya Agarwal
4A Urban Planning

experience in hydroponics,
urban policy, and the
development process



Falah Shazib
3B Computer Science

experience in social
entrepreneurship and
marketing



Karan Khalsa
4A Mechanical Engineering

experience in large volume
manufacturing and operational
optimization



Ankita Mishra
3B Computer Science

experience in machine
learning and mobile and web
app development



[Plant
It.]

Financial Breakdown

Model Sensitivity	M	(L, M, H)											
	Year												
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Initial Investments	\$ (1,250,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Green House	\$ (250,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Hydroponics System	\$ (1,000,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Operational Costs	\$ (126,800)	\$ (129,336)	\$ (131,923)	\$ (134,561)	\$ (137,252)	\$ (139,997)	\$ (142,797)	\$ (145,653)	\$ (148,566)	\$ (151,538)	\$ (154,568)	\$ (157,680)	
Labour	\$ (76,800)	\$ (78,336)	\$ (79,903)	\$ (81,501)	\$ (83,131)	\$ (84,793)	\$ (86,489)	\$ (88,219)	\$ (89,983)	\$ (91,783)	\$ (93,619)	\$ (95,491)	
Electricity	\$ (19,200)	\$ (19,584)	\$ (19,976)	\$ (20,375)	\$ (20,783)	\$ (21,198)	\$ (21,622)	\$ (22,055)	\$ (22,496)	\$ (22,946)	\$ (23,405)	\$ (23,873)	
Water	\$ (19,200)	\$ (19,584)	\$ (19,976)	\$ (20,375)	\$ (20,783)	\$ (21,198)	\$ (21,622)	\$ (22,055)	\$ (22,496)	\$ (22,946)	\$ (23,405)	\$ (23,873)	
Growing Materials	\$ (21,600)	\$ (22,032)	\$ (22,473)	\$ (22,922)	\$ (23,381)	\$ (23,848)	\$ (24,325)	\$ (24,812)	\$ (25,308)	\$ (25,814)	\$ (26,330)	\$ (26,857)	
Salary	\$ 40,000	\$ 40,800	\$ 41,616	\$ 42,448	\$ 43,297	\$ 44,163	\$ 45,046	\$ 45,947	\$ 46,866	\$ 47,804	\$ 48,760	\$ 49,735	
Misc.	\$ (30,000)	\$ (30,600)	\$ (31,212)	\$ (31,836)	\$ (32,473)	\$ (33,122)	\$ (33,785)	\$ (34,461)	\$ (35,150)	\$ (35,853)	\$ (36,570)	\$ (37,301)	
Revenue	\$ 530,400	\$ 534,456	\$ 538,659	\$ 543,010	\$ 547,513	\$ 552,169	\$ 556,982	\$ 561,953	\$ 567,085	\$ 572,381	\$ 577,843	\$ 583,475	
Condo Consumer	\$ 312,000	\$ 318,240	\$ 324,605	\$ 331,097	\$ 337,719	\$ 344,473	\$ 351,363	\$ 358,390	\$ 365,558	\$ 372,869	\$ 380,326	\$ 387,933	
Restaurant	\$ 156,000	\$ 154,440	\$ 152,896	\$ 151,367	\$ 149,853	\$ 148,354	\$ 146,871	\$ 145,402	\$ 143,948	\$ 142,509	\$ 141,084	\$ 139,673	
Food Bank	\$ 62,400	\$ 61,776	\$ 61,158	\$ 60,547	\$ 59,941	\$ 59,342	\$ 58,748	\$ 58,161	\$ 57,579	\$ 57,003	\$ 56,433	\$ 55,869	
End of Year Balance (Loss)	\$ (846,400)	\$ (441,280)	\$ (34,544)	\$ 373,905	\$ 784,166	\$ 1,196,338	\$ 1,610,522	\$ 2,026,822	\$ 2,445,341	\$ 2,866,184	\$ 3,289,459	\$ 3,715,273	

Item	Medium Value	Units	Notes
Greenhouse	\$ (250,000)	Initial Investment	Calculated using existing products (growersupply.ca)
Hydroponics System	\$ (1,000,000)	Initial Investment	Plenty
Labour	\$ (76,800)	Yearly	Assume 1 person handles 600 m³ (\$20 hr. @ 40h week) * 2 (benefits and etc.)
Electricity	\$ (19,200)	Yearly	841 CAD / 156 m³
Water	\$ (19,200)	Yearly	841 CAD / 156 m³
Growing Materials	\$ (21,600)	Yearly	3072 ft² (156 m³) of tomato's uses \$308 USD (\$422 CAD)
Salary	\$ 40,000	Yearly	Side business (10k per founder)
Condo Consumer	\$ 312,000	Yearly	50% starting with a growth of 2% yearly (growing w/ organic market)
Restaurant	\$ 156,000	Yearly	25% starting with a reduction of 1 % yearly
Food Bank	\$ 62,400	Yearly	15 % starting with a reduction of 1% yearly, and 15 % waste(agriculture standard)