





Hello! Henry Gordon-Smith here

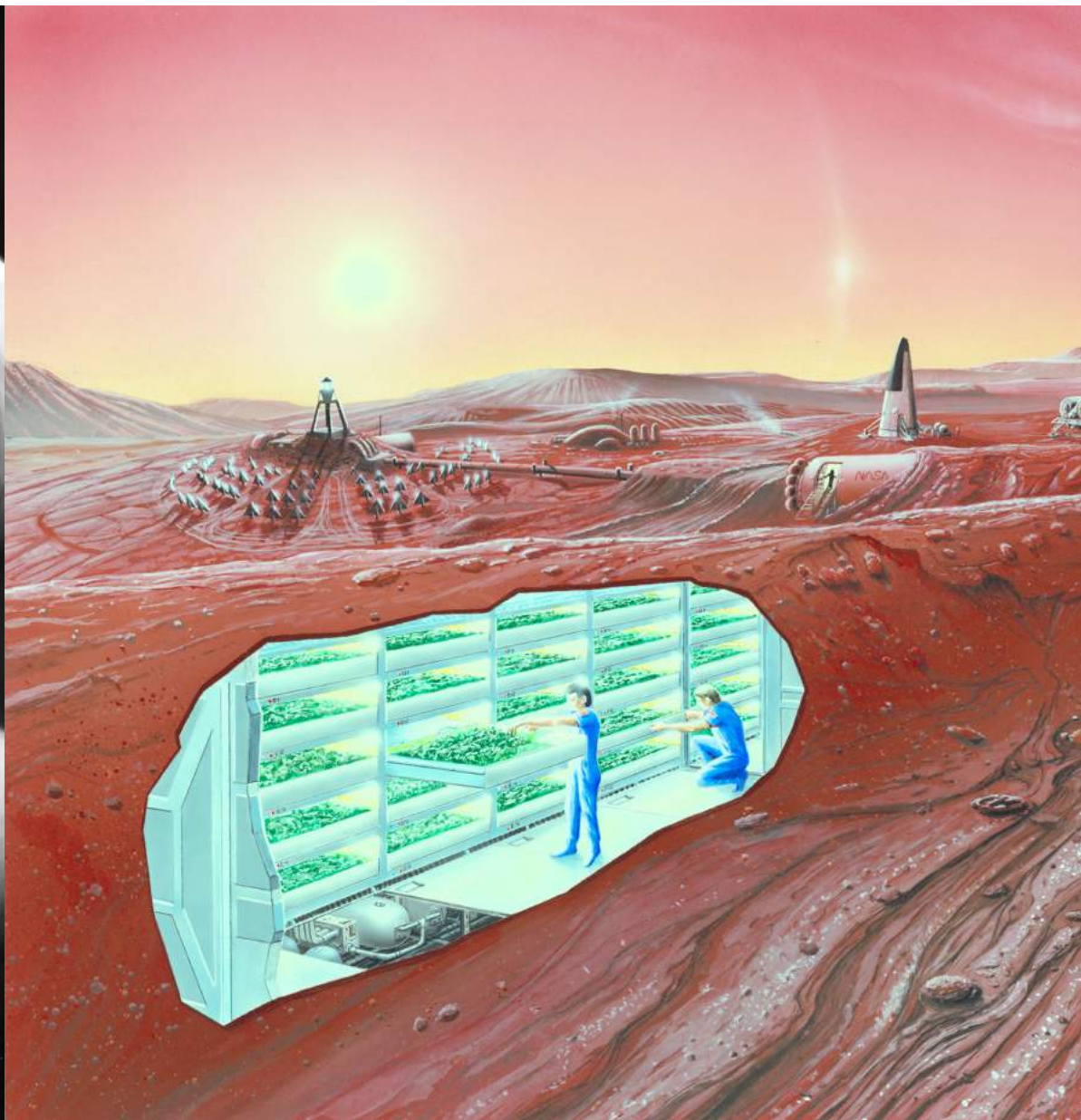
Urban Agriculture Consultant

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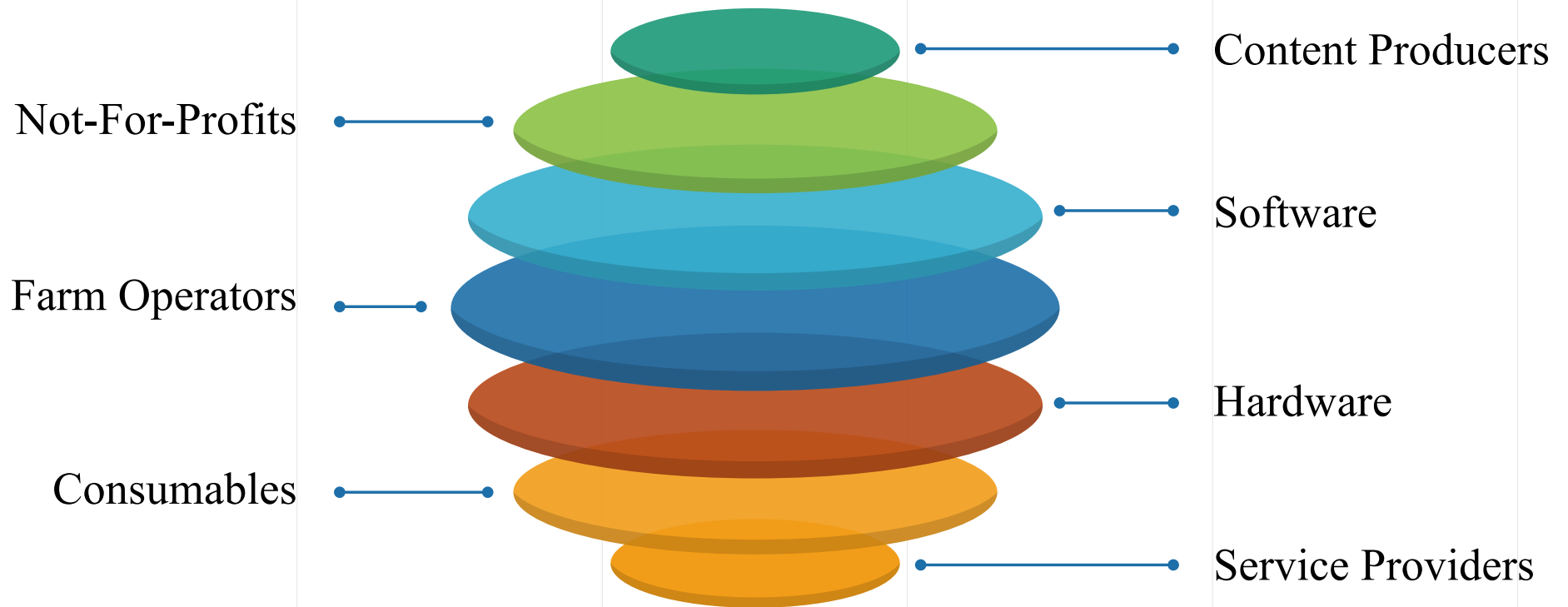
*Average Age of U.S. Farmer







Its About Building an Ecosystem



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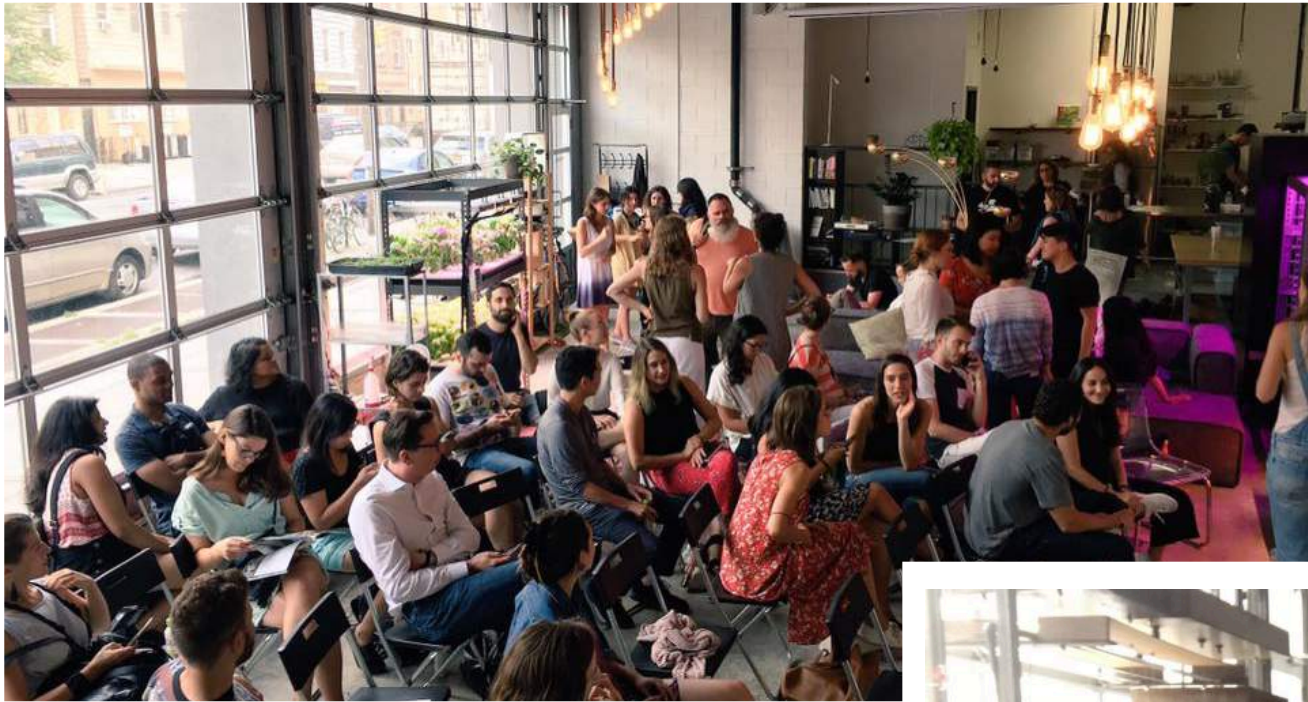


Association for
Vertical Farming



NYC
AGRICULTURE
COLLECTIVE





Growing Greens in the Grid

Food & Fibre
Innovation Conference
November 30th, Wellington NZ



Agenda

1

About Agritecture

Innovative Urban
Agriculture Solutions

2

Intro to Urban Agriculture

What are the types
and their strengths
and weaknesses?

3

Case Studies

What are the drivers
for success or failure?

4

Trends and Drivers

What are the global
trends driving urban
agriculture? How do
they apply to New
Zealand?



5

Consumer Acceptance

Will they pay more for locally-grown produce?

6

Failures & Best Practices

What makes a high-tech urban farm successful?

7

Effects on Farmers

Will Vertical Farms make a dent on rural farmers' business?

8

Conclusion

Questions welcome!

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About Agritecture

An interdisciplinary
team of urban
agriculture consultants.
We are technology
agnostic and active
globally.



Agritecture's Methodology for New Farmers

1

Concept Development

What is your unique business model concept?
How do you define success?

2

Market Research

What will you grow?
Who will buy what you are selling?
What problem are you solving?

3

Design & Engineering

An iterative process to ensure that form follows function.

4

Economics

What is the ROI?
Equipment depreciation?
Etc.

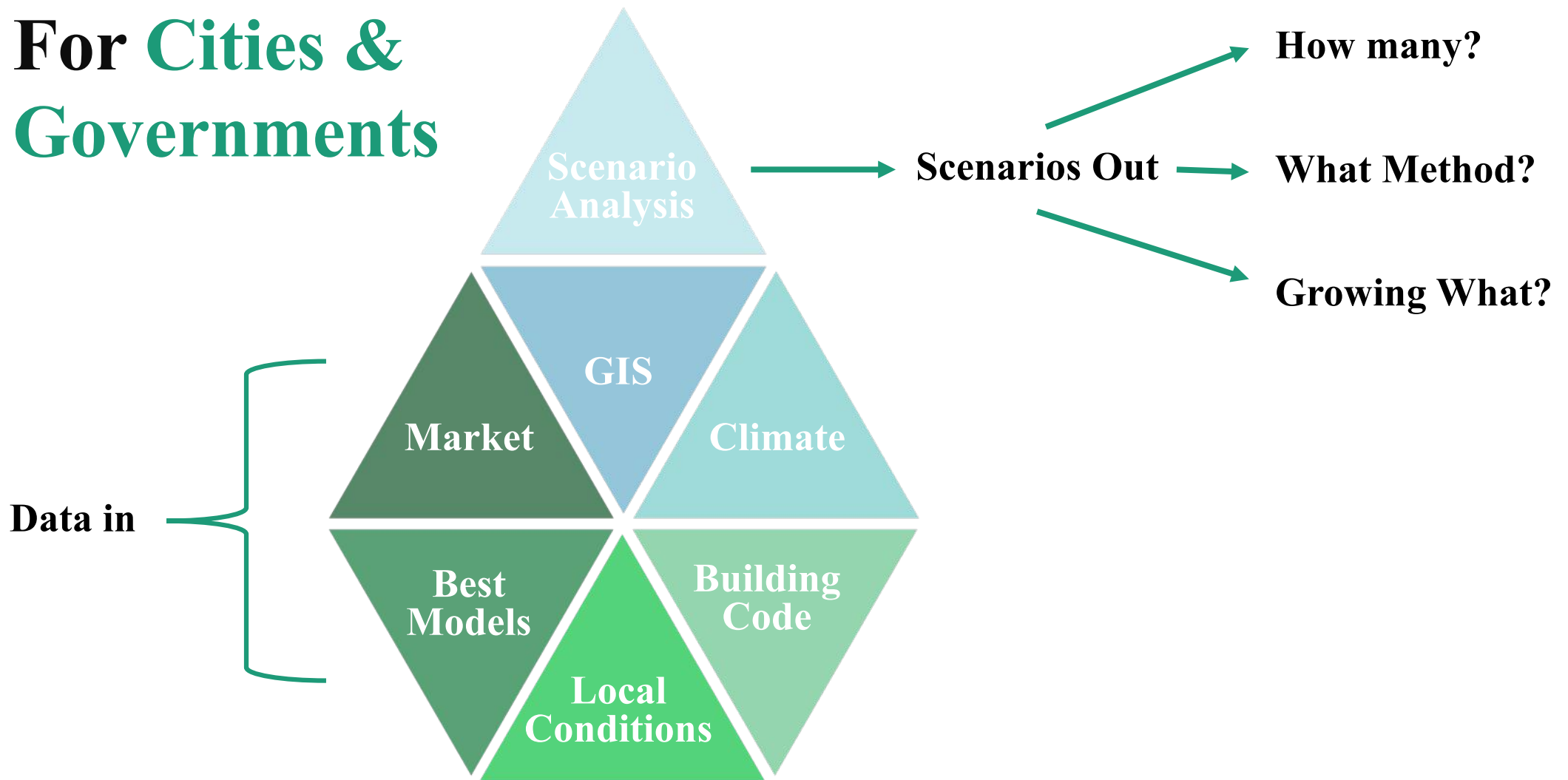
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Implementation Plan

How long to build?
Is it feasible?
How much will it cost?



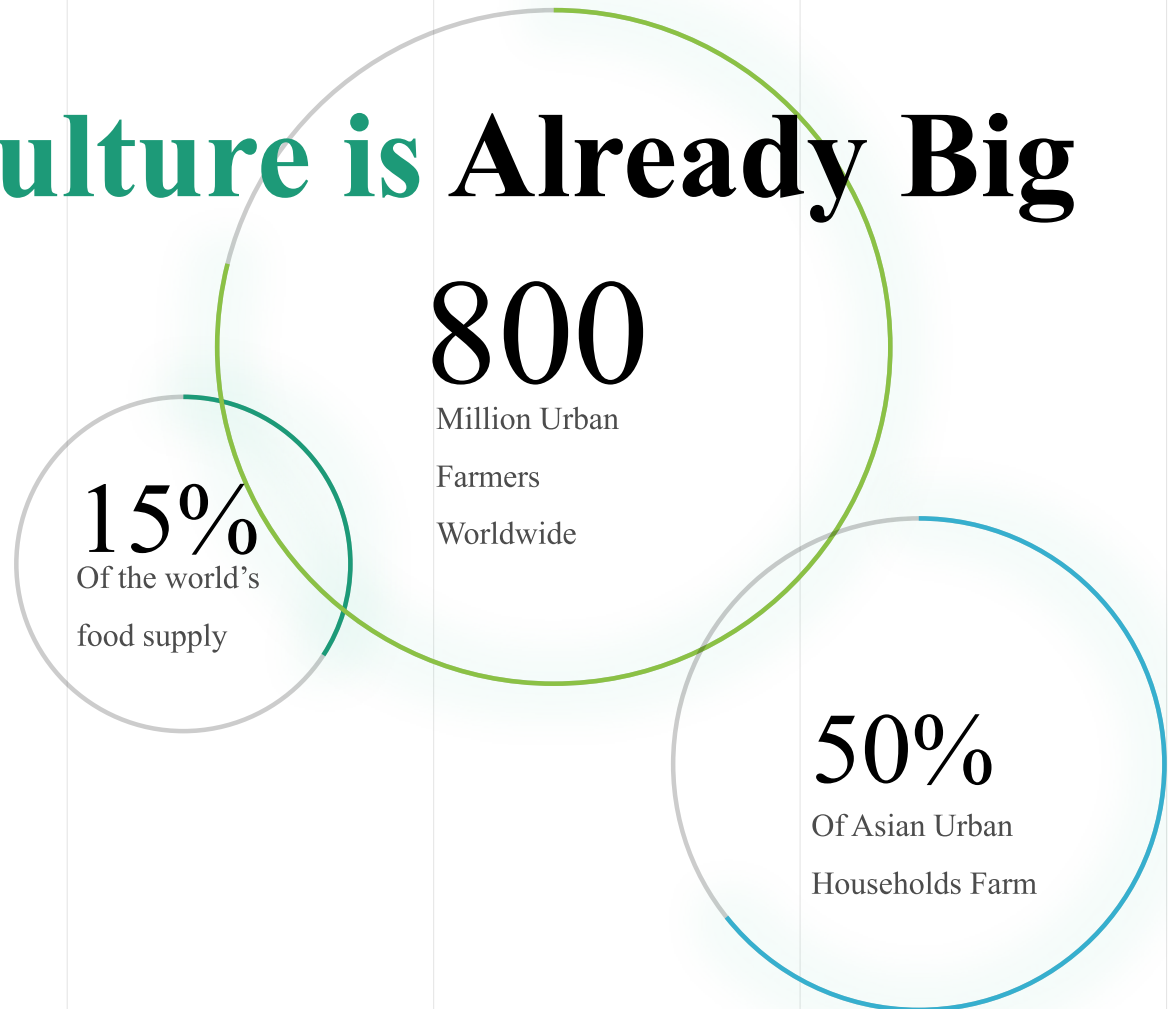
For Cities & Governments



Intro to Urban Agriculture



Urban Agriculture is Already Big



Impacts & Trade Offs

Economic

Does the farm create lasting green jobs and economic development?

Social

Does the farm connect the community and strengthen it?

Environmental

Is the farm sustainable? Does it contribute to biodiversity or improve adaptation to climate change?

Health

Does the farm get people moving and exercising? Does it grow nutritious food that improves health measurably?

Aesthetic

Does the farm inspire us to think, feel, and act more sustainably?



UA Technology Spectrum

< Low Tech — High Tech >

Battery Park



Soil In-Ground

Brooklyn Grange



Rooftop Soil

Harlem Grown



Hybrid Models

Sky Vegetables



Greenhouse

AeroFarms



Vertical Farm



Vertical Farming Definition And Components

- **Vertical farming** is the practice of producing food in vertically stacked layers, vertically inclined surfaces and/or integrated in other structures.
- Some **major components** include Structure, Hydroponic Systems, Lighting, HVAC, Building Shell, Storage, Processing, Distribution, Biosecurity, and Automation.





Why are only leafy greens viable in Vertical Farms?



Why are investors rushing towards vertical farming?



Case Studies



AeroFarms

#Newark



Brooklyn Grange

#Brooklyn



Sky Vegetables

#Bronx



Sky Greens

#Singapore



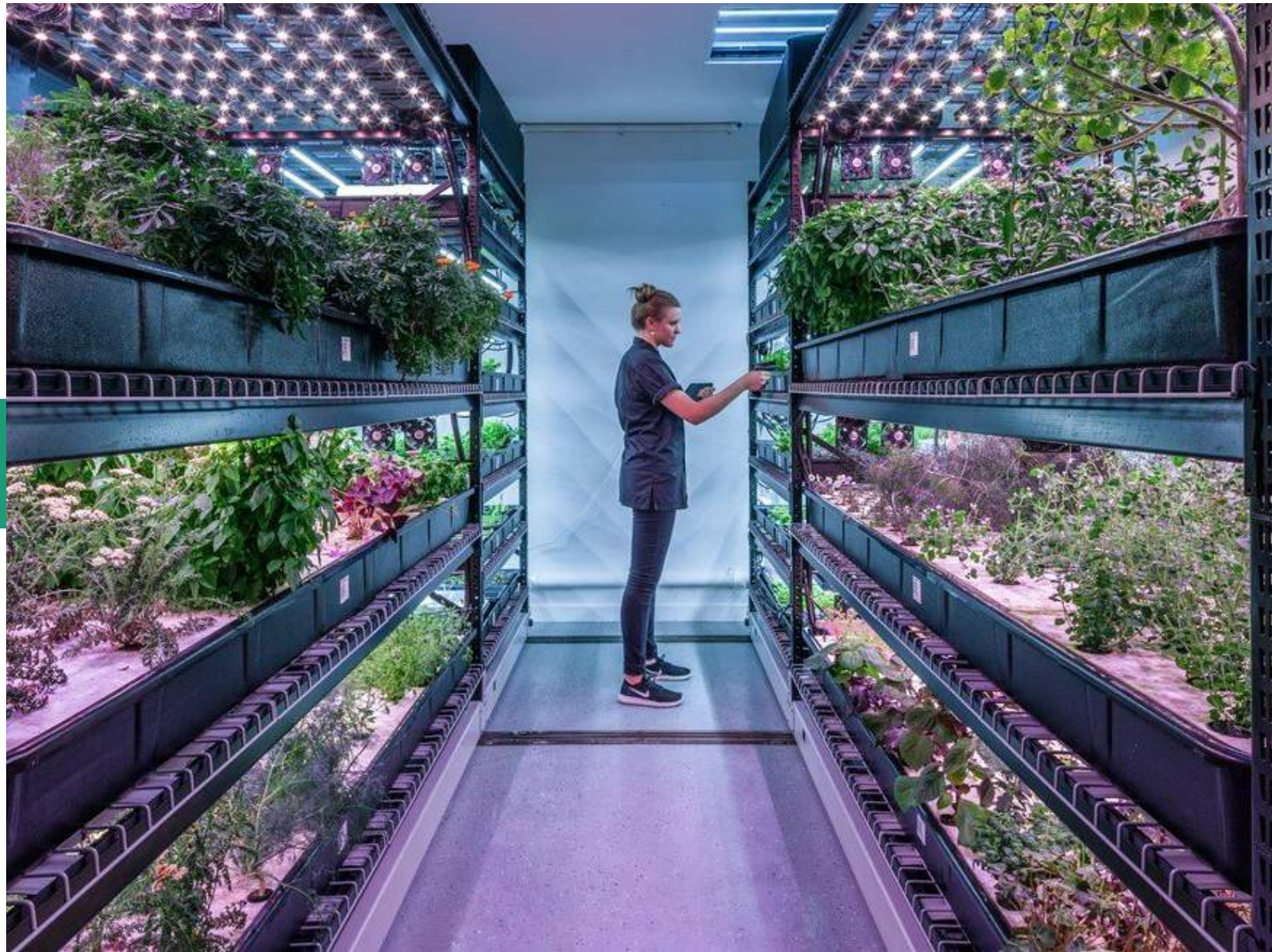
Shenandoah Growers

#Ohio



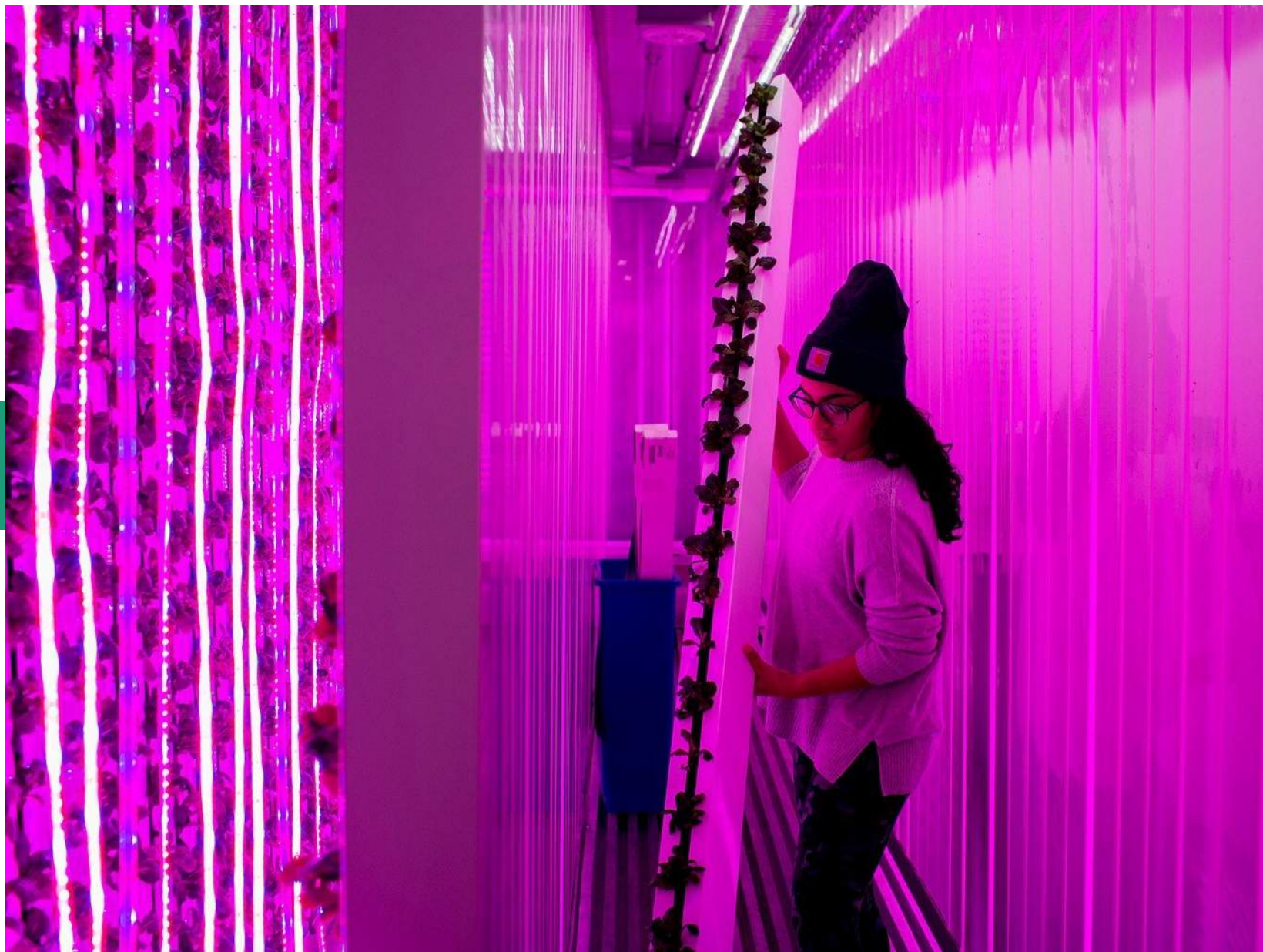
Farm One

#Manhattan



Square Roots

#Brooklyn



InFarm

#Berlin



Trends and Drivers



Market Drivers

Climate

Demand For Local

Water Scarcity

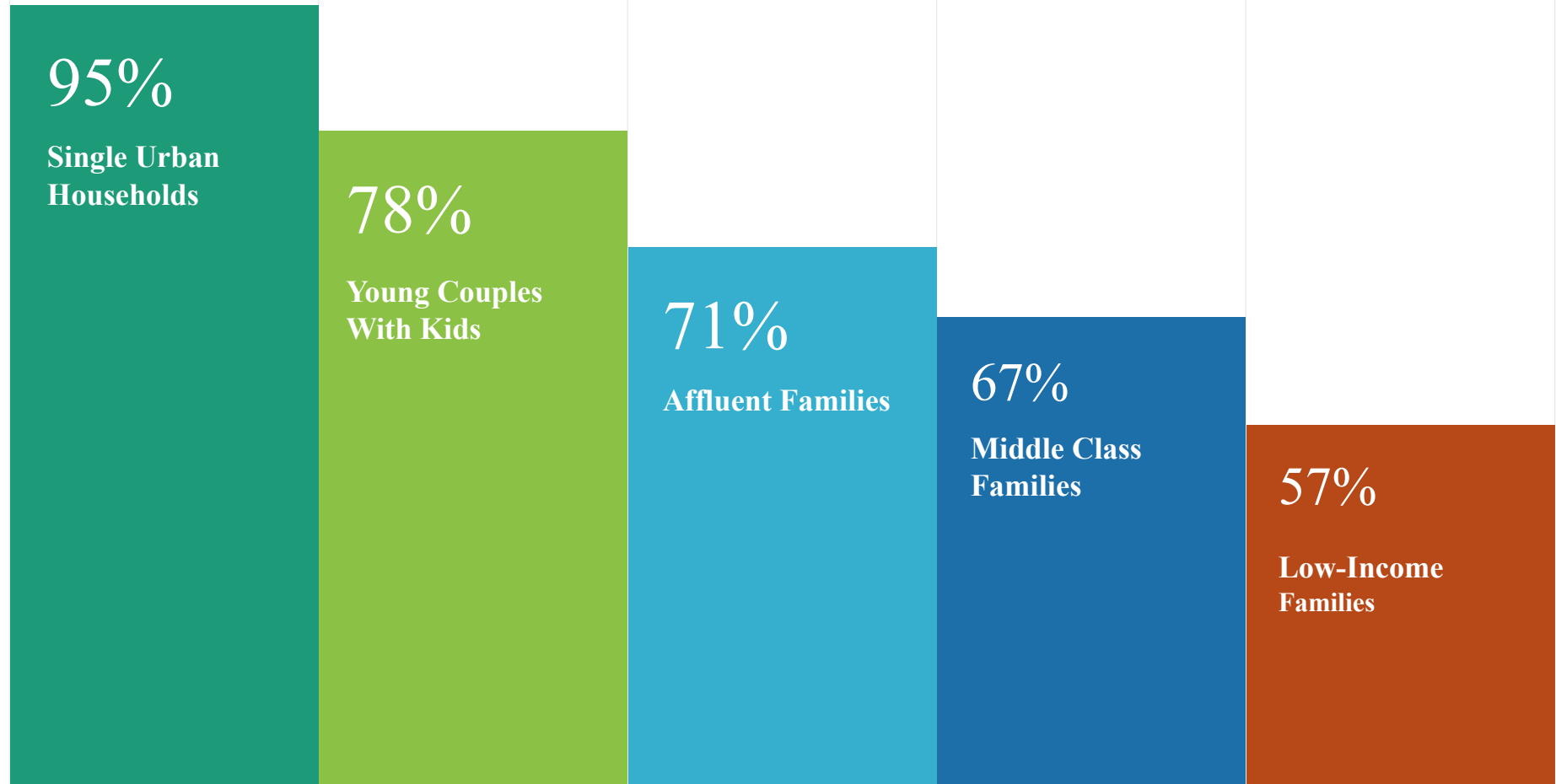
First-Mover Advantage

Food Safety

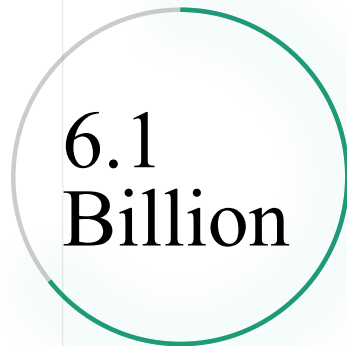
	USA (Cali.)	USA (NE)	Europe	N. Europe	MENA	India	East Asia	Australia	New Zealand
Water Scarcity	✓				✓	✓	✓	✓	?
Food Safety	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arable Land		✓	✓		✓	✓	✓	✓	?
Climate		✓	✓	✓	✓			✓	?
Local Demand		✓		✓	✓			✓	?
First- Mover		✓	✓		✓			✓	✓
Food Security		✓		✓	✓	✓	✓	✓	✓

Are You Willing to Pay More for Local Food?

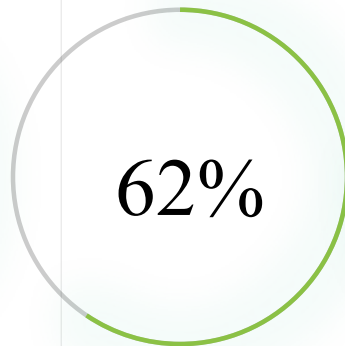
#BuyLocal



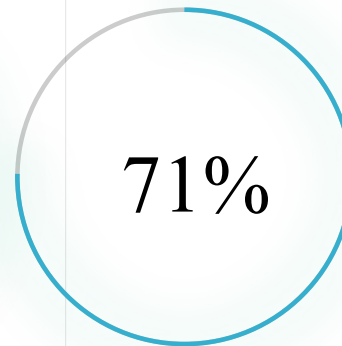
Consumers Love Local Food



**USDA Estimate of
Local Food Market
Size**



**Global Average of
Consumers Willing to
Pay more for Local**



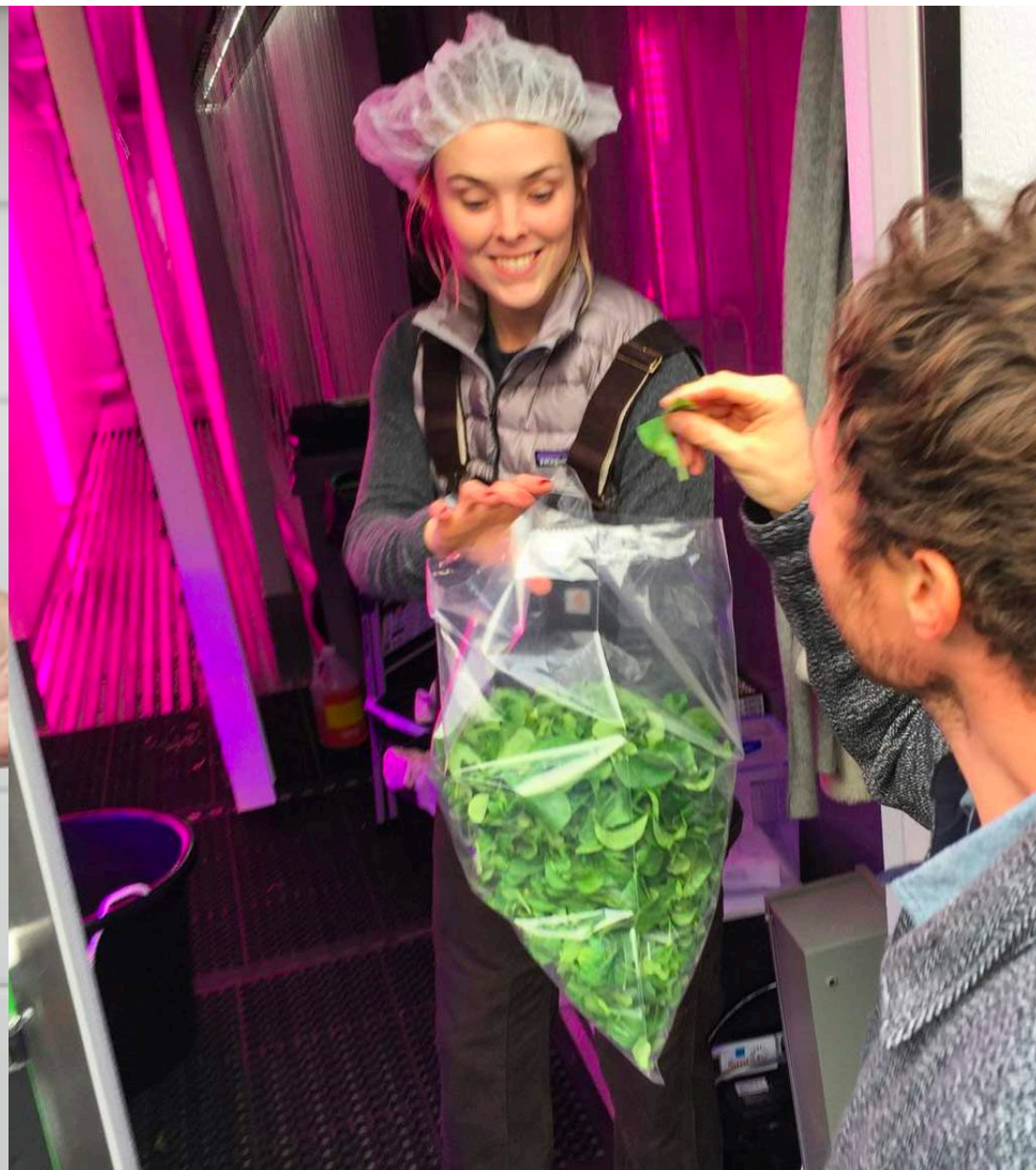
**Trust food grown in
their region more
than imported**



**Increase in local food
items on restaurant
menus**



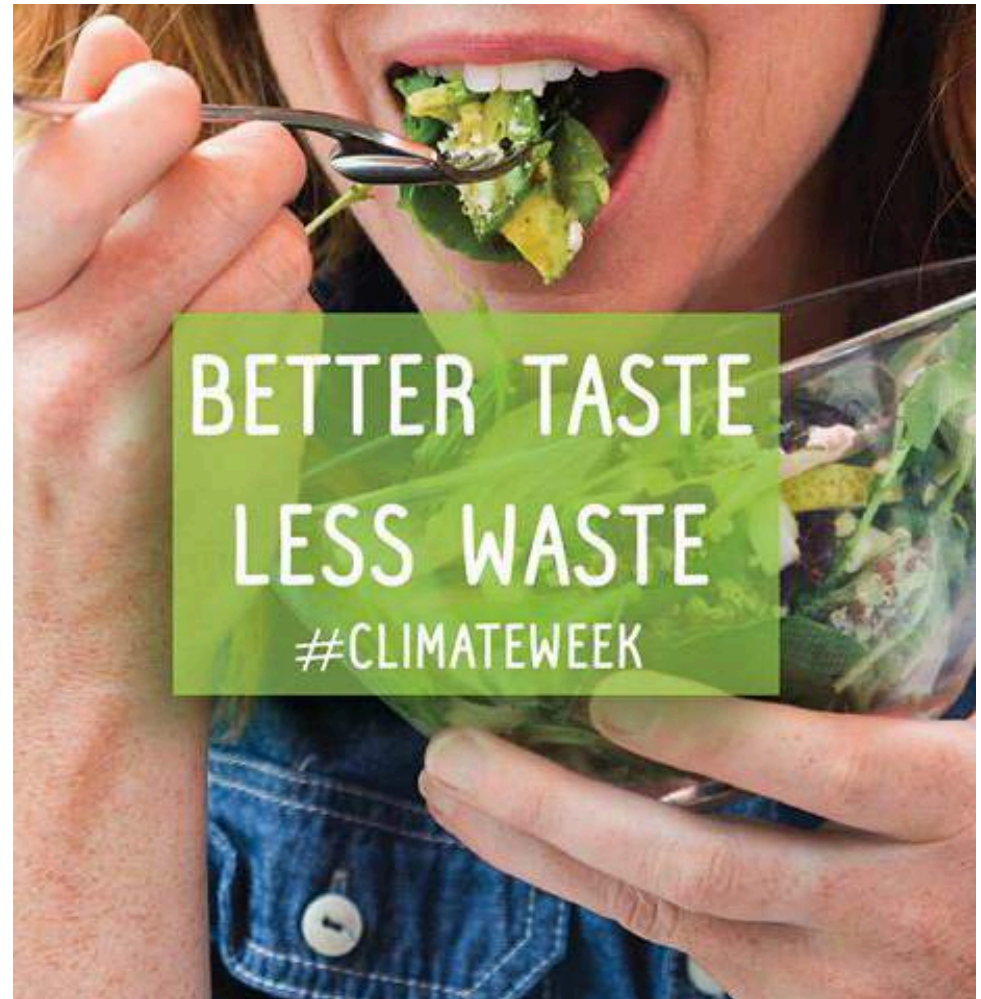














Failures & Best Practices





Failures



Over Engineered, Overpaid, and Overconfident

Local Garden

Are We a Technology or a Farm?

Podponics



Too Many Pivots, Too Much Labor, Too Much Rent

FarmedHere

Best Practices

One Know Your Market!

Two Create A New Product

#Three Start With a Small Pilot

#Four Get A Deal on Space

#Five It's Operations, Stupid



Effects on Farmers





← VS →



Tons of Co2/lbs Yearly

Crop	Greenhouse	Vertical	Conventional
Tomato	0.0066	N/A	0.5297
Leafy Green	0.0033	4.289	0.6198
Herb	0.0059	2.108	1.0778
Strawberry	0.0047	1.34	3.2195
Cucumber	0.0025	N/A	0.3826

How Vertical Farming Affects Rural Farmers



Competition

Specialty crop producers selling to cities in extreme climates.



Technology

Spillover of irrigation, sensor, and operations technology.



Data

Renewed interest in agriculture data, nutritional quality, and Co2 impacts.



Labor

New farmers for hire or to compete with in the market

Thank you!



AGRITECTURE

Henry Gordon-Smith
Founder & Managing Director

Our mission is to empower impact-driven organizations to develop feasible urban farming ideas, turning their ideas into practical and sustainable realities.

Henry@agritecture.com

