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Golden Horseshoe Food and Farming Alliance

GROWING OPPORTUNITY

An Action Plan to Unleash the Economic Potential of Urban Agriculture in the Greater Golden Horseshoe

Acknowledgments and Authorship

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This report was made possible through the generous support of two partners whose leadership continues to shape the future of food and farming in Ontario.'

The **Golden Horseshoe Food & Farming Alliance (GHFFA)** has been at the forefront of fostering collaboration to strengthen Ontario's agricultural and agri-food sectors. By bringing together municipalities, conservation authorities, farm organizations, and educational institutions, GHFFA creates a shared voice and a platform for collective action. Its cooperative approach has led to cohesive strategies that address the unique challenges of the agriculture and agri-food sector within the GGH. Through this spirit, the GHFFA has reinforced agriculture's role as both an economic driver and a vital cultural component of community resilience across the region.

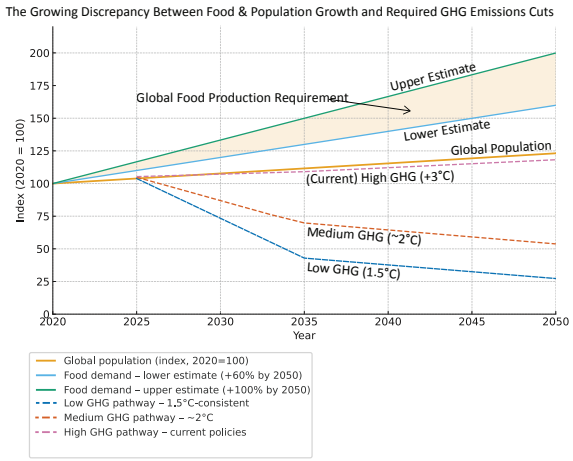
The **Barrett Centre of Innovation in Sustainable Urban Agriculture (Barrett Centre)** represents a transformative commitment to advancing sustainable food systems in Ontario. The Centre functions as a living laboratory where students, faculty, and industry partners explore emerging areas of practice while pushing the boundaries of urban food production. By supporting research, education, and innovation, the Centre is helping to build a more resilient local and regional food system.

Together, the Barrett Centre and GHFFA have made this report possible. More importantly, their combined leadership is laying the groundwork for a stronger, more resilient, and future-focused food system across the GGH.

A Call to Action: The Future of Urban Agriculture in the GGH

The Greater Golden Horseshoe (GGH) stands at a crossroads. Our region faces converging pressures: a growing global population, climate volatility, fragile supply chains, and widening inequality.

Recent disruptions, from COVID-19 to trade disputes and extreme weather, have revealed how vulnerable our highly efficient but brittle food system has become. Securing our future food supply means increasing domestic production and advancing high-tech, innovative food systems that reduce dependence and build resiliency.



This challenge is both global and local. Feeding nearly 10 billion people by 2050 will require more than a 50 percent increase in food production, yet conventional farmland cannot meet this demand (Bruinsma, 2009). Climate stress and crop and livestock disease are already driving food inflation and threatening affordability. For the GGH, these trends underscore the urgency to act.

This Action Plan focuses on Controlled Environment Agriculture (CEA), rooftop farming, agrihood-based communities, and land-based urban agricultural initiatives which are some of the most scalable and regionally relevant models of urban agriculture. Together, they show how technology, design, and community can converge to create a resilient regional food system that:

- Expands production and develops local technology and IP through advanced CEA systems.
- Transforms rooftops and buildings into productive agricultural assets.
- Embeds food production into neighbourhood design to strengthen culture, identity, and resilience.

Though distinct, these models share common needs: coordinated policy and sectoral support. Without it, competitiveness will erode, inequality will deepen, and community health will suffer. By aligning governments, industry, and communities, the GGH can scale these innovations and lead globally in food-system resilience. **To succeed, the GGH must:**

- Align Policy with Practice – Zone and tax agriculture as agriculture, wherever it occurs.
- Understand Food as Infrastructure – Treat food systems as essential systems on par with transit, housing, and utilities.
- Unlock Viable Commercial UA – Support scalable rooftop greenhouses, vertical CEA, and edge-condition farms.
- Invest in People and Places – Build pathways for the next generation of farmers.
- Compete as a Region – Harness the collective strength of municipalities, developers, NGOs, and industry.

The GGH's globally competitive economy, Class 1 farmland, and robust agricultural ecosystem create an unmatched advantage. Acting now means leveraging these strengths to secure supply, spark innovation, and drive sustainable growth. Incremental steps are no longer enough. The time for coordinated action is now.

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Introduction: Feed the City, Grow the Region, Heal our Wounds

Unlocking Urban Agriculture as a Tool for Food Security, Resilience & Prosperity

The Greater Golden Horseshoe Advantage

The Greater Golden Horseshoe (GGH) is one of the most dynamic and agriculturally rich regions in North America (OMAFRA, 2023). Its agri-food economy generates approximately $15.3 billion annually and supports 354,182 jobs, as of 2015 (GHFFA, 2015, OFA (n.d)). Anchored by Canada's most productive soils, a diverse and food-savvy population, and a legacy of innovation, the region has long been a leader in food production. From the world's largest Greenbelt to globally respected agricultural research institutions, the GGH is well-positioned as a global agri-food hub (GHFFA, 2021).

Our region's greatest strength may be the diversity of its population. Newcomer communities bring agricultural knowledge rooted in cultural food traditions and are joined with one of the most multicultural consumer markets in North America. For instance, in 2016, Ontario imported over $10 million worth of okra and more than $20 million of eggplant (CBC News, 2012). Such figures illustrate a growing demand for culturally specific crops that Ontario's diverse farming communities are uniquely positioned to meet, creating opportunities for import replacement, local investment, and small-scale agri-business development. Combined with the GGH's favourable growing climate, these social and natural assets create strong conditions for high-value production, investment, and culturally relevant food systems, expanding economic opportunities for newcomer communities and the region as a whole.

From Relief to Resilience

Urban Agriculture (UA) in the GGH has often advanced reactively: food banks emerged during the recessions of the early 1980s, and community gardens initially took shape as social supports rather than being recognized as economic assets (Metcalf Foundation, 2010; Ontario Public Health Association, 2002). These efforts met immediate needs but failed to build the long-term systems required in a world of climate disruption and fragile supply chains.

Yet this period also planted seeds of resilience. Community food organizations, markets, and gardens normalized food production in urban spaces and laid the foundation for today's controlled-environment farms, rooftop greenhouses, and local procurement strategies.

Between City and Soil: Rebuilding the Missing Middle

The Provincial Planning Statement (2024) introduces an agricultural system framework that links prime agricultural areas, rural lands, and the agri-food network, providing a foundation for coordinated land-use planning across Ontario's food system. Yet, it neither acknowledges nor directs how high-value agricultural and sensitive rural cultural heritage resources and landscapes should be retained or adapted within expanding urban areas. Section 4.3 focuses on avoiding farmland loss through Agricultural Impact Assessments, while Section 4.6 emphasizes the identification and conservation of cultural heritage landscapes. In practice, this creates a policy gap, where agricultural landscapes are protected for their land

are conserved for their cultural value, but neither framework adequately supports their evolution as integrated, productive systems within Ontario's agri-food network. This gap is particularly relevant in peri-urban areas, where agricultural viability, development pressure, and cultural heritage value intersect.

This lack of integration leaves municipalities without guidance for managing transition zones where farmland, culturally valued heritage assets, and new communities meet. Without tools to maintain these productive and cultural landscapes, Ontario risks losing the very systems and landscapes that define its agri-food identity.

While the PPS (2024) provides direction for coordinating infrastructure and public services, its scope stops short of addressing the infrastructure that sustains agri-food systems. Policies under Chapter 3 and Section 6.2 focus on utilities and community facilities but make no provision for the processing, aggregation, storage, or training spaces that form what can be called the "missing middle" of Ontario's food infrastructure, the connective layer between farms and urban markets. Without this guidance, municipalities lack the tools to plan for the facilities and networks needed to build resilient, regionally integrated food economies.

Across Ontario, key precedents illustrate both the challenges and the path forward:

• **Toronto's Food Incubator** (2015–2018) demonstrated the potential of shared kitchen and food-production facilities, yet initiatives such as Food Starter were ultimately constrained by funding limitations.

• **Ontario Agri-Food Venture Centre** (launched in 2015) has supported more than 160 food businesses and reports over $2 million in food-product sales annually. However, the Centre has recently struggled to establish a stable funding model, underscoring both the potential of shared processing infrastructure and its ongoing funding fragility (Nasmith, 2025).

• **Durham Region's Food Hub Study** (2022) identified aggregation and logistics as critical gaps. The report was received by the Planning & Economic Development Committee, but the hub remains unimplemented (Durham Region, 2022).

• **FarmStart** (2005–2015), launched as a collaboration between FarmStart and the TRCA, demonstrated the potential of periurban incubators, which supported the development of at least 36 new growers, but only a few have transitioned to independent operations, underlining the challenge of establishing a full pipeline of new farmers.

These examples confirm that resilience depends not only on preserving farmland but also on enabling business and farmer incubation spaces to connect land, skills, and markets.

To move forward, provincial and municipal policy must:

Integrate agricultural and cultural heritage planning guidance into Official Plans to recognize the potential economic and cultural value of agriculture, rural heritage structures and landscapes.

1. Provide financial tools that incentivize the long-term protection of urban/rural transition areas so that the barriers to entry for new farmers are reduced, and training and innovation is encouraged.

2. Invest in the missing middle including: shared processing, distribution, and incubation infrastructure to link producers with urban demand.

Embedding this systematic approach early in Official Plan, Secondary Plans and Economic Development Strategies would ensure that new urban farms and agrihoods form part of a integrated agricultural network where Ontario's next generation of urban farmers can take root.

A Limited Asset with Limitless Possibilities

The Greenbelt remains a cornerstone of Ontario's land-use policy. Still, it is at risk of becoming a land bank for future urban expansion if it is not actively used as the potent agricultural land base it is. The 'whitebelt', which sits between urban expansion areas and the Greenbelt, offers an opportunity to stop the frittering away of the Greenbelt's potential by anchoring new communities in agriculture and serving as a bridge between urban and rural areas.

Agrihoods show how this can work. Developments such as Southlands (BC), Serenbe (GA), and Prairie Crossing (IL) demonstrate how farms embedded in communities add both cultural and economic value. These models act as competitive differentiators in crowded housing markets, while also creating pathways for new farmers to access land and urban markets. Their success reflects a broader market shift: agrihood developments in the United States have expanded significantly in recent years, now exceeding 200 communities nationwide and signaling a transition from niche concept to a mainstream development model (Pajoga, M. 2025). Homes in agrihoods also sell faster and at above-average values, with buyers often paying premiums for access to farms and fresh food amenities (Urban Land Institute 2016). At Southlands in Tsawwassen, BC, buyers even camped out overnight to secure units, emphasizing a market desire for this type of housing product (MacLennan, 2021).

Across the Greater Golden Horseshoe, rapid municipal growth continues to consume prime farmland through low-density urban expansion, with limited integration of agricultural uses or systems (Caldwell et al., 2022). The GGH contains 40–50% of Ontario's best Class 1 farmland and is the fastest urbanizing region in Canada (Caldwell et al., 2022). Over the past 35 years Ontario has lost 2.8 million acres or 18% of its prime farmland to non-agricultural uses (Ontario Farmland Trust, n.d). Few regions in North America face such an intense collision of urban growth with prime agricultural soils.

The challenge is stark, but so is the opportunity. Farms embedded in new communities, rooftops converted to greenhouses, and edge lands reimagined as agrihoods can transform preservation into production, community engagement and economic growth, ensuring the region remains a global leader in food, farming, and resilience.

Key Concepts in This Report

Within this agricultural system framework, this report focuses on three of the most promising and scalable models of UA:

• **Controlled Environment Agriculture (CEA)**: Farming systems such as vertical farms and indoor greenhouses where crops are grown in fully managed environments

• **Rooftop Greenhouses:** Commercial production facilities built on top of new or existing buildings, often integrated with waste heat, energy, or water recovery systems.

• **Agrihoods:** Planned residential communities built around working farms, integrating agriculture and a connection with nature as a core amenity and land-use feature.

• **Land-based Urban Agriculture;** Repurposing vacant or disused lands in urban and peri-urban environments for localized food production.

Each of these typologies highlights distinct economic and community benefits: expanding production, transforming rooftops into productive assets, and embedding food into neighbourhoods. Yet all depend on the same principle: they must be understood not in isolation, but as integral parts of the broader 'agricultural system' defined by the PPS.

Healing and Reconciliation with First Nations

The path toward a resilient regional food system must also be a path toward reconciliation. The GGH rests on the traditional territories of many First Nations, including the Huron-Wendat, Haudenosaunee, Anishinaabe, Mississaugas of the Credit, and Mississaugas of the Scugog Island, whose stewardship of land and water has sustained communities for millennia.

Land-use planning and agricultural innovation in the region, therefore, carry an ethical and legal responsibility to recognize, respect, and engage First Nations as rights-holders, not simply as stakeholders.

The Provincial Planning Statement (2024) reinforces this imperative by directing that "meaningful early engagement and constructive, cooperative relationship-building between planning authorities and Indigenous communities" inform decision-making in land-use planning. For the GHFFA and its partners, this means that any vision for urban or peri-urban agriculture must integrate Indigenous knowledge, values, and governance perspectives into both policy and practice. Indigenous food sovereignty offers crucial lessons for the GGH's evolving agricultural landscape. Traditional ecological knowledge emphasizes reciprocity, balance, and interdependence, principles equally relevant to CEA, rooftop greenhouses, and edge-condition agrihoods. Engagement with First Nations communities can strengthen regional resilience by reconnecting food systems with their cultural and ecological roots, supporting inter-generational learning, and advancing shared stewardship of land and water.

As this Action Plan moves from vision to implementation, GHFFA, the Barrett Centre, and participating municipalities commit to:

• **Establishing early and ongoing dialogue** with First Nations whose traditional territories overlap the GGH.

• **Supporting Indigenous-led agricultural** enterprises, training, and research partnerships.

• **Incorporating Indigenous ecological knowledge** into land-use planning, climate adaptation, and food-system design.

• **Ensuring that policies and investments advance reconciliation** by respecting Indigenous and treaty rights while creating pathways for shared prosperity.

Embedding healing and reconciliation within the foundation of this plan ensures that future food systems are not only economically and environmentally sustainable but also culturally grounded and just.

Alignment with GHFFA Goals

This Action Plan advances the Golden Horseshoe Food and Farming Alliance's (GHFFA) 2021-2026 Action Plan: A Vibrant Future, which calls for plain-language position papers that share current research and innovative municipal policies to strengthen the agri-food supply chain. By drawing lessons from case studies and outlining practical opportunities for zoning reform, infrastructure alignment, taxation, and workforce development, this action plan equips municipalities with tools to support commercially viable urban agriculture. In doing so, it reinforces GHFFA's goals of building a resilient food system, driving agri-food innovation, and anchoring agriculture as a cornerstone of community prosperity.

How to Read this Report

This document is not intended as a prescriptive plan that requires every recommendation to be adopted wholesale. Instead, it provides a roadmap to position the GGH at the forefront of the global agri-food sector. Each opportunity offers adaptable tools, precedents, and strategies for municipalities, developers, and policymakers. The through-line is urgent but straightforward: the GGH must move beyond isolated food projects to build a cohesive agricultural system that leans into this region's unique strengths and opportunities.

Three Case Studies: Lessons from Practice

*Learning from Real-World Pioneers**

Before exploring the opportunities for UA in the GGH, it is essential to ground the discussion in practice. The following case studies: Southlands (BC), Mighty Harvest (ON), and Lufa Farms (QC), are not offered as definitive blueprints but as honest and foundational snapshots of what is possible when agriculture is embedded in urban and peri-urban contexts.

Each project illustrates the complex interplay of planning, infrastructure, governance, and culture, showing both breakthroughs and barriers. Together, they highlight why commercially viable UA requires more than good intentions: it needs policy alignment, infrastructure readiness, long-term community engagement and market commitment.

By studying these lived examples of companies, developments, and people who are actively pushing the boundaries of urban food production, we gain insight into:

- **The Opportunities** of integrating food production into urban development in ways that build community, create economic growth, and strengthen food systems.

- **The Pitfalls** of infrastructure, regulatory, or market misalignment, and how it can undermine even the most promising ventures.

- **The Lessons** that can inform the next generation of UA policies and projects within the GGH, to ensure that innovation can scale to help build a more resilient regional food system.

These case studies are both inspiring and cautionary. They underscore that UA is not a theoretical exercise but an evolving practice, one that only works when supported by deliberate, proactive policy.

Three Case Studies

- **Mighty Harvest (ON)** – Demonstrates the promise of vertical farming, and the consequences that can arise when zoning, licensing, and infrastructure are mis-aligned.

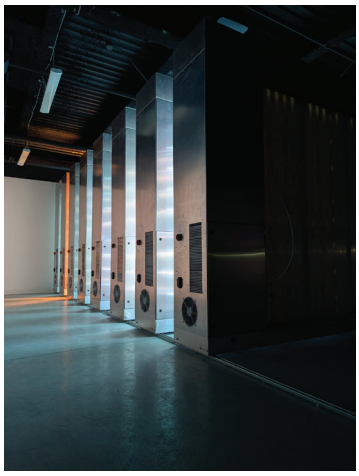
- **Lufa Farms (QC)** – Shows how rooftop greenhouses can scale when policy, technology, and partnerships converge.

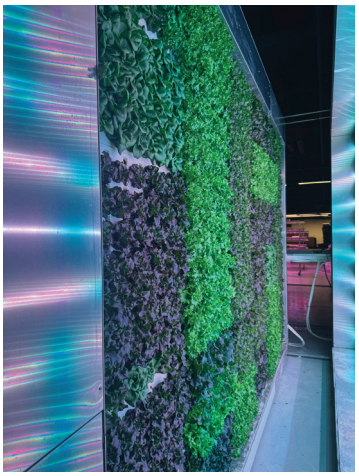
- **Southlands (BC)** – Presents a promising development model that imbeds food production into its foundational design, while highlighting the governance and operational challenges of sustaining urban farm businesses.

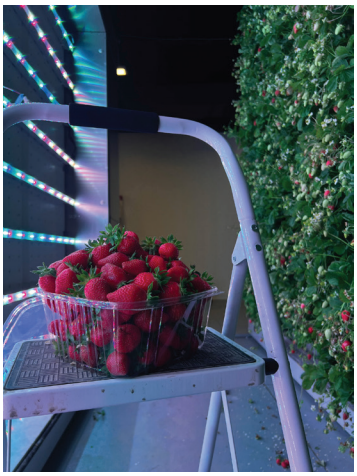
***Please refer to page 48 for the complete interview summaries.**

Mighty Harvest, Durham Region — Charting the Path for Vertical Farming in the GGH

Founded in 2021, Mighty Harvest is part of a new wave of Controlled Environment Agriculture (CEA) entrepreneurs that merge innovation with food production. It aims to prove that vertical farming can be commercially viable in the GGH. Using advanced hydroponic systems and cloud-based monitoring, the company set up a 279 m2 (3,000 ft²) pilot farm in Oshawa and now operates an additional farm in Ajax with ambitions to continue growing its wholesale markets.







Issues Faced

Zoning Grey Zone – Initially permitted for industrial/food processing, the farm soon faced challenges from by law enforcement, creating overall business uncertainty.

Enforcement Confusion – In 2024, by-law officers issued a violation due to Oshawa's unique Food Shop License requirements.

Utility Burden – When classified as commercial/industrial, the farm paid higher electricity and water rates than sector competitors, reducing competitiveness.

Lessons Learned

Define Agriculture Clearly – CEA farms need explicit zoning categories to avoid disruptions.

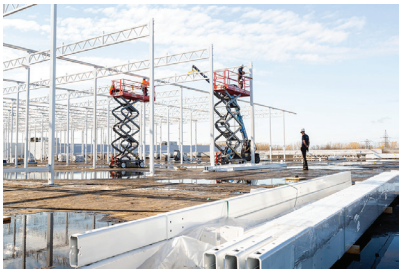
Align Utility Rates – Food producers must not be penalized by industrial classifications.

Design for Scale – Smaller scale offers the ability to pilot new technology, but scalability remains important to business continuity and growth.

Leverage Community Partners – Food banks and non-profits have proven to be a valuable addition to the core business model.

Lufa Farms, Montreal, QC — Scaling Rooftop Greenhouses

Lufa Farms is a global pioneer in rooftop agriculture. Founded in 2009, it now operates five rooftop greenhouses across Montreal, including the world's first commercial rooftop farm, in 2011 (Lufa Farms, 2024). Most recently, in 2024, Lufa opened a 1.18 ha (3 ac) greenhouse atop a Walmart in the borough of Ahuntsic-Cartierville (Lufa Farms, 2024). Its model combines food production with logistics, technology, and consumer engagement through both its subscription-based 'Lufavore' marketplace and direct retail partnerships, such as Walmart.



Issues Faced

Regulatory Uncertainty – Early projects required variances and lengthy consultations due to a lack of rooftop agriculture regulatory provisions (Shutt, S. 2015).

High Upfront Costs – Rooftop construction and retrofits created significant early capital barriers.

Energy Dependence – Reliable grid access and costly backup generators are essential to avoid catastrophic interruptions.

Lease Complexities – Negotiating arrangements with building owners required new templates and trust-building.

Lessons Learned

Policy Clarity Builds Confidence – Codifying rooftop agriculture as a permitted use accelerates growth.

Municipal Flexibility Matters – Building code adaptability and zoning amendments enable innovation.

Financial Incentives Help – Tax relief and subsidies ease the burden of scaling a business and construction costs.

Partnerships Enable Scale – Collaborating with developers and municipalities secures viable, high-profile sites.

Southlands, Tsawwassen, BC — Agricultural Urbanism at Scale

Southlands—a master-planned community located in the south end of Tsawwassen, within the City of Delta, B.C.—is one of Canada's most ambitious examples of agricultural urbanism. Developed by Century Group, in partnership with the City of Delta, the 217 ha (537 ac) site, previously protected within B.C.'s Agricultural Land Reserve, is being developed into an innovative community model that blends housing and agriculture for approximately 2,000 residents. Approximately 430 acres, or 80 percent of the site, will remain undeveloped, with 130 acres dedicated to parks and habitat. The remaining 300 acres of tiled and improved farmland will be held in trust for long-term agricultural use. As part of the agreement, Century Group has leased 50 acres back from Delta for small-scale agriculture (Century Group, n.d.; Livabl, n.d.).

Issues Faced

Farmer Retention – Cycling through multiple farms made vision continuity difficult to maintain for the developer.

Economic Strain – Farming operations required ongoing subsidies and failed to cover operational costs.

Mismatch of Expectations – Residents and farmers' romantic vision of farming clashed with the economic and operational realities of production.

Land Trade-offs – The developer relied on building on less-productive farmland to fund infrastructure and support retained agricultural lands.

Lessons Learned

Strong Market Demand for Product – Southlands demonstrates that there is significant market demand for housing integrated with working farmland and local food systems, with early phases selling quickly and attracting buyers specifically interested in agriculture and health-focused lifestyles

Partnerships Are Essential – Public-private cooperation is key to sustaining long-term agricultural functions.

Governance Matters – Stewardship, funding, and operational models determine success as much as design.

Opportunity 1: New Places to Grow

Setting the Stage for the CEA Sector in the GGH

Farms without Farmland

Rooftops, warehouses, and other underused building stock represent one of the most scalable land bases for food production in the GGH. As CEA technologies such as vertical farms and rooftop greenhouses gain commercial viability, they are challenging how municipalities define and regulate UA. These models offer more than innovative growing methods: they create opportunities to drive economic growth in a region that contributes nearly $51 billion to the provincial GDP and employs more than 871,000 people (OMAFRA, 2025).

As new outdoor growing spaces are identified, municipalities have an obligation to engage First Nations early in the planning process to explore opportunities for agriculture projects that are on/or adjacent to traditional hunting territories. Such collaboration can support Indigenous food sovereignty, share knowledge of local ecosystems, and enable joint stewardship models that align with reconciliation goals.

To unlock this potential, municipalities must broaden as-of-right zoning permissions and ensure that planners, building officials, and developers are equipped with clear policy frameworks and the confidence to apply them. Treating buildings as potential food-producing spaces reframes “urban agriculture” and integrates food production directly into citybuilding. Yet most municipal staff and development partners are not familiar with the technical and operational demands of food production systems. Building institutional knowledge, from zoning definitions to servicing standards, is critical for translating policy intent into successful projects.

Policy Clarity Builds Business Confidence

Experience across North America shows that as-of-right zoning is one of the most effective tools for enabling rooftop and vertical farms (Burden, J., 2022). When agriculture is clearly permitted in employment, commercial, and institutional zones, investors and operators can move forward without the uncertainty of variances or a protracted approvals process.

Boston’s Article 89 (2013) was the first in North America to establish agriculture as a defined urban use across the city’s zoning code, providing predictability and reducing risk for new projects (City of Boston, 2013). Lufa Farms’ first rooftop greenhouse in 2011 required zoning variances and public consultations due to the absence of regulatory provisions for rooftop agriculture (Shutt, 2015). However, by adopting Boston’s approach to UA, Montréal set a foundation that would eventually enable Lufa in 2020 to build, the world’s largest rooftop greenhouse (1.52 ha / 3.76 ac, Ville Saint-Laurent) and another in 2024 (1.18 ha / 2.92 ac atop a Walmart and Decathlon in Ahuntsic-Cartierville) (Choi, 2024; Lufa Farms).

Clear Frameworks, Flexible Implementation

While clarity is essential, rigidity can stifle innovation. UA uses rapidly evolving technologies, and sometimes unconventional materials and novel building practices. Municipal policies must therefore strike a balance: clear and well-communicated rules paired with flexibility in application.

Performance-based standards are central to this balance. Regulatory approvals required navigating building-code and fire-safety standards overseen by the Régie du bâtiment du Québec and municipal planning authorities in Montreal, particularly regarding materials and structural load-bearing for rooftop greenhouses. (National Research Council Canada 2015; Kucharsky, D, 2017; Valorisons Montréal, 2023). This collaborative approach created a safe but adaptable framework that accelerated adoption without compromising safety.

Flexibility, however, only works when staff are confident in applying it. Building officials, planners, and developers need access to training, technical guidance, and peer learning to apply performance standards consistently. Without this foundation, flexibility can feel like uncertainty; with it, municipalities can cultivate a regulatory culture that enables innovation while protecting public safety.

Policy Lessons, Directions and Tools

• **As-of-right zoning** – When rooftop and vertical farms are explicitly permitted in zoning by-laws from the get-go, operators gain the confidence to invest and scale.

• **Policy clarity attracts investment** – Clear, well-communicated frameworks reduce uncertainty for planners, building officials, and developers, unlocking private capital.

• **Flexibility of rules** – Performance-based building standards have been shown to facilitate the safe adaptation of new materials and technologies.

• **Knowledge builds confidence** – Flexibility only works when planners, inspectors, and developers are trained and confident.

• **Institutional learning is critical** – Municipalities must build capacity around zoning definitions, servicing needs, and technical requirements for food production.

Existing Policy Tie-ins

• **GHFFA Strategic Plan (2021–2026)** – Goal C, Action C.2.3 directs municipalities to "remove business and enterprise development barriers for small-scale urban agriculture and community gardens…on publicly owned land." Goal A, Action A.2.2 calls for policy papers addressing emerging opportunities such as land-tenure reform.

• **Envision Durham – Durham Region Official Plan (2023)** – Section 6.1 recognizes urban agriculture as part of the Regional Agricultural System, consistent with PPS 202. The Plan permits UA within appropriate land-use designations and encourages collaboration with stakeholders to implement initiatives supporting the development of a strong regional food system.

Region of Peel: Urban Agriculture - Peel 2041 Discussion Paper Policy 4.2.5.2 encourages municipalities to include opportunities for urban agriculture and rooftop gardens within public open space.

Opportunity 2: Zoning for Food Production

Old Tools with New Applications

Modernizing Planning Tools for Urban Agriculture

Zoning is one of the most powerful tools in a municipal planning toolkit. It translates the broad vision of an Official Plan into clear rules about what can and cannot be built, shaping how cities grow day to day. Yet most zoning frameworks still rely on categories such as "industrial," "commercial," or "agricultural." Rooftop, warehouse, and vertical farms often fall outside conventional land-use and tax classifications, frequently being treated as accessory or industrial operations, a factor that complicates both their financial viability and access to supportive policy frameworks (Shafie, 2018; Santo, 2016). This regulatory gap creates uncertainty, discouraging investment even when projects align with municipal goals.

Montreal faced similar challenges in the early 2010s, when Lufa Farms proposed the world's first commercial rooftop greenhouse: a 2,900 m^2 (31,000 ft^2) facility atop a former Sears warehouse (Lufa Farms, n.d.; Hein, Treena, 2012). While the project required numerous variances (Shutt, 2015), its success led boroughs such as Ville Saint-Laurent and Ahuntsic-Cartierville to amend their by-laws, permitting rooftop greenhouses in industrial and commercial zones. These reforms paved the way for the construction of theVille Saint-Laurent farm (1.52 ha / 3.76ac), followed in 2024 by the Ahuntsic-Cartierville farm (1.18 ha / 2.92 ac) (Lufa Farms, n.d).

In 2017, the City of Toronto acknowledged the challenge of removing barriers for new entries into the Food & Beverage Sector. In it's sector report, staff noted that they were working "to remove barriers for establishing proper zoning in the city to assist companies that wish to develop aquaponic, hydroponic and urban greenhouses" (City of Toronto, 2017). However, zoning reform efforts not only in Toronto but in many other municipalities have progressed slowly, leaving significant investment opportunities unrealized due to limited staff and lengthy review processes.

By embedding agriculture into zoning as a core urban use, the GGH can transform rooftops and warehouses into a new generation of farmland. Failing to act risks more than regulatory inefficiency: it means forfeiting economic potential, investment, and jobs in a sector that is advancing rapidly elsewhere. Other jurisdictions are already using zoning clarity to accelerate the growth of high-tech agriculture, capturing advances in automation, climate-controlled production, and logistics integration. For example, in the Netherlands, they are growing agri-tech export opportunities by leaning into PPP opportunities and encouraging knowledge ecosystems. (Farhangi et al., 2020). In France, Paris launched the Parisculteurs initiative (since 2016) to enable rooftop, vertical, and urban farms via municipal land-use frameworks and call-for-projects mechanisms (Vasquez Alarcon, 2021). Without similar foresight, the GGH risks falling behind rather than leading in the next wave of agri-food innovation.

Building Code Constraints

Building codes are often seen as obstacles for rooftop and CEA agriculture, but they also represent an opportunity for innovation through collaboration. Montreal succeeded not because the code was already in place for rooftop farms, but because the City and Quebec's

Régie du Bâtiment worked together to adapt the rules.

Ontario will likely face similar challenges as building-integrated agriculture expands. Success will depend on research, knowledge sharing, and confidence-building between municipalities, regulators, and the development community. Developing familiarity with new materials and assembly methods is a critical area for engagement. Organizations such as the Ontario Building Officials Association (OBOA), which delivers certification, professional development, and technical training to building officials, will be essential partners in advancing education and training for this work. Montreal provides a clear example of how this flexibility can be applied in practice. While polycarbonate is typically restricted for rooftop use due to fire-safety concerns, Montreal's building staff worked collaboratively with the Régie du bâtiment du Québec to secure approval through mitigation measures. This case demonstrates that performance-based flexibility, when supported by technical expertise and regulatory cooperation, is essential to enabling innovation and unlocking the full potential of building-integrated agriculture (Valorisons Montréal, 2023).

Integrating Related Regulatory Requirements

Building codes are often seen as obstacles for rooftop and CEA agriculture, but they also represent an opportunity for innova While zoning clarity is essential, municipalities also need to recognize where other provincial and municipal regulations intersect with UA:

• **Municipal By-Laws and Site Plans:** Odour, ventilation, waste storage, and structural load (for rooftops) can be addressed through site plan approvals, property standards, or local waste management by-laws.

• **Composted Manure and Other Organic Inputs:** Commercial rooftop and vertical farms, potentially including mushroom facilities, use composted and pasteurized materials rather than raw manure. The province's Minimum Distance Separations (MDS) does not apply, but the storage and handling of large organic inputs may raise odour, pest, or waste management concerns.

• **Environmental Protection Act (EPA):** Larger volumes of organic inputs or byproducts (e.g., spent mushroom substrate or plant waste) may trigger regulatory oversight under provincial legislation such as the Environmental Protection Act or fall within the scope of municipal waste management and nuisance by-laws enacted under the Municipal Act, 2001.

• **Nutrient Management Act (O. Reg. 267/03):** If operations handle significant amounts of organic material, nutrient management rules could apply, particularly for water and wastewater.

UA has the potential to interface with many different rules, from environmental approvals to waste handling and site plan by-laws. For planners and building officials, this presents complexities that can be unfamiliar and slow project development.

The solution shouldn't be more regulation, but better education and guidance. By informing and training zoning and planning staff, these intersections will become clearer, replacing caution with confidence.

Policy Lessons, Directions and Tools

• **Clear definitions reduce risk** – When agriculture is explicitly defined in zoning by-laws (e.g., Boston's Article 89, Montreal's reforms), operators and investors gain confidence to proceed.

• **Proven precedents accelerate adoption** – Early

successes, such as Lufa Farms' rooftop greenhouses, demonstrate the value of amending zoning codes to legitimize urban agriculture.

• **Ontario is lagging** – Despite earlier recognition of this issue, integration of UA into Official Plans and limited staff resources have left the GGH behind other national and global jurisdictions.

• **Building code flexibility matters** – Montreal's collaboration with regulators to allow alternative materials (like polycarbonate) shows that performance-based solutions can enable innovation without sacrificing safety.

• **Cross-regulation awareness is critical** – Urban farms intersect with environmental, waste, nutrient, and siteplan regulations. Educating and equipping municipal staff is essential to avoiding confusion and delays.

• **Education replaces caution with confidence** – Planners and inspectors need training, checklists, and guidance so that regulatory intersections become manageable rather than barriers.

Existing Policy Tie-ins

• **Hamilton Official Plan Amendments (2014)** – OPA No. 31 amended the Urban Hamilton Official Plan to permit urban farms, community gardens in specified residential, institutional, and commercial zones, establishing a formal urban agriculture framework.

• **Toronto Zoning and Food Strategy (2018)** – Positioned food as essential urban infrastructure, integrated into planning for health, housing, transit, and energy systems. Supported by zoning amendments enabling community gardens, markets, and on-site food production).

• **Montréal Urban Agriculture Strategy (2021–2026)** – implemented a city-wide framework, aligning zoning, building, and environmental codes to support rooftop, vertical, and peri-urban agriculture within Montreal's ecological transition and climate-adaptation policies.

Opportunity 3: Build the Infrastructure for Food

Aligning Hydro, Water, Waste, and Broadband to Support Food Production

The Hidden Challenges of Servicing Urban Agriculture

Urban agriculture is only as viable as the infrastructure that supports it. CEA in particular requires substantial servicing including: three-phase power and backup generators to control lighting and HVAC systems, high-capacity water and sanitary connections, reliable high-speed broadband for remote telemetry, and structural readiness for climate monitoring and automation (Government of British Columbia, 2024; American Council for an Energy-Efficient Economy [ACEEE] & Resource Innovation Institute [RII], 2023).

The opportunity lies in rethinking how infrastructure is planned and shared. Rather than treating farms as isolated users, municipalities and developers should encourage the co-location of high-energy uses. As an example, pairing a rooftop greenhouse with a data centres, high-profile retail developments, or logistics hubs to create efficiencies that:

- Share the costs of backup systems, such as generators.

- Enable the introduction of systems that reclaim and recycle waste heat, water, or cooling loads between tenants.

- Permit access to bulk energy purchasing rates to reduce costs for all co-located users.

This approach reframes urban farms as complementary partners that create high-performance industrial and commercial districts.

By deliberately identifying and encouraging these synergies in collaboration with the development community, municipalities can improve building efficiency. Developers, in turn, can reduce overall operating costs for tenants and create a new class of investment opportunities.

Realizing this vision requires engagement from both the development community and individual businesses. Developers can be incentivized to design "agriculture-ready" rooftops with sufficient servicing, while utilities and municipalities can collaborate on mapping and promoting sites where co-location is most feasible.

Robust utility planning and deliberate co-location strategies are not just technical enablers; they are critical components of this type of agriculture and a foundation for the long-term growth of UA in the GGH.

Aligning Policy and Power for Urban Farms

Lufa Farms' rise in Montreal is not an accident: the company benefits from Quebec's advantageous electricity rate options for greenhouse operations, which reduce a key cost component for rooftop and indoor agriculture (Hydro-Québec, n.d.). Hydro-Québec offers farms access to low, predictable rates under categories such as Rate D (domestic) and Rate DT (dual-energy farms) (Hydro-Quebec, n.d). These rates exclude pu-

nitive demand billing and the equivalent of Ontario's Global Adjustment (GA), providing cost certainty for energy-intensive operations like rooftop greenhouses. Cheap, stable energy is the foundation on which Lufa has scaled.

The same model would not be viable under Ontario's electricity regime. Once a vertical farm's average monthly demand exceeds 50 kW, it is automatically reclassified as a general service demand (industrial) account, subject to higher delivery and global adjustment costs (IESO, n.d). This reclassification triggers Global Adjustment (GA) surcharges and peak-demand billing, tying electricity costs to the province's top five peak-consumption hours rather than a facility's actual energy efficiency (IESO, 2023; Ontario Energy Board (OEB), n.d.). Delivery charges remain high even if operators adopt solar, storage, or load-shifting. The absence of a dedicated "farm rate" for UA undermines Ontario's competitiveness in comparison with Quebec, leaving projects with costs that dwarf other jurisdictions and erode financial feasibility.

Ontario's electricity system operates as a quasi-public model, where decisive influence remains with the government despite partial privatization. The Ministry of Energy establishes the province's overall energy policy direction, while the Ontario Energy Board (OEB), an independent regulator under the Ontario Energy Board Act, 1998, implements this framework through rate-setting, licensing, and consumer classification (Ontario, 1998). Both Hydro One and Ontario Power Generation (OPG) also remain majority publicly owned, with the Province of Ontario serving as the principal shareholder and long-term steward of the electricity system (Hydro One Limited, 2023; Ontario Power Generation Inc, 2025).

This layered structure means that municipalities and the province together hold real levers over how electricity policy, regulation, and rates are designed and applied. It creates space to acknowledge the critical role of agriculture in society and to provide explicit policy direction for CEA facilities, including rooftop greenhouses and vertical farms.

Recognizing these systems as agriculture, rather than industry, is a policy choice that could reflect the government's priorities regarding food security, innovation, and climate action.

Currently, at an estimated operating load of 200–700 kW, typical of rooftop greenhouses such as Lufa Farms Québec, operators pay the equivalent of approximately 6-7 ¢/kWh under Hydro-Québec's general and agricultural rate categories, while comparable Ontario operations face effective costs of 15–18 ¢/kWh under Hydro One's General Service Demand rates and Global Adjustment structure (Hydro-Québec, n.d.; IESO, n.d). *This gap can double or triple operating costs, which can be the difference between viability and failure.* Eliminating the GA surcharge and formally recognizing CEA as "agriculture" would bring Ontario in line with national and international best practices, stimulating innovation, strengthening food sovereignty, and affirming that local food production should be a critical pillar of climate action and adaptation.

Future-Proofing New Development for Food

The long-term viability of CEA farms depends not only on access to affordable energy but also on how new buildings are designed and serviced. Future-proofing means embedding "greenhouse-ready" capacity into construction from the outset, reinforced roof loads, HVAC flexibility, broadband connectivity, and sufficient three-phase power, rather than leaving operators to absorb costly retrofits later.

Although Canadian cost analyses focus on more complex institutional building types, the incremental capital cost increases reported—generally in the range of 2–5%—are considered conservative when applied to simpler industrial and warehouse buildings. Notably, net-zero-ready performance can often be achieved with less than 5% additional capital cost across building types (Morrison Hershfield, 2019). As such, incorporating "greenhouse-ready" features at the design stage is expected to fall at the lower end of this range.

Co-location strengthens this case. Pairing farms with high-energy tenants, data centres, logistics hubs, or retail centres, provides operators with the ability to share backup systems, recycle waste heat or cooling loads, and access bulk energy rates.

Projects like Lufa Farms in Montreal demonstrate how co-location in prominent urban sites can reduce energy and logistics costs while improving building performance and visibility. Such integrations also create distinct branding opportunities, positioning food production as both a sustainability feature and a marketable asset for developers and tenants (Lufa Farms, n.d.; Glaros et al., 2026).

Other jurisdictions are moving quickly to embed this logic. Quebec's Valorisation des rejets thermiques (VRT) program provides funding of up to 75% of eligible project costs (capped at $40 million) for waste-heat recovery infrastructure, explicitly supporting co-location models that channel industrial or data-centre waste heat to greenhouses and community facilities (Gouvernement du Québec. n.d.). Ontario's Emissions Performance Standards (EPS) program and Enbridge's industrial efficiency incentives advance similar low-carbon objectives by supporting heat recovery and process optimization. At the federal level, Green Infrastructure Stream investments have also funded district energy systems that integrate waste heat and, in some cases, agricultural production (Federation of Canadian Municipalities, 2023). With the passage of Bill 5 in 2025, provincial reforms introduce new regulatory pathways and special economic zone powers that may limit the application of municipal planning controls for designated projects, further centralizing authority within provincial frameworks such as the Ontario Building Code (Ontario Legislative Assembly, 2025).

• **The Province** can enable rooftop readiness standards, HVAC flexibility, and servicing capacity into the Ontario Building Code (OBC), ensuring that new logistics, warehousing, and data-centre developments are designed from the outset to support co-located agriculture.

• **Municipalities** can still lead by mapping, servicing and branding "agriculture-ready" sites, reducing servicing fees, and proactively pairing farms with compatible high-energy users.

Together, this provincial–municipal alignment can cut retrofit costs, unlock co-location synergies, and position the GGH as a North American leader in climate-smart and "food-ready" buildings.

Policy Lessons, Directions and Tools

• Establish a CEA Rate Class and Agricultural Alignment – Direct the OEB to create a dedicated electricity category for CEA, modelled on Quebec's Rate D/DT, and formally recognize rooftop and CEA operations as agricultural producers rather than industrial users. This would remove punitive demand charges and provide cost certainty for operators.

• **Leverage Public Ownership for Rate Reform** – Use the Province and municipalities' shareholder influence in Hydro One and OPG to advocate for electricity pricing that supports food security and economic development.

• **Pilot Aggregation and Co-Location Models** – Partner with the IESO and utilities to test bulk metering, shared infrastructure, and co-location with data centres, high-profile retail centres, and logistics hubs. This lowers delivery and demand costs for clusters of urban farms while embedding agriculture as a complementary partner in high-performance industrial districts.

• **Update the OBC to Enable Future-Proofing** – The Province should embed rooftop readiness, HVAC flexibility, and increased servicing capacity into the OBC to ensure new commercial retail, logistics, and data centres, which are —among the most land-consuming and energy-intensive forms of development—are designed to support food production. This reduces retrofit costs, enables co-location synergies, and increases overall building efficiency.

• **Develop and Market Agriculture-Ready Sites** – Municipalities should compete for investment by mapping and branding high-profile parcels or spaces with existing three-phase power, broadband, HVAC capacity, and water/sewer servicing. They can also adjust or waive servicing fees to lower entry costs and encourage private-sector investment.

Existing Policy Tie-ins

• **GHFFA Strategic Plan (2021–2026)** – Goal A commits to coordinating data resources and infrastructure planning to enable sector-wide innovation and collaboration across the Golden Horseshoe .

• **Niagara Agriculture Action Plan (2023)** – Success Factor 5: Proactively Embracing a Changing Climate includes actions to invest in resilient infrastructure, enhance digital connectivity, and support climate-smart sustainability practices .

• **Province of Quebec** – The Valorisation des Rejets Thermiques Program demonstrates how public investment in energy-recovery and co-location infrastructure can strengthen agri-food competitiveness and environmental performance.

Opportunity 4: Classify It Right

Addressing property tax classifications and development charges to support UA

Fair Taxation for Urban Farms

The long-term viability of CEA farms depends not only on access to affordable energy but also on how new buildings are designed. In Ontario, the Municipal Property Assessment Corporation (MPAC) plays a central role in ensuring fairness and consistency in property taxation. Its governance structure, accountable to the province, municipalities, and taxpayers, positions it as a key partner in shaping how emerging sectors are treated.

CEA and rooftop greenhouses are an emerging opportunity for Ontario and the GGH. While ground-based farms are routinely assessed under the Farm Property Class Tax Rate, these new models of urban farming don't yet fit neatly into established categories. As a result, many projects are defaulted into commercial or industrial classes. This isn't a failure of the system; it reflects the fact that commercially scaled CEA is still new, and policy tools haven't caught up.

Cooperating with ongoing efforts within MPAC to develop unique property tax codes for CEA farms will help clarify how these operations should be treated, allowing municipalities to unlock significant investment and innovation while ensuring fairness across the tax system.

The need is particularly important in mixed-use buildings. MPAC can apportion property assessments across different uses, such as residential, commercial, and agricultural components, but rooftop and controlled-environment agriculture (CEA) facilities currently fall outside clear policy direction, leaving classification decisions to administrative discretion. With the right guidance, a greenhouse producing food could be properly recognized as agricultural use, distinct from the retail or logistics tenants, creating consistency and predictability for owners, operators, and municipalities alike.

Development charges (DCs) also offer an opportunity for municipal leadership. Despite their public benefits, urban farms are often assessed and billed under commercial or industrial rate classes rather than agricultural rate classes because current property-assessment and taxation frameworks are based on conventional rural production models. By offering unique DC classes, DC exemptions and/or reductions, , municipalities can signal support for food production as a valued use.

Why This Matters

Classification is not an administrative detail. It is the difference between a viable farm and a failed experiment. For a 3-acre rooftop greenhouse, the scale of Lufa's Walmart/Decathlon facility in Montreal, the difference in tax treatment can be the margin between success and collapse.

Sample Tax Comparison (3-Acre Rooftop Greenhouse)

Assumptions: 130,680 sq. ft. greenhouse (≈ 3 acres), assessed building improvement value $10M. Illustrative municipal tax rates: Farm 0.25%, Commercial 1.0%, Industrial 1.25%.

Classification	Assessed Value	Tax Rate	Annual Taxes	Notes
Farm	$10,000,000	0.25%	$25,000	Eligible if recognized as bona fide agriculture
Commerical	$10,000,000	1.00%	$100,000	Default treatment for retail/office properties
Industrial	$10,000,000	1.25%	$125,000	Worst case: treated as manufacturing , not food production

Impact: Misclassification can cost rooftop farms an additional $75,000–$100,000 per year in property taxes alone. Over a 20-year lease, that is $1.5–$2M lost to poor classification.

Learning from Montreal: The PR@M Program

Montreal has formally recognized that rooftop farms and greenhouses deliver environmental and social benefits not fully reflected in traditional property-tax systems. To address this gap, the City introduced the PR@M – Sustainable Industrial Buildings Program, which provides targeted tax relief for projects that integrate rooftop greenhouses and other sustainability-oriented upgrades (Ville de Montréal, n.d.).

How It Works

When a rooftop greenhouse is added to a building, its assessed value typically increases, often substantially, because property assessments account for improvements and new structures that enhance market value. Under normal rules, this “improvement” generates a higher property tax bill for the building owner.

PR@M provides a rebate of the incremental property taxes that are attributable to the rooftop greenhouse for a fixed 5-year period.

For five years, the building owner receives staged reimbursement:

- Years 1–3: 100% of the tax uplift is rebated.
- Year 4: 66% rebate.
- Year 5: 33% rebate.

Source: (Ville de Montréal, n.d).

Example

- $50M – Base building assessment
- +$10M – Increase in Assessment from Rooftop Greenhouse
- Commercial sample tax rate: 1.0%.
- Incremental taxes = $10M × 1% = $100,000/ year.
- Under PR@M:
- Years 1–3: Full rebate → $0 net increase for building owner.
- Year 4: 66% rebate → Net $34,000 tax increase.
- Year 5: 33% rebate → Net $67,000 tax increase.

Over the five-year PR@M program, the participating building owner can save approximately $333,000 in property taxes compared to regular taxation, a financial incentive that was critical in enabling projects such as Lufa Farms’ 127,000 ft² rooftop greenhouse at Marché Central (Ville de Montréal, n.d.; Lufa Farms, 2024). Ontario municipalities could adapt a PR@M-style program as a property-tax rebate or within existing Community Improvement Plan (CIP) tools. The approach maintains the municipal tax base by offering temporary relief during the start-up phase, after which the full assessment value returns to local revenues.

Policy Lessons, Directions and Tools

- **Advocate for MPAC Reform** – Municipalities and

GHFFA should jointly work with the Province and MPAC to accelerate the recognition of rooftop and vertical farms as agriculture, not industrial. A formal ruling or interpretive bulletin would reduce uncertainty for developers and operators.

• **Support and Align with MPAC Review of CEA Assessment Practices** – Work collaboratively with MPAC to advance ongoing efforts to reconsider taxation and assessment methodologies for CEA operations.

• **Reform Development Charges** – Municipalities should explicitly define DCs for rooftop greenhouses and CEA farms, paralleling reductions already provided for traditional agricultural buildings. This sends a strong market signal and reduces barriers at the start of projects.

• **Pilot Transitional Relief** – Ontario municipalities could test time-limited relief measures similar to PR@M to help early adopters prove viability without shouldering unnecessary tax burdens.

Existing Policy Tie-ins

• **GHFFA Strategic Plan (2021–2026)** – Goal A.2 designates advocacy and policy influence at the provincial and national levels as a core Alliance role, including actions to promote financial incentives and regulatory supports for agriculture and food sector resilience.

• **Montréal PR@M Program** – Provides a municipal precedent for aligning utility and property-tax incentives with controlled-environment and rooftop farming projects, encouraging green infrastructure retrofits within the urban fabric.

Opportunity 5: Develop the Next Generation of Farmers

Growing and Supporting the Agriculture and Agri-Food Sector

An Ecosystems Approach to Food Systems Development

The GGH is starting from a place of globally unique strength. The region already boasts a legacy of agricultural excellence, an enviable mix of prime farm land and favourable growing conditions, and a wealth of agri-food knowledge embedded in its institutions, communities, and workforce. From long-standing farm federations and commodity groups to regional agricultural associations and innovation, the networks exist to accelerate the development of a diverse and knowledgeable food workforce. This legacy of excellence and regional cooperation positions the GGH to lead at all scales of production, from vertical farms and rooftop greenhouses to whitebelt edge farms and large-scale traditional agriculture.

These natural strengths are amplified by the region's diversity. The GGH is home to a significant, culturally diverse newcomer population, many of whom bring deep agricultural knowledge ranging from greenhouse operations to specialty crops rooted in ethnic and cultural food traditions. The confluence of one of North America's most multicultural and affluent urban populations creates enormous potential for markets and jobs in culturally relevant and locally sourced foods. The supply interruptions of the pandemic laid bare the fragility of existing food systems and underscored the need to better support new farmers and strengthen agri-food systems while diversifying production.

Supporting new farmer development through incubation programs, mentorship, and subsidized access to land is critical. These supports would not only sustain agriculture at the edge of urban growth but also unlock both new farmers and new food markets that reflect the cultural richness of the region itself. The GGH has a unique advantage here: its agricultural federations, commodity organizations, food advocacy groups, and post-secondary institutions already form a deep network of knowledge and practice that can be mobilized into a more coordinated ecosystem of support.

At the same time, the rise of CEA and rooftop greenhouses demands a new generation of workers skilled in robotics, automation, climate-control systems, and advanced plant science (Twum, 2025; Glaros et al., 2026; World Economic Forum, 2023). Here, post-secondary institutions play a pivotal role. At Durham College, The Barrett Centre of Innovation in Sustainable Urban Agriculture, and Weston Centre for Food along with the University of Guelph are already pioneering experimential programs that bridge classroom learning with hands-on food production. By treating CEA as part of the broader food workforce, not a separate sector, Ontario can position itself as a hub for agri-tech inno-

vation while also ensuring that traditional knowledge from soil-based farming is not lost.

The Barrett Centre Urban Farm, Ajax, Ontario

By linking educational institutions with local governments, technology partners, and development projects, the GGH can build an integrated support system that helps new farmers succeed in both high-tech CEA operations and innovative, community-based edge-condition and urban-based farms. This ecosystem approach ensures that future farmers have access to the right training, mentorship, and land pathways, whether they are running a rooftop greenhouse in downtown Toronto or cultivating regenerative crops at the Greenbelt's edge.

Building this next generation also means honouring Indigenous knowledge and supporting First Nations leadership in food and land stewardship. Indigenous youth and communities hold vital agricultural and ecological knowledge that can guide more resilient and culturally grounded food systems across the GGH.

The experience of Southlands in Tsawwassen highlights what happens when the ecosystem hasn't been fully integrated. Despite a strong vision of agricultural urbanism, developers and municipal staff quickly realized they lacked the resources, technical expertise, and governance models to sustain long-term farming operations. Century Group noted that the Southlands project cycled through several farm operators in its early years, requiring the developer to assume greater financial and managerial responsibility than initially anticipated. While allotment gardens thrived with participation rates of 70–80% among residents, commercial-scale farming operations struggled in the absence of dedicated housing, mentorship, and incubation supports, as well as a broader framework for long-term agricultural viability (Century Group, n.d.; ULI, n.d). To be successful, agricultural urbanism requires more than land allocation; it demands a comprehensive network of supports that extends well beyond the scope of any single developer or municipality. For the GGH, this highlights the importance of integrating workforce and governance support directly into new agricultural developments.

To harness these strengths and avoid repeating the pitfalls seen at Southlands, the next generation of farmers in the GGH must be cultivated in two distinct but connected categories.

1. Controlled-Environment Agriculture and Rooftop Greenhouses

CEA and rooftop farming are among the fastest-growing sectors of the agri-food economy, but they require highly specialized skills and strong institutional support.

- **Technical Workforce Needs:** These systems require interdisciplinary expertise spanning artificial intelligence, robotics, climate control, plant science, engineering, and logistics (Glaros et al., 2026; Twum, 2025; World Economic Forum, 2023). The skill set is closer to advanced manufacturing than to traditional farming.

- **Institutional Anchors:** The Barrett Centre of Innovation in Sustainable Urban Agriculture and Durham College's Weston Centre for Food and Horticultural Studies are embedding food production directly into

classroom learning, creating clear pathways for students to enter land-based UA or controlled-environment agriculture (CEA) as technicians, operators, and entrepreneurs.

• **Market Development:** With Ontario's multicultural population, demand for diverse, ethnically appropriate produce is high. Localized CEA production allows operators to respond quickly to shifting consumer preferences.

• **The Multiplier Effect:** Strengthening local and regional food systems (through investment in robotics, automation and renewable energy integration) enhances economic resilience by increasing the multiplier effect, whereby expenditures on local agriculture and food production generate additional rounds of economic activity within the region. (Jennings, 2012)

2. Whitebelt and Edge-Condition Farms within the Greenbelt

Soil-based farming at the urban fringe faces a distinct set of pressures. Many peri-urban farms continue to rely on cash crops and commodity supply chains, creating both land-use conflicts and social friction with neighbouring urban communities (GHFFA, 2016; Caldwell et al., 2022). A more sustainable path would leverage Ontario's natural strengths, climate, soils, and proximity to large urban markets, for diverse, high-value food production.

• **Community and Government Support Matters** – As the Southlands interview revealed, farming at the urban edge is "beyond difficult" without strong partnerships, governance models, and ongoing support. Developers alone cannot sustain operations long-term.

• **Allotments as Entry Points** – The Century Group noted how community allotments at Southlands can actively engage residents, building culture and enthusiasm around food. This type of engagement creates pathways for new entrants into the sector.

• **Housing and Livability** – Farmer housing remains a critical barrier. Without decent, affordable housing, operators face burnout and turnover. (This theme will be addressed more fully in Opportunity 7.)

• **Equity and Access** – Canada welcomes many newcomers with specialized agricultural knowledge. Supporting them in both CEA training and access to soil-based edge condition farms could expand the workforce, diversify markets, and meet growing demand for culturally relevant foods.

• **Shifting Land Use** – Whitebelt and Greenbelt lands at the edge should be repositioned away from monoculture cash crops toward regenerative, community-linked production that provides a direct connection between local residents and agricultural producers, deepening the public's perception of the value of the Greenbelt.

Policy Lessons, Directions and Tools

• **Invest for Multiplier Effect** – Frame agriculture investment as economic development, not a subsidy.

• **CEA/Rooftop Farms** – Expand technical training, link post-secondary institutions with agricultural sector needs, and position Ontario as a hub for agri-tech innovation.

• **Edge-Condition Farms** – Create more robust farmer incubation programs and provide dignified housing solutions for new farmers.

• **Unify Networks** – Bridge rural and urban support systems so that both spheres benefit from shared ad-

vocacy, mentorship, and knowledge transfer.

• **Partner with First Nations governments and Indigenous training organizations** – Co-develop agricultural education, mentorship, and land-access programs rooted in reconciliation and food sovereignty.

Existing Policy Tie-ins

• **GHFFA Strategic Plan (2021–2026)** – Goal C.1.5 and Goal C.2.3 emphasize supporting new entrants, workforce development, and entrepreneurship in the agri-food sector through skills training, innovation hubs, and mentorship networks

• **Niagara Region Action Plan (2023)** – Success Factor 3: Protecting Agriculture Talent and Inspiring the Next Generation directs actions to retain and train agricultural workers and expand education pathways in agri-tech and value-added processing.

• **York Region Ag Strategy (2024)** – Goal 1C calls for supporting skills development, training, and labour-force attraction to strengthen the regional agri-food economy.

• **Hamilton Food Strategy (2016)** – Identifies food literacy, community food education, and engagement as essential to building new local capacity within the food system.

• **Toronto Food Strategy (2018)** – Highlights the Community Food Works Program as a model linking food education with employment, certification, and newcomer settlement communities such as Seaside and Celebration in Florida, and closer to home, Cornell in Markham, The Village in Niagara-on-the-Lake, and the resort community of Friday Harbour in Innisfil (Duany Plater-Zyberk & Company. (n.d.)., n.d.; Grant, 2005).

These projects demonstrate a strong market demand for a form of development that is:

• Compact, walkable, and human-scaled;

• Grounded in a clear sense of place and local identity;

• Organized around vibrant public spaces that foster community life; and

• Defined by carefully managed edge conditions between built form and surrounding landscapes.

Opportunity 6: Make Food Work with Development

Aligning commercially viable UA with commercially successful new communities

The concept of agrihoods was first articulated by New Urbanists Andrés Duany and Elizabeth Plater-Zyberk, whose firm DPZ CoDesign integrated agricultural production into community planning models (Duany Plater-Zyberk & Company, 2011). New Urbanism is best known for producing recognizable

Agrihoods extend this same design logic by placing food production at the centre of community planning. Rather than treating farms or gardens as residual open space, they are conceived as intentional amenities, anchors that drive market interest, reinforce local character, and shape how people connect with the landscape.

Agricultural urbanism should also draw from Indigenous worldviews that see land, food, and community as interdependent. Engaging First Nations in the planning of agrihoods can ensure these developments honour local histories, strengthen cultural connection to land, and advance reconciliation through shared stewardship.

The Rise of Wellness as a Market Force

The pandemic accelerated a shift already underway: a rising consumer focus on wellness, health, and connection to nature (McKinsey & Company, 2021; Deloitte, 2022; World Health Organization, 2016). Buyers increasingly view their homes and communities as extensions of lifestyle and well-being. The rise of wellness as a dominant consumer value is driving trillions of dollars in global spending, with the wellness economy estimated at $6.3 trillion in 2023 (Global Wellness Institute, 2024) and projected to reach nearly $9.8 trillion by 2029 (Global Wellness Institute, 2025). This shift is reshaping real estate markets, with the wellness real estate sector emerging as one of the fastest-growing segments within the broader economy.

Agrihoods are one of the clearest expressions of this trend. In the U.S., the Urban Land Institute has estimated that more than 200 agrihoods have been built or are in development across North America (Freed, 2025). Academic research provides further grounding, with studies identifying 78 documented agrihoods across a range of urban, suburban, and rural contexts, and more focused planning analyses inventorying 41 comparable developments in climates similar to Ontario (Hevesi, 2021). Together, these sources indicate that agrihoods are not isolated case studies but represent a growing and increasingly mainstream development typology). Developers report that these communities not only sell quickly but also command premiums above conventional subdivisions, with homes marketed as “lifestyle investments” in health, family, and food access (Urban Land Institute, 2018

Canadian examples confirm the same demand. At Southlands in Tsawwassen, BC, and Hendrick Farm in Chelsea, QC, buyers have camped overnight to secure units, underscoring the strength of demand for conservation-oriented agrihoods (Century Group, n.d.; Hendrick Farm, n.d.).

Together, these communities demonstrate that food-based developments are no longer niche but a main-

stream product across North America.

Within the GGH, no significant agrihood developments currently exist; however, this represents a proven yet, locally untapped market opportunity. The region's mix of prime farmland, multicultural consumer demand, and rapid suburban expansion uniquely positions it to capture the growing wellness housing market. Wellness communities are grounded in the promise of physical, mental, and social well-being, combining access to nature, active living, healthy food, and social connection. Agrihoods embody these values directly, offering a built-in advantage as buyers increasingly equate authenticity, local food access, and place-based identity with quality of life.

The Overlapping Value of Agrihoods

For developers, agrihoods represent a powerful form of product differentiation that utilizes an established new urbanist design typology with a proven market history that's now extended to embed food systems directly into the community form. This approach not only enhances marketability but also aligns with pressing consumer, municipal, and national priorities:

- **Marketable design typology**: Building on the proven success of New Urbanist communities while adding the distinctive amenity of food production as a community anchor.

- **Growing customer demand**: Responding directly to the rapidly expanding wellness market, where buyers seek authenticity, healthy lifestyles, and fresh, local food.

- **Municipal priorities**: Providing municipalities with tools to protect and reinvigorate culturally significant farmland, restore agricultural identity, and manage edge conditions between growth and preservation.

- **Food sovereignty concerns**: Supporting provincial and federal goals to strengthen food security and food sovereignty, addressing fragile global food systems and the uncertainties of increasing climate volatility.

- **Help to address the lack of new farmer entrants into the sector**: By lowering barriers to land access and providing shared infrastructure and market opportuntiies that support the establishment of new farm businesses.

Partnerships with Indigenous communities can extend these benefits by integrating cultural food traditions, native planting, and stewardship practices into agrihood design, creating spaces that reflect the full story of the land.

The result is a community that feels familiar in form: walkable blocks, mixed housing, civic spaces, but which delivers overlapping value: a market premium for developers, a wellness benefit for residents, a cultural and planning tool for municipalities, and a strategic food resilience asset at the national level.

Case Studies and Lessons

Agrihoods are still an emerging product type, and the first generation of projects offers valuable lessons for the GGH. While not without challenges, these examples illustrate both the risks of treating food as a simple amenity and the opportunities that arise when agriculture is integrated as a system.

Hendrick Farm (Chelsea, QC) – While demonstrating strong market appeal, Hendrick Farm highlights the risks of treating agriculture as an amenity rather than operational infrastructure. The failure to sustain farm operations led to the removal of the agricultural component and subsequent legal action from purchasers, underscoring the importance of long-term farm viability, farmer succession, and integration into broader agricultural systems.

• **Southlands (Tsawwassen, BC)** – Southlands has shown that demand for food-based communities is strong. The project also underscored the complexity of sustaining viable agriculture on low-lying, flood-prone soils at the urban fringe, where land values and drainage constraints intensify development pressure. , The project could have benefited from a more robust and supportive incubator ecosystem, and external partners that can take the burden off developers, whose core business is not farming.

• **Serenbe (Georgia, USA)** – Now widely recognized as one of the most successful agrihoods, Serenbe shows what is possible when agriculture is paired with scale, governance, and community programming. Its success underscores the importance of treating the farm not only as an amenity but as part of the community's cultural, economic, and educational (Lewis et al., 2025).

Taken together, these cases illustrate that agrihoods are not a failed model, but rather an evolving one. The first wave exposed critical gaps in farmer training, governance, and infrastructure that the next generation can address. By learning from these early projects, the region can design agrihoods that balance developer pro formas with farmer incubation, governance partnerships, and resilient land-use planning.

The Problem: When Food Meets Real Estate

Despite the compelling value proposition for agrihoods, the development reality has proven far more complex. The models trialled so far have revealed fundamental challenges:

• **Higher development costs, but offsetting returns** – Developers note that New Urbanist communities carry higher upfront costs due to features like narrower streets, laneways, and enhanced public spaces (Leinberger, 2008); Song & Stevens, 2012). But these designs could also support higher densities, meaning infrastructure costs are shared across more units, while preserved farmland and compact urban form canenhance marketability. Together, these factors can help offset cost premiums through stronger sales and long-term value.

• **Developers are not farmers** – Integrating farms may succeed as a marketing tool, but long-term operations require specialized skills. Hendrick Farm and Southlands show that developer-led models struggle without strong farmer networks and incubation programs. The lesson is that long-term success depends on pairing development expertise with agricultural capacity, supported by mentorship, training, and the broader farming community and managed via community-based stewardship models.

• **An Institutional Ga**p – Developers attempts to transition farm operations to non-profits or community groups has not eliminated long-term risks. This appears to be partially as a result of both a lack of skilled farm managers and the institutional capacity of well-intentioned organizations to successfully manage these operations. This highlights a need for all levels of government to reinvest in incubation, mentorship, and land-access programs to help build a pipeline of new entrants and organizations.

Without the right support, developers can find farm operations burdensome, and residents may feel let down if the agricultural component falters. Yet these early challenges provide a roadmap that with better farmer incubation, clear governance models, and integration into agricultural networks, agrihoods can fulfill their promise as vibrant, resilient communities that deliver long-term value for both residents and developers.

Directions for the GGH

For the GGH, the lessons from these three examples point toward a framework that pairs farmland protection with models that ensure long-term viability. Three directions are essential:

1. Securing farmland for perpetual agricultural use

The creation of protected farmland through Farmland Conservation Agreements (FCAs) or other provincially mandated agricultural easements is more than a blunt regulatory tool. Supporting and enhancing these mechanisms can preserve ecological and hydrological functions of farmland, anchor food production close to urban markets, generate financial benefits for developers and municipalities (e.g., tax receipts, ecological gift credits), and support reconciliation with Indigenous Nations (Ontario Farmland Trust, n.d; Daniels, 2007).

2. Ensuring effective long-term management

Securing land is only the first step. Activation and productivity require durable governance and financial frameworks. Options include municipal operation (treating farms as public infrastructure), land trusts, conservation authorities, and non-profits. Current research point to an "all of the above" approach helps to reinforce the potential for success (Daniels, 2007) .

3. Strengthening incentives and benefits

Existing research has shown that there is a direct relationship between strong farmland conservation tools and the amount of farmland preservation (Liu & Lynch, 2011). It is clear that Ontario's current suite of incentive tools are not enough to secure broad developer buy-in for agrihood projects. Strengthening this framework requires expanding the scope for charitable tax donation and providing more dynamic development credit structures to incentivize the development community.

4. Aligning financial tools and partnerships

Future progress will depend on embedding Environmental, Social, and Governance (ESG) benefits for developers through mechanisms such as tax incentives for farmland dedication and reduced development fees, alongside the creation of provincial funding streams and reconciliation pathways with Indigenous partners. Framed through a robust ESG lens, these investments move beyond branding to deliver verifiable outcomes, safeguarding against greenwashing and reinforcing agriculture as core infrastructure.

Community-Based Management Models: Lessons from The Stop

One pathway to making agrihoods durable is to connect them with community-based organizations that already manage food systems as public goods. A compelling example is The Stop Community Food Centre in Toronto, which pioneered a model of urban agriculture that combines food access, education, and empowerment (The Stop Community Food Centre, n.d.; Metcalf Foundation, 2010).

The Stop demonstrates how urban farms can become more than a lifestyle amenity by anchoring them in addressing food insecurity and education goals:

- **Community engagement:** Gardens and kitchens are structured as community hubs, drawing residents together across cultural and income divides.
- **Addressing inequality:** The Stop operates programs that reduce food insecurity, ensuring that urban farms are directly tied to providing healthy, affordable food for vulnerable populations.
- **Food-based education:** By teaching residents about growing, preparing, and sharing food, The Stop positions urban agriculture as a tool for lifelong learning and skills development.

• **Food empowerment: P**articipants are encouraged to not only consume food but to shape the food system, fostering agency and resilience.

Applied to agrihoods, a partnership with organizations like The Stop could provide a tested governance and program delivery model that aligns farms with community benefit rather than leaving developers to manage them. This approach ties the value of farmland directly to social infrastructure, ensuring that agriculture contri-butes to wellness, education, and empowerment, while still enhancing the marketability of the community itself.

ESG refers to the environmental, social, and governance standards increasingly used by investors, lenders, and corporations to assess performance and risk).

For developers, integrating ESG values means:

• *Environmental:* measurable contributions to farmland protection, reduced GHG emissions, and climate-resilient food systems.

• *Social:* enhanced community wellbeing, improved food access, and support for cultural identity and local economies..

• *Governance:* transparent, accountable, and durable stewardship models that reduce ensure long-term delivery and reduce reputational and operational risk.

Positioning farmland protection within an ESG framework strengthens the business case: it links long-term community benefit to the financial and reputational metrics that drive investment decisions

Together, these three ESG directions form the foundtion for a new generation of agrihoods in the GGH. By locking in farmland use, designing governance structures for long-term management, and strengthening the incentive framework for developers, municipalities can align market demand with policy objectives. In doing so, agriculture becomes more than a marketing amenity: it is reframed as critical edge-condition infrastructure that delivers lasting value for residents, governments, and the development community alike.

Policy Lessons, Directions and Tools

Municipalities and the province must move beyond pilot projects and create a durable framework for implementation. Together, these measures can transform agrihoods from a risky experiment into a scalable, resilient model of community-building. This requires not only planning and policy tools but also an agricultural systems approach, one that links new developments into existing farming networks, builds on legacy community food initiatives, and strengthens the regional food system rather than creating isolated enclaves.

This requires:

• **Codify farmland protection tools** – Embed Farmland Conservation Agreements (FCAs) and agricultural easements into planning frameworks, making farmland dedication as routine as parkland or school sites.

• **Establish governance requirements** – Require developers to partner with qualified land trusts, conservation authorities, or non-profits to ensure long-term farm operations and connect projects to broader community food networks.

• **Align incentives** – Expand the Ecological Gifts Program, enhance FCA tax credits, and reduce development fees for projects that dedicate farmland and fund operations. Incentives should reward integration into agricultural systems and support farmer incubation,

marketing cooperatives, and shared infrastructure.

• **Integrate ESG standards** – Recognize farmland protection as an ESG-aligned contribution in policy, giving developers clear reputational and financial upside.

• **Formalize reconciliation pathways** – Provide Indigenous rights holders with co-governance roles, stewardship authority, and access to funding streams, thereby recognizing their historical and ongoing relationship with agricultural landscapes.building and land governance.

Existing Policy Tie-ins

• **GHFFA Strategic Plan (2021–2026)** – Positions the agri-food cluster as an economic multiplier, prioritizing stronger connections between growers, processors,and distribution networks across the regional food system.

• **Peel Policy Paper (2019)** – Aligns urban agriculture with the Growth Plan (Policy 4.2.5.2) and the Provincial Policy Statement as a planning tool that advances healthy, livable, and safe communities.

• **Hamilton Food Strategy** – Features the McQuesten Urban Farm as a community-based social enterprise integrating housing, food access, and urban farming within a neighbourhood-renewal framework.

• **The Stop (Toronto)** – Recognized in Canadian urban-food-policy literature as a replicable community-management model combining food access, education, and social-enterprise programming.

Opportunity 7: Anchor the Local Supply Chain

Seeing and Supporting the Agri-food Sector as an Economic Multiplier

Building the Missing Middle

Ontario's Provincial Planning Statement (PPS) and the Agricultural System Implementation Procedures (Publication 856) make clear that agriculture cannot be viewed in isolation and requires a systems approach. In Ontario, this system links prime agricultural areas within a broader agri-food network, including processing, distribution, logistics, innovation hubs, and supportive infrastructure.

For the GGH, anchoring UA into this framework is critical for food system resilience, economic development, which creates the connective infrastructure needed to move food efficiently from growers to processors, distributors and consumers.

Controlled Environment Agriculture and Rooftop Systems

CEA facilities and rooftop greenhouses typically enter the market as discrete business units with clearly defined models (e.g., subscription-based CSAs, direct wholesale contracts, or grocery retail distribution). They leverage underutilized building stock and co-locate food production with logistics hubs, retail, and industrial districts, reducing transportation costs, enhancing freshness, and buffering against climate volatility (Glaros et al., 2026; Specht et al., 2019; Thomaier et al., 2015).

These facilities, however, rely on highly specialized agricultural services. Advanced racking and lighting systems, nutrient delivery infrastructure, and precision climate-control technologies are fundamental to their operation. Some of this capacity is developing locally, for instance, during Mighty Harvest's interview he identified a partnership with a start-up vertical farm manufacturer in Ajax to pilot mobile sliding racks. But in many cases, systems are still imported: Lufa Farms' identifed during the interview that their l greenhouses, rely on Dutch engineering firms for structural and technological solutions. This underscores both the dependence on global expertise and the untapped opportunity for Ontario to grow a domestic supply chain in greenhouse and vertical farming technology.

Edge-Condition and Near-Rural Farms

In contrast to CEA farm operations, edge-condition and near-urban farms operate in a zone of transition between the higher-density urban core and the prime farmland of the countryside. These farms face unique constraints such as land costs, servicing limitations, and development pressures, but they also offer critical opportunities for product commercialization (Golden Horseshoe Food and Farming Alliance, 2016). Mid-scale farms on the suburban fringe can supply urban markets with culturally diverse crops, specialty products, and value-added goods. With the right aggregation and distribution supports, they can scale from direct-to-consumer sales into institutional and wholesale markets, helping bridge the gap between small-scale urban growers and the large-scale rural agricultural system.

Planning for edge-condition farms should include con-

sultation with nearby First Nations to respect cultural landscapes and explore co-management models that link new developments with Indigenous stewardship and food-sovereignty goals.

When paired with compact, walkable community forms, edge-condition farms can deliver a dual benefit: they support local food production while lowering long-term servicing and infrastructure costs compared to conventional low-density sprawl (D Burchell et. al., 2005; Duany Plater-Zyberk & Company. 2011). Designing these communities to integrate farms, trails, and neighbourhood amenities within a denser footprint preserves more land for active agriculture. It reduces the need for extensive roads, utilities, and stormwater systems.

To make this financially viable, municipalities will likely need to re-envision proposed zoning, density, and development form to provide developers' with more latitude. Allowing higher densities, mixed-use clusters, and flexible zoning around agricultural amenities ensures that projects can balance upfront costs with market returns, while still advancing farmland protection and food system resilience.

Anchoring both CEA/rooftop systems and edge-condition farms within the PPS framework ensures that neither is treated as an exception. Instead, they are recognized as integral components of Ontario's agri-food system, each with distinct infrastructure and service requirements, but together forming a continuum that links city, edge, and countryside into a resilient and prosperous food economy.

Housing and Livability for a New Generation of Farmers

A resilient food system depends not only on viable land and infrastructure but on people who can afford to live *near the places they work*. Across the GGH, access to suitable, dignified, and affordable housing is one of the greatest barriers to attracting and retaining new farmers. Long commutes from urban centres to production sites erode both quality of life and the economic sustainability of small operations.

Municipalities and regional partners can help address this challenge by enabling farm-adjacent and on-farm housing options that reflect the realities of modern agriculture. This includes revisiting policies that restrict secondary dwellings or adaptive reuse on agricultural properties, allowing for flexible housing forms that maintain the rural character of the landscape while providing stable homes for workers, new entrants, and farm owners.

Historic farmhouses, many of which now stand vacant or under-utilized within these edge condition properties, offer an immediate opportunity for adaptive reuse. Repurposing these structures for new farm families preserving rural heritage while supporting the next generation of growers.

Importantly, dignified housing must be understood as a cornerstone of workforce sustainability.
Farming is physically demanding, technically complex work that sustains regional food security; those who undertake it deserve housing that reflects that dignity, safe, well-designed, and close to the land they steward.

Embedding farmer housing within the regional food strategy recognizes that prosperity and livability are inseparable. Just as food infrastructure deserves public investment, so too does the creation of humane, affordable, and beautiful housing for the people who make that system possible.

Building the Missing Middle

Across the GGH, a range of incubator and hub initiatives have tested how to bridge the "missing middle" of the food system. Their experiences point to what works, what doesn't, and what's still needed.

• **Toronto Food Incubator** – Showed the value of shared kitchens and packaging facilities for food start-ups. However, inconsistent funding led to closure, underscoring the need for stable, long-term investment. (CBC News. 2018).

• **Ontario Agri-Food Venture Centre (Colborne)** – Supported 160+ businesses with processing, cold storage, and scaling infrastructure. It generated millions in sales but still remained dependent on public funding and advocacy to keep the doors open (Nasmith, 2025).

• **Durham Food Hub Study** – Built the case for shared aggregation and distribution to help farms move beyond farmers' markets. Despite the positive business case, the report was received without any associated action, leaving a critical gap unmet (Region of Durham, 2022).

• **Mighty Harvest (Ajax)** – A vertical farm piloting mobile sliding racks with a local manufacturer, demonstrating Ontario's innovation potential, but also highlighting reliance on specialized equipment often imported from abroad (Mighty Harvest, interview, April 28, 2025).

Incubators and hubs succeed when they are connected to broader markets, backed by stable funding, and paired with innovation in technology and logistics. Without these, they risk becoming short-lived pilots instead of lasting engines for a regional food economy.

Policy Lessons, Directions and Tools

Drawing on the Lessons from the GGH , the long-term success of regional and urban agriculture depends on addressing the "missing middle" of processing, aggregation, and distribution. Opportunity 7 builds on this foundation by focusing on strategies to strengthen these links, ensuring that local producers can scale beyond direct-to-consumer markets and connect with institutional and retail buyers.

To anchor the local supply chain, local and regional municipalities and the Province should advocate for:

• **Develop Domestic CEA Technology Supply Chains** – Incentivize Ontario-based development and production of racking, lighting, and climate-control systems to reduce reliance on imports.

• **Enable Edge-Condition Farms** – Invest in servicing, infrastructureto support farms at the urban fringe commercialize diverse crops for city markets.

• **Integrate into Economic Planning** – Recognize food hubs and farmer/food incubators as core economic infrastructure, and plan for them alongside employment lands, logistics hubs, and innovation clusters in alignment with Provincial Planning Statement objectives.

• **Stabilize Food Incubators** – Provide multiyear funding to ensure incubators are permanent, not temporary pilots.

• **Fund Aggregation & Distribution Hubs** – Co-invest with municipalities in cooperative cold storage, co-packing, and logistics to help producers scale beyond farmers' markets.

• **Partner with First Nations governments** – Cooperatives, and social enterprises can assist instrengthening regional supply chains, ensuring that reconciliation and

Indigenous economic participation are embedded in infrastructure, distribution, and market-development initiatives.

Existing Policy Tie-ins

• **Durham Region Official Plan n (2024)** – Section 6.1 Agricultural System formally integrates urban agriculture within the Regional Agricultural System and directs municipalities to map and support such activities in accordance with the PPS 2020 definition of agriculture as a "connected network of prime areas, infrastructure, and markets"). implement, and monitor policy across the region. The PPS already sets the mandate: municipalities must treat food and the agri-food sector as part of a broader system that connects land, infrastructure, and markets. The challenge now is to turn this into coordinated action and measurable results.

• **Niagara Region Plan (2023)** – Success Factor 2 and 4 stress building a unified agri-food identity and reducing regulatory barriers as prerequisites for scaling regional supply chains and strengthening inter-regional logistics networks.

• **Guelph-Wellington Circular Food Economy (2020)** – The Circular Food iHub, Harvest Impact Fund, and Last-Mile Distribution Pilot explicitly address aggregation, logistics, and scaling of regional food enterprises within the Circular Businesses & Collaboration Workstream

Opportunity 8: Align, Act, & Accountability

Building Cross-Sector Cooperation and Shared Accountability

How to Eat the Elephant

The success of commercially viable UA in the GGH depends not only on individual projects but on how governments, NGOs, and industry align, implement, and monitor policy across the region. The PPS already sets the mandate: municipalities must treat food and the agri-food sector as part of a broader system that connects land, infrastructure, and markets. The challenge is how to turn this into coordinated action and measurable results.

Regional Alignment

The GGH's strength is collaboration. Scaling UA requires municipalities to work in step with NGOs, the development sector, utilities, and the education/training ecosystem. Existing forums such as Canadian Zoning Officials Association and GHFFA provide a foundation but must expand into cross-sector tables that include developers, processors, retailers, incubators, and post-secondary partners. Their shared mandate:

- Produce standard definitions and model by-law language.
- Align servicing and classification standards.
- Publish a regional "playbook," and
- Link training and incubation to economic development and investment pathways.

This approach reduces duplication, de-risks projects, and transforms scattered pilots into a coherent regional system.

Building on the Existing Network

The GGH is not starting from scratch. Across the region, municipalities have already advanced important agricultural and food strategies that demonstrate both leadership and creativity. Toronto's GrowTO Action Plan, Mississauga's Urban Agriculture Strategy, Hamilton's Food Strategy, Guelph–Wellington's Smart Cities Challenge, and Durham's Barrett Centre pilot projects each bring unique strengths, some prioritize climate resilience and innovation, while others focus on zoning reform, economic health, or demonstration projects. Collectively, they have elevated UA from a fringe idea to a recognized planning priority.

At the same time, these sometimes aging initiatives remain fragmented. Each is tailored to local conditions, but no single strategy is comprehensive enough to scale across the region. What is missing is a coordinated framework that weaves these efforts together, creating consistency on key issues such as zoning, taxation, infrastructure, and land access. By building on this strong foundation rather than duplicating it, the GGH can move from a patchwork of promising local actions to a regionwide system that unlocks the full economic, environmental, and social potential of UA.

This network should be further expanded through collaboration with Indigenous agricultural cooperatives, training centres, and food sovereignty programs that already operate across southern Ontario. Linking these initiatives builds capacity, trust and relationships across jurisdictions.

Implementation and Action

UA strategies must move off the page and into practice. This means considering and embedding the broad spectrum of UA into Official Plans, employment land

strategies, and infrastructure investments. Provincial ministries and regional councils can lead by piloting shared infrastructure, food hubs, rooftop-ready building codes, and agriculture-friendly utility rates that other municipalities can learn from, improve on and repeat elsewhere. Monitoring and accountability must be built in from the start. Shared indicators, such as new CEA farms established, jobs created, or local food volume entering markets, should be tracked and published regularly by a coordinating body such as the GHFFA.

Policy Feedback

Aligning the region, acting decisively, and measuring outcomes must be treated as one continuous cycle: Plan → Implement → Measure → Improve. This is how the GGH can move from pilots to platforms, and from fragmented initiatives to a resilient regional food system.

Next Steps for the GGH

By taking these steps now, the GGH can position itself as a North American leader in economically viable UA, strengthening food security, resilience, and prosperity for decades to come, and it is a call to action for municipalities, developers, and policymakers across the GGH:

- **Launch a GHFFA Task Force** – Unite municipalities, utilities, developers, NGOs, and post-secondary partners to deliver a regional Urban Agriculture Playbook within two years, complete with model by-laws, servicing standards, and investment tools.

- **Form an Indigenous Advisory Group** – Guide implementation, track reconciliation progress, and ensure all policies and investments uphold treaty and cultural responsibilities.

- **Advocate for a CEA Power Class** – Urge the Ontario Energy Board and Ministry of Energy to create a farm-rate electricity class, remove demand surcharges, and pilot it with three GGH operators in the next budget cycle.

- **Map & Market "Agri-Ready Sites"** – Publish an open-access inventory of prime sites with power, broadband, HVAC, and servicing capacity, branding them as investment-ready for regional campaigns.

- **Pilot Tax & DC Relief for CEA** – Modelled on Montreal's PR@M program, offer five years of staged relief for rooftop and vertical farms, tied to farm survival rates and measurable local food output.

- **Expand Farm Incubation & Mentorship** – Scale programs at the Barrett Centre, Durham College, and U of Guelph, connecting new farmers with federations, 4-H, and grower associations for mentorship and advocacy.

- **Publish Regional Scorecards** – Have GHFFA release annual data on new farms, jobs, capital, and local food supplied to institutions and retailers, driving transparency and accountability.

Conclusion: Turning Opportunity into Action

The GGH faces growing headwinds: fragile supply chains, climate pressures, and a changing trade relationship with the United States. But we have the talent, resources, and ingenuity to act now. Our response must be bold, united, and immediate. Governments, developers, educators, and citizens must work together. Agricultural societies and organizations, the backbone of our food sector, must join in common cause with urban innovators and community leaders. The spirit of cooperation that built Ontario's agricultural legacy must now be harnessed to secure its future.

Too many plans sit on shelves. This one cannot. Food must be recognized as essential infrastructure. Citizens must insist on action. And together, we must build a resilient, prosperous food system that anchors our economy, sustains our communities, and positions the GGH as a global leader in urban agriculture. collaboration with Indigenous agricultural cooperatives, training centres, and food sovereignty programs that already operate across southern Ontario. Linking these initiatives builds capacity, trust and relationships across jurisdictions.

Glossary

Agricultural Systems

A connected network of prime agricultural areas and the agri-food supply chain, including farms, processing, distribution, and supportive infrastructure. Defined in the Provincial Policy Statement (PPS), its purpose is to protect farmland and ensure the long-term viability and resilience of Ontario's agri-food sector.

Agricultural Urbanism

A planning and design approach that weaves food systems into the fabric of cities. It promotes food production, distribution, and education within neighbourhoods through tools like zoning, land use planning, and public space design, treating food as essential urban infrastructure alongside housing and transportation.

Agrihood

An agrihood is a planned residential community built around a working farm. Agriculture is integrated as a central amenity, providing residents with access to local food, open space, and opportunities for education and community engagement.

Allotment Garden

A plot of land made available for individual, noncommercial gardening, often rented from a municipality or garden society. Allotments are commonly grouped together in designated areas and are used to grow fruits, vegetables, and flowers.

Aquaponics

A closed-loop growing system that combines aquacu ture (raising fish) with hydroponics (soilless plant cultivation). Fish waste provides nutrients for the plants, while the plants help filter the water for the fish.

Community Garden

A shared space where individuals or groups collectively grow food or ornamental plants, often on public or institutional land. Community gardens promote food access, education, and community-building, but are typically noncommercial.

Controlled Environment Agriculture (CEA)

An umbrella term for high-tech, indoor growing systems, such as greenhouses or vertical farms, where environmental factors (light, humidity, , temperature, etc.) are regulated to optimize plant growth year-round.

Edge Condition

A transitional zone where different land uses, ecological systems, or built environments meet, such as where urban areas interface with industrial zones, natural features, or rural/agricultural land. In the context of urban planning and urban agriculture, edge conditions are important areas for policy and design interventions, as they often offer opportunities for integrating green infrastructure andlocal food production. Properly managing edge conditions can reduce land- use conflict, support biodiversity, and enable innov tive land uses like peri-urban agriculture or urban-rural food hubs.

ESG Goals

Environmental, Social, and Governance goals are often adopted by developers or municipalities as part of sustainability and corporate responsibility frameworks. Urban agriculture may be used to fulfill ESG mandates.

Food Hub

A centralized facility or platform that aggregates, distributes, and markets food from multiple producers to strengthen local food systems.

Food Insecurity

A condition in which individuals or households do not have reliable access to sufficient, affordable, and nutritious food.

Grow Recipe

A programmable set of environmental parameters (light cycles, nutrient dosing, temperature, humidity) tailored to specific crops within a controlled environment.
Infrastructure that delivers environmental services using natural systems, such as green roofs, rain gardens, or permeable surfaces. In the context of urban agriculture, it may refer to rooftop farms or integrated stormwater systems.

Hydroponics

A method of growing plants without soil, using a nutrient-rich water solution. Common in indoor or vertical farming settings, hydroponic systems are space-efficient and resource-conserving.

Peri-Urban Agriculture

Agricultural activities that are located on the urban fringe, providing a link between rural producers and urban consumers. These lands face intense development pressure but are key to regional food systems.

Rooftop Farm

An agricultural installation located on top of a building, which may range from a simple container garden to a full-scale commercial operation using greenhouses or hydroponic systems.

Urban Agriculture (UA)

The practice of cultivating, processing, and distributing food within and around urban areas. It includes a variety of models such as community gardens, rooftop farms, indoor vertical farms, and commercial greenhouses.

Vertical Farming

A method of growing crops in vertically stacked layers, often using hydroponics or aeroponics.
Vertical farming is typically practiced indoors in controlled environments and is seen as a high-efficiency, space-saving solution for urban food production.

Whitebelt

The whitebelt is the band of land between existing urban areas and the Greenbelt. It is not permanently protected and is reserved in municipal growth plans for potential future urban expansion. The area often contains productive farmland, making it a key focus of growth and preservation debates.

Model Official Plan Amendment

For Agricultural Economic Development and Adaptive Reuse of Legacy Heritage Resources

Purpose

These policies support the integration of adaptive reuse of legacy agricultural heritage assets with UA, innovation, environmental sustainability, and reconciliation objectives. They are intended to help municipalities foster food-secure, culturally rooted, and ecologically resilient communities. The framework aligns with the Provincial Policy Statement (2024), regional official plans, and local strategies, while encouraging partnerships with Indigenous Nations and conservation authorities

Policies

1. Adaptive Reuse of Agricultural Heritage Resources

a) Municipalities shall support the adaptive reuse of agricultural buildings and cultural heritage resources (barns, silos, sheds, etc.) for uses that advance UA, agri-food innovation, community food access, and cultural programming.

Adaptive reuse shall be permitted where it:

1. Conserves or enhances the identified cultural heritage value;

2. Demonstrates compatibility with surrounding land uses;

3. Complies with the Ontario Heritage Act.

b) Development proposals should incorporate food system-related functions, such as:

- Controlled Environment Agriculture;
- Value-added processing;
- Incubator kitchens or training facilities;
- Farm stands, CSA hubs, or market kiosks;
- Educational/interpretive facilities tied to local food and heritage.

2. Greenway Integration and Indigenous Stewardship

a) Municipalities shall collaborate with conservation authorities, Indigenous Nations, and stakeholders to integrate agricultural heritage sites into expanded greenways and riparian corridors that:

- Protect cultural landscapes and Indigenous hunting, fishing, and foraging grounds;

- Enable low-impact agricultural uses, demonstration farms, incubator plots, and cultural programming;
- Incorporate Indigenous design principles and co-stewardship objectives.

3. Stormwater Reuse and Green Infrastructure

a) Municipalities shall support stormwater reuse for agricultural irrigation where safe, integrating cisterns, swales, and bioswales into subdivision and site design.

b) Reused farmsteads within green infrastructure corridors shall be prioritized where they:
- Retain heritage character;
- Support food production and ecological resilience;
- Contribute to the local food supply;
- Incorporate Indigenous design principles and co-stewardship objectives.

4. Permitted Uses and Zoning Framework

a) Zoning by-laws should permit, as-of-right or through site-specific provisions:
- Rooftop agriculture and greenhouses;
- Vertical/CEA farming;
- Agri-food innovation centres;
- Processing and packaging;
- Ancillary agriculture-supportive structures.

b) Height/GFA limits may be exceeded where heritage conservation is maintained and impacts are mitigated.

c) Rooftop agriculture should not count toward building height/GFA if designed primarily for food production and compliant with code requirements.

5. Special Policy Areas and Overlay Zones

a) Municipalities may establish UA and Innovation Overlay Zones, permitting:
- Rooftop and vertical farming as-of-right;
- Adaptive reuse of heritage agricultural structures;
- Performance-based flexibility in setbacks, materials, and massing.

b) New non-residential buildings should be encouraged to be structurally and mechanically ‘rooftop-ready.’

6. Accessory Structures and Supporting Infrastructure

a) As-of-right permissions should extend to wash/prep stations, cold storage, compost facilities, and storage sheds linked to food production and heritage reuse.

7. Accessory Structures and Supporting Infrastructure

a) Establish coordinated interdepartmental review processes for adaptive reuse and urban agriculture proposals.

b) Use minor variances, site-specific zoning, or special site policies to enable projects that deliver community/economic benefits and are compatible with local character.

c) Develop performance-based design guidelines covering materials, fire safety, setbacks, and screening.

8. Economic Development and Regional Alignment

a) Municipalities shall work with regional governments and partners to:
- Promote investment in agri-food innovation;
- Support workforce development and educational initiatives;
- Integrate reused agricultural buildings into agri-tourism and local food economies.

b) Financial/regulatory tools may include:
- Community Improvement Plans (CIPs);
- Development charge exemptions;
- Tax incentive programs (where authorized).

9. Implementation and Monitoring

a) Municipalities should maintain records of:
- Properties adaptively reused;
- Agricultural lands irrigated through stormwater reuse;
- Co-stewardship agreements with Indigenous partners.

b) Performance monitoring should integrate cultural heritage, agricultural viability, green infrastructure, and Indigenous access as linked objectives.

Summary of Interviews with Case Studies

Interview Brief – Mighty Harvest

Date: April 23, 2025
Location: Ajax Casino, 50 Alexander's Crossing, Ajax, ON
Interviewee: Derrik Stevenson, Mighty Harvest

Background

• Founded Mighty Harvest in 2021 after a background in sustainability and compliance.

• Previously trained in vertical farming systems (ZipGrow/Bright Agritech), gaining early exposure to both their technical potential and the financial risks of the sector.

Technology and Innovation

• Currently piloting prototype vertical growing racks in partnership with Crclr, a company developing advanced modular systems.
• Crclr technology emphasizes programmable lighting, nutrition, humidity, and airflow, with all data cloud-monitored.
• Derrik and Crclr are developing intellectual property around "grow recipes" – adaptable protocols for cultivating specific crops. This IP will be a key differentiator for future scalability and replication.

Industry Insights

• The Controlled Environment Agriculture (CEA) sector remains challenging: achieving profitability is difficult at all scales.
• Small-scale operations may face added hurdles, such as higher energy costs and difficulty accessing agricultural property tax classifications.
• However, contrary to assumptions, profitability can be achieved at small scale; Mighty Harvest itself was profitable in Oshawa before relocating.
• Conversely, many large ventures have also failed, with bankruptcies among $100M+ vertical farms in the last few years, underscoring that scale alone does not guarantee success.

Regulatory and Policy Context

• At their former Oshawa site, the City initially confirmed no Food Shop license was required. A later inspection—possibly triggered by a complaint—led to a violation notice.
• Since then, Oshawa has clarified its zoning by introducing a new permitted use:

> *Controlled Environment Agriculture Facility – a premises used for the cultivation of plants or other organisms through methods including, but not limited to, aquaponics, aquaculture, aeroponics, and hydroponics within a wholly enclosed building that is not a greenhouse. A Controlled Environment Agriculture Facility shall not include cannabis cultivation. (City of Oshawa, Zoning By-law 60-94, as amended, s.2.1 "Controlled Environment Agriculture Facility")*

• Mighty Harvest remains classified as Industrial, but this new definition ensures CEA operations are formally recognized in the zoning framework.

Community Partnerships

• Mighty Harvest's former Oshawa site is now operated by Feed the Need Durham, supported by the Local Food Infrastructure Grant. Derrik remains engaged through a share agreement.
• Food banks, including the Mississauga Food Bank, are increasingly exploring vertical farming as a tool to

provide reliable, fresh greens year-round.
• These partnerships demonstrate how vertical farming can address food insecurity, social equity, and community resilience, broadening the conversation beyond profitability to public benefit.
• Mighty Harvest is positioned as both a technology innovator and a community partner, helping integrate vertical farming into local food system infrastructure.

Key Takeaways
• Policy gaps around zoning and licensing remain a barrier for vertical farms. Reactive evolution of zoning is occurring, but it introduced uncertainty in the operation, causing it to pivot away from Oshawa.
• Small farms can succeed despite higher unit costs, and large ones have failed despite their scale.
• Community integration is a strong support pathway as food banks and local partners highlight the social value of CEA as an addition to its financial core.

Interview Brief – Lufa Farms

Date: April 28, 2025
Location: Google Meet (Montréal-based operations)
Interviewee: Emily Peloquin, Lufa Farms

Background

• Founded in 2009, Lufa Farms pioneered commercial rooftop greenhouses, launching the world's first in 2011.
• Currently operates five rooftop farms across Montreal, plus an indoor farm with 100% artificial lighting.
• Their model integrates food production with logistics and consumer engagement through their "Lufavore" CSA-style subscription program and partnerships with retailers.

Municipal Partnerships and Zoning

• Early projects faced zoning challenges, as converting urban/industrial rooftops to agricultural use required extensive municipal negotiation.
• Success of their first greenhouse in Ahuntsic built credibility; municipalities now often approach Lufa proactively for projects.
• Partnerships include real estate developers like QuadReal and Montréalbased developers for projects in Laval and Ahuntsic.
• Lufa provides municipalities with bullet point presentations summarizing requirements, but stresses that streamlined zoning would reduce negotiation burdens.

Operations and Technology

• Uses computerized irrigation, nutrition, and airflow systems.
• Expansion strategy prioritizes new construction projects where greenhouses can be integrated during design, avoiding costly retrofits.
• Emphasizes economies of scale: larger rooftop spaces are critical to profitability.
• Works with the Kubo Group, a Dutch greenhouse company, integrating global expertise with Canadian building code compliance.

Key Challenges

• Power reliability: Hydro Québec requires all greenhouses to have backup generators to ensure uninterrupted climate and irrigation control.
• Lease complexity: Agreements are typically negotiated with developers, not tenants (e.g., Walmart, Decathlon), but require careful coordination.
• Policy lag: Despite their reputation, every new project still requires site-specific approvals.
are increasingly exploring vertical farming as a tool to provide reliable, fresh greens year-round.

Opportunities

• Rooftop farming leverages underused urban space while avoiding direct land-use competition.
• Montreal's industrial areas provide abundant square footage and visibility, making the model replicable across similar North American cities.
• Rooftop greenhouses as both a commercial and public good, supporting broader urban sustainability goals.

Key Takeaways

• As food production, but also as a strategic urban planning tool with global relevance.
• Growing interest from international markets (e.g., Gulf states) highlights potential for global export of the Lufa model.
• Strong branding and visibility within local communities helped position Lufa Farms for growth.
• Lufa Farms has transitioned from policy challenger to trusted municipal partner.
• Their model demonstrates how CEA can scale in dense urban regions when zoning and infrastructure align.

Interview Brief – Southlands (Century Group)

Date: April 4, 2025
Location: Southlands Grange Centre for Farming and Food, 6313 Market Avenue, Delta, BC
Interviewee: Brad Semke, Director, Civil and Agri-food Infrastructure

Background

• Southlands spans ~537 acres (≈217 hectares). It is a master-planned, mixed-use neighbourhood featuring ~950 homes composed of cottages, single-family homes, townhomes, and apartments. It includes ~100 acres of parkland and a public farm/community farm component.
• Approximately 80% of the site is public land or donated back for agriculture, greenways, natural habitats, and trails. ~425-430 acres of farmland have been donated to the City of Delta.
• Century Group acquired the Southlands property in 1989 after a prior development proposal (a golf-course community) generated public concern.
• More than twenty years of planning, including extensive public input, design charrettes (notably 2008), vision workshops, and community consultations, shaped the current vision.
• Key vision: connect food, farming, and community; preserve farmland; integrate housing, food production, and recreation in ways that reflect agriculture as part of everyday life.

Agricultural Integration & Land / Soil Challenges

• Soil Quality & Sea-Level / Salinity Issues: The Southlands site is near sea level and subject to saltwater intrusion and saline groundwater risks typical of coastal delta zones such as Delta, BC. These conditions degrade soil fertility and require active management.
• Soil Remediation: Century Group has invested heavily in relocating and elevating soils across parts of the property to improve drainage, reduce salinity effects, and make soils more fertile. Soil mapping was used to identify areas with poorer and better soils; based on that, land was regraded, and soil imported or moved to raise elevation in vulnerable zones (e.g. flood-proofing elevation raised from ~2 to ~4 metres above sea level in parts) to protect against both flooding and salinity intrusion.
• Agriculture Activation: The 300-acre community-owned farm (or "Community Farm" component) is intended to be "human scale, traditional farming" with programs, educational components, allotment gardens, etc. Infrastructure for irrigation, drainage, and soil improvement is being put in place. Farmland has been activated in sections.

Key Insights & Challenges

• Early-Stage Planning Is Critical: Brad emphasized that many agricultural issues (soil quality, salinity, drainage) must be addressed very early in master planning, from landform, elevation, soil mapping, and water/infrastructure design. Retrofitting later is costly and less effective.
• Agricultural Reality vs. Developer Role: Housing was cited by Brad as a challenging piece: community expectations, mix of housing types, and balancing affordability and design. Also, because Century Group is fundamentally a developer, not an agriculture business, there's a limit to the support they can give to farmers.
• Lack of External Support / Incubator Programs: Brad noted that farmers trying to establish themselves in Southlands or similar places often lack sufficient external support (training, incubator programs, extension services). These supports could take much of the burden off developers, allowing them to focus on planning, infrastructure, and enabling conditions.
• Scale and Profitability Trade-Offs: At small or medium scales, operations may face higher unit costs (e.g., energy, taxation, access to favourable agricultural property categories). But small projects can still be profitable

when community, policy, and market support align.
• Soil, Salinity, Elevation & Flooding as Core Design Risks: Because the site is low-lying, near sea level, risk of seawater infiltration, periodic flooding, and soil sodium issues are a growing concern to farm productivity.

Community Partnerships & Social Infrastructure
• The project places heavy emphasis on community involvement: public design workshops, charrettes, visioning, and ongoing opportunities for residents to be part of farm-to-table, allotment gardens, education, and food culture (e.g., market square, farm retail, festivals).
• There are strong ties with local government: Century Group has donated farmland back to the City, and many public spaces, trails, and greenways are integrated. Municipal policy is being leveraged to protect lands for agriculture and habitat.
• However, Brad observed gaps in institutional/ extension supports for farmers: things like incubator programs, access to shared infrastructure, mentoring, and financial assistance beyond what the municipality provides are less well developed.

Key Takeaways
• Vision + Land + Early Planning = Potentially Durable Agriculture: Southlands shows how integrating agricultural needs (soil, elevation, drainage, salinity) into early master planning can make farming in a near-coastal, delta zone feasible.
• Affordability & Developer Limits: While the housing component is planned with variation (cottages, smaller homes, etc.), balancing cost pressures and agricultural infrastructure investments remains challenging. Agricultural operations are not the core business of developers, so farmers need institutional and policy support.
• Replicability: Southlands represents a model that could be replicated, but only where there is early public and municipal engagement, robust soil/ infrastructure investment, and external supports for farmers.
• Policy Implications: For other agrihood or agri-retention strategies to succeed, soil mapping, flood/salinity mitigation, zoning definitions, agricultural tax regimes, and incentives for early infrastructure must be integral.

References

Agriculture and Agri-Food Canada. (2022). *Rejuvenating the workforce: Developing a National Agricultural Labour Strategy. Government of Canada. Retrieved March 15, 2025.* https://agriculture.canada.ca/en/department/transparency/public-opinion-research-consultations/national-agricultural-labour-strategy/rejuvenating-workforce-developing-national-agricultural-labour-strategy-agls

American Council for an Energy-Efficient Economy (ACEEE), & Resource Innovation Institute (RII). (2023, May). *Controlled environment agriculture (CEA) policy guide: Benchmarking, rate design, water efficiency, and additional policies. Retrieved March 19, 2026, from* https://www.aceee.org/sites/default/files/pdfs/CEA%20Policy%20Guide%20-%20Encrypt.pdf

American Planning Association. (2011). *Urban agriculture: Growing healthy, sustainable places* (PAS Report No. 563). Retrieved March 18, 2026, from https://planning-org-uploaded-media.s3.amazonaws.com/publication/book_paperback/PAS-Report-563.pdf

Better Farming. (n.d.). *FarmStart: An incubator for wannabe farmers.* Retrieved March 18, 2026, from https://www.betterfarming.com/magazines/better-farming-ontario/featured-articles/farmstart-an-incubator-for-wannabe-farmers

Burchell, R. W., Downs, A., McCann, B., & Mukherji, S. (2005). Sprawl costs: *Economic impacts of unchecked development.* Island Press.

Burden, Jared. (2022, May 9). *Vertical farming's challenge in the US: Urban zoning law.* https://agfundernews.com/vertical-farmings-challenge-in-the-us-urban-zoning-law

Bruinsma, J. (2009) *The Resource Outlook to 2050: By How Much Do Land, Water Use and Crop Yields Need to Increase by 2050?* Paper Prepared for the Expert Meeting on How to Feed the World in 2050, Food and Agriculture Organization, Rome. https://www.fao.org/4/ak542e/ak542e06.pdf

Caldwell W, Epp S, Wan X, Singer R, Drake E and Sousa EC (2022) *Farmland Preservation and Urban Expansion: Case Study of Southern Ontario, Canada.* Front. Sustain. Food Syst. 6:777816. https://doi.org/10.3389/fsufs.2022.777816

CBC News. (2012, February 5). *Locally grown exotic crops nearly non-existent.* Retrieved March 18, 2026, from https://www.cbc.ca/news/canada/windsor/locally-grown-exotic-crops-nearly-non-existent-1.1215124

CBC News. (2018, December 6). *Toronto food incubator Food Starter abruptly shuts down.* Retrieved March 17, 2026, from https://www.cbc.ca/news/canada/toronto/food-starter-closure-1.4943916

Century Group. (2025, April 4). *Meeting with Century Group* [Interview notes]. In Growing Opportunity Action Plan (Summary of Interview in Case Studies).

Century Group. (n.d.). *Southlands: A community by Century Group.* Retrieved November 9, 2025, from https://www.centurygroup.ca/southlands

Choi, T. (2024, April 2). *Lufa Farms Opens Rooftop Greenhouse Stop Montreal Shopping Centre.* Sustainable Biz Canada. Retrieved March 18, 2026, from https://sustainablebiz.ca/lufa-farms-open-rooftop-greenhouse-atop-montreal-shopping-centre

City Development Department. (2023, June 5). *Report to Executive Committee.* (Report SUS 05-23). City of Pickering.

City of Boston. (2013). Article 89: *Urban Agriculture Zoning.* Boston Planning & Development Agency. Retrieved March 17, 2026, from https://www.bostonplans.org/getattachment/8405c72c-7520-43ad-a969-0e27dddae7a2

City of Delta. (2023). *Agricultural Plan.* Retrieved March 17, 2026, from https://www.delta.ca/sites/default/files/2023-08/Agricultural%20Plan.pdf

City of Delta. (2024). *Bylaw No. 8400: Official community plan for the City of Delta*. Retrieved March 17, 2026, from https://delta.civicweb.net/filepro/documents/230456

City of Guelph & County of Wellington. (n.d.). *Our food future: Guelph-Wellington local food and farming strategy action plan.* Retrieved from https://guelph.ca/wp-content/uploads/OurFoodFuture_PL_A.pdf

City of Hamilton. (2014, September 24). By-law No. 14-272: T*o adopt Official Plan Amendment No. 31 to the Urban Hamilton Official Plan respecting urban agriculture.* Retrieved March 19, 2026, from https://www.hamilton.ca/sites/default/files/2022-06/14-272.pdf

City of Toronto. (2017). *Background report: Food Starter and food business incubation in Toronto* (Background File No. 107179). Retrieved March 17, 2026, from https://www.toronto.ca/legdocs/mmis/2017/ed/bgrd/backgroundfile-107179.pdf

City of Toronto. (2018). *Growing spaces: Urban agriculture infrastructure opportunities in Toronto* (Background file No. 118079). Retrieved March 19, 2026, from https://www.toronto.ca/legdocs/mmis/2018/hl/bgrd/background-file-118079.pdf

City of Toronto. (2018). *Background report on urban agriculture and food systems in Toronto* (Background File No. 118079). Retrieved March 17, 2026, from https://www.toronto.ca/legdocs/mmis/2018/hl/bgrd/background-file-118079.pdf

Coleman, M., Graham L., and Schatz J. (2023, May 6). *What's driving vertical farming in Canada.* [Web log post] https://www.bennettjones.com/Insights/Blogs/Whats-Driving-Vertical-Farming-in-Canada

Daniels, T. L. (2007). *Farmland preservation policies in the United States: Successes and shortcomings*. University of Pennsylvania. Retrieved March 19, 2026, from https://repository.upenn.edu/server/api/core/bitstreams/035264e3-bfaa-471f-aff1-460ae7a58dc8/content

Daniels, T., & Bowers, D. (1997). *Holding our ground: Protecting America's farms and farmland.* Island Press.

Deloitte. (2022). *Global powers of retailing 2022: Resilience despite disruption.* Deloitte Touche Tohmatsu Limited. Retrieved March 17, 2026, from https://www.deloitte.com/content/dam/assets-shared/legacy/docs/industry/consumer/2022/gx-global-powers-of-retailing-2022.pdf

District Central. (n.d.). *Agriculture Urbaine: Avantages et Défis.* Retrieved March 18, 2026, from https://district-central.ca/en/actualites/events/agriculture-urbaine-avantages-et-defis/

Lewis, E. C., Palma, M. A., Umstattd Meyer, M. R., McNeely, A. C., Janda-Thomte, K. M., Olawuyi, Y. O., Maddock, J. E., & Seguin-Fowler, R. A. (2025). *Cultivating connection between community, agriculture, food, and green space: A narrative review of agrihoods and their impact on health and wellbeing. Public Health in Practice, 8*, 100695. https://doi.org/10.1016/j.puhip.2025.100695

Duany Plater-Zyberk & Company. (n.d.). *Duany Plater-Zyberk & Company.* Retrieved March 19, 2026, from https://www.dpz.com/

Duany Plater-Zyberk & Company, LLC. (2009, March 25). Agricultural urbanism (Draft report). Scribd. Retrieved March 19, 2026, from https://www.scribd.com/document/79444705/Agriculture-Urbanism

Duany, A., & Duany Plater-Zyberk & Company. (2011). *Garden cities: Theory & practice of agrarian urbanism. Papadakis.*

DPZ CoDesign. (2016). *Hendrick Farm.* https://www.dpz.com/projects/hendrick-farm

Farhangi, H., Turvani, M., Mvan der Valk, . E., Carsjens, A. (2020). High-Tech Urban Agriculture in Amsterdam: An Actor Network Analysis. Sustainability, 12(10), 3955. https://doi.org/10.3390/su12103955

Federation of Canadian Municipalities. (2023). *Community efficiency financing (CEF) application guide: Green Municipal Fund.* Retrieved March 19, 2026, from https://media.fcm.ca/documents/programs/gmf/ces-application-guide-gmf.pdf

Freed, S. (2025, December 1). *Are agrihoods a growth opportunity? Pro Builder.* https://www.probuilder.com/design/article/55198619/are-agrihoods-a-growth-opportunity

Friedmann, H. (2007). *Eating "Outside the Box": FoodShare's Good Food Box and the challenge of scale.* Agriculture and Human Values, 22(3), 227–236. https://doi.org/10.1007/s10460-005-6048-y

Glaros, A., Newell, J. P., Pizzirani, S., & Newman, P. (2026). *Scenarios for controlled environment agriculture planning and implementation in a city-region.* Urban Transitions, 5, 100025. Retrieved: March 19, 2026, from https://doi.org/10.1016/j.urbtrans.2026.100025

Government of British Columbia. (2024). *Planning for small-scale controlled environment agriculture.* Retrieved March 19, 2026, from https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/programs/indigenous-food-systems-and-agriculture/planning_for_small_scale_controlled_environment_agriculture_-_mobile_version.pdf

Gillespie, S., & Smith, T. (2025). *Cultivating Connection Between Community, Agriculture, Food, and Green Space: A Narrative Review of Agrihoods and their Impact on Health and Wellbeing. Public Health in Practice, 9*, 100695. https://doi.org/10.1016/j.puhip.2025.100695

Glaros, A., Newell, J. P., Pizzirani, S., & Newman, P. (2026). *Scenarios for controlled environment agriculture planning and implementation in a city-region.* Urban Transformations, 5, 100025. https://doi.org/10.1016/j.ubtr.2026.100025

Global Wellness Institute. (2024). *Global Wellness Economy Monitor 2024*. Global Wellness Institute. Retrieved March 18, 2026, from https://globalwellnessinstitute.org/wp-content/uploads/2024/11/WellnessEconMonitor2024PDF.pdf

Global Wellness Institute. (2025). *Build well to live well: The future.* Global Wellness Institute. Retrieved March 18, 2026, from https://globalwellnessinstitute.org/2025-build-well-to-live-well-wellness-real-estate-communities/

GoodLeaf Farms. (n.d.). *Farm Credit Canada: New investor.* Retrieved March 18, 2026, from https://www.goodleaf-farms.com/post/farm-credit-canada-new-investor

Gouvernement du Québec. (n.d.). *Programme d'aide financière à la valorisation des rejets thermiques.* Retrieved March 18, 2026, from https://www.quebec.ca/agriculture-environnement-et-ressources-naturelles/energie/reussir-ses-projets-transition-energetique/valorisation-rejets-thermiques/aide-financiere/programme-aide-financiere-valorisation-rejets-thermiques

Grant, J. (2006). *Planning the good community: New Urbanism in Theory and Practice.* Routledge. https://doi.org/10.4324/9780203479469

Golden Horseshoe Food and Farming Alliance (GHFFA). (2016). *Analysis of food and farming assets in the Greater Golden Horseshoe (March 31, 2016).* Retrieved from https://www.foodandfarming.ca/custom/uploads/2016/08/GGH-Analysis-of-Food-and-Farming-Assets-March-31_2016.pdf

Golden Horseshoe Food and Farming Alliance (GHFFA). (2021). *Golden Horseshoe Food and Farming Alliance – Action Plan 2021–2026.* Retrieved March 18, 2026, from https://foodandfarming.ca/food-and-farming-action-plan/
Greater Peterborough Area. (2016). Greater Peterborough Area Climate Change Action Plan. Retrieved March 18, 2026, from https://www.selwyntownship.ca/media/rmbhtopb/greater-peterborough-area-climate-change-action-plan-sept-30-2016.pdf

Hein, Treena. (2012). *Rooftop Montreal greenhouse uses careful energy management and claims to have proven concept is financially feasible in Canada.* Retrieved March 18, 2026, from https://www.greenhousecanada.com/rooftop-montreal-greenhouse-uses-careful-energy-managment-and-claims-to-have-proven-concept-is-financially-feasible-in-canada-20169/

City of Hamilton. (2016). *Hamilton Food Strategy.* Retrieved March 19, 2026, from https://www.hamilton.ca/sites/default/files/2022-08/hamilton-food-strategy.pdf

Hendrick Farm. (n.d.). *Hendrick Farm community*. Retrieved March 17, 2026, from https://www.hendrickfarm.ca/

Hevesi, C. (2021). *Exploring agrihoods: A non-traditional form of master planned communities focused on agriculture* (Master's thesis, Toronto Metropolitan University). Retrieved from https://rshare.library.torontomu.ca/articles/thesis/Exploring_Agrihoods_A_Non-Traditional_Form_of_Master_Planned_Communities_Focused_on_Agriculture/26866450

Hori Daily. (2025). *Goodleaf Farms Raises $52 Million for Canadian Capacity Expansion and New Agricultural Centre of Excellence.* Retrieved November 14, 2025. https://www.hortidaily.com/article/9785274/goodleaf-farms-raises-52-million-for-canadian-capacity-expansion-new-agricultural-centre-of-excellence/

Hydro One Limited. (2023). *Corporate governance guidelines*. Retrieved March 19, 2026, from https://www.hydroone.com/abouthydroone/CorporateInformation/Documents/Corporate%20Governance%20Guidelines.pdf

Hydro-Québec. (n.d.). *Additional Electricity Option for Crop Production.* Retrieved March 18, 2026, from https://www.hydroquebec.com/residential/customer-space/rates/additional-electricity-option-crops.html

Independent Electricity System Operator (IESO). (n.d.). *Ontario Market Prices.* Retrieved March 18, 2026, from https://www.ieso.ca/power-data/Price-Overview/Ontario-Market-Prices

International Fund for Agricultural Development (IFAD). (n.d.). *Land tenure and rural development*. Retrieved from https://www.ifad.org/documents/d/new-ifad.org/land_e-pdf

Jennings, A. (2012, July 4). *Multiplier effect*. Sustain Ontario. Retrieved March 19, 2026, from https://sustainontario.com/2012/07/04/multiplier-effect/

Leinberger, C. B. (2008). *The option of urbanism: Investing in a new American dream.* Island Press.

Lufa Farms. (2024). *Our Greenhouses.* Retrieved November 9, 2025, from https://montreal.lufa.com/en/farms

Leal, J., 2018. *Bring Home the World: A Report on Ontario's World Foods*, Ontario Ministry of Agriculture, Food and Rural Affairs. Canada. Retrieved from https://coilink.org/20.500.12592/d9vm324 on 19 Mar 2026. COI: 20.500.12592/d9vm324.

Liu, X., & Lynch, L. (2011). *Do agricultural land preservation programs reduce farmland loss? Evidence from a propensity score matching estimator.* Land Economics, 87(2), 183–201. Retrieved March 19, 2026 from https://doi.org/10.3368/le.87.2.183

Morrison Hershfield Ltd. (2019). *BC Energy Step Code: Public sector building cost and performance analysis (Revision 2.1).* Prepared for the Province of British Columbia. Retrieved from https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/step-code-resources/reports-and-guides/bc-step-code-public-sector-buildings-report-rev2_1.pdf

McKinsey & Company. (2020). *How COVID-19 is changing consumer behavior—now and forever.* Retrieved March 17, 2026, from https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/how%20covid%2019%20is%20changing%20consumer%20behavior%20now%20and%20forever/how-covid-19-is-changing-consumer-behaviornow-and-forever.pdf

MacLennan, R. (2021, December 30). *Stouffville's Mayor Wants Ontario to Fast-Track an 'Agrihood' Development*. Ontario Construction News. Retrieved from https://ontarioconstructionnews.com/stouffvilles-mayor-wants-ontario-to-fast-track-an-agrihood-developments-2

Metcalf Foundation. (2010, June). *In every community: Putting food on the map.* Retrieved March 18, 2026, from https://metcalffoundation.com/wp-content/uploads/2011/05/in-every-community.pdf

Nasmith, C. (2025, January 30). *Northumberland County begged not to close OAFVC. Today's Northumberland.* Retrieved from https://todaysnorthumberland.ca/2025/01/30/northumberland-county-begged-not-to-close-oafvc/

National Association of Home Builders. (2024, January). *Are Agrihoods a Growth Opportunity?*. Retrieved March 17, 2026, from https://www.nahb.org/blog/2024/01/agrihoods

National Farmers Union. (2010). *Losing our grip: How a Corporate Farmland Buy-up, Rising Farm Debt, and Agribusiness Financing of Inputs Threaten Family Farms and Food Sovereignty.* Retrieved from https://www.nfu.ca/wp-content/uploads/2018/05/06-07-losing_grip.pdf

National Research Council Canada. (2015). *National building code of Canada 2015*. Government of Canada. https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-canada-publications/national-building-code-canada-2015

Niagara Region. (2023). Grown in Niagara - *Agriculture Economic Development Action Plan for Niagara Region.* Retrieved March 19, 2026, from https://pub-niagararegion.escribemeetings.com/filestream.ashx?DocumentId=34415

Ontario Legislative Assembly. (2025). *Bill 5, 2025: An Act to Enact the Planning Statute Law Amendment Act, 2025 and to make consequential amendments to other Acts* (Royal Assent version). Retrieved March 19, 2026, from https://www.ola.org/sites/default/files/node-files/bill/document/pdf/2025/2025-06/b005ra_e.pdf

Ontario. (1998). *Ontario Energy Board Act, 1998, S.O. 1998, c. 15, Sched. B.* Retrieved March 19, 2026, from https://www.ontario.ca/laws/statute/98o15

Ontario Energy Board (OEB). (n.d.). *Understanding Your Electricity Bill.* Retrieved March 18, 2026, from https://www.oeb.ca/consumer-information-and-protection/electricity-rates/understanding-your-electricity-bill

Ontario Farmland Trust. (n.d.). *Farmland Loss*. Retrieved November 9, 2025, from https://ontariofarmlandtrust.ca/about/farmland-loss/

Ontario Farmland Trust. (n.d.). *Farmland Easement Agreements*. Retrieved March 19, 2026, from https://ontariofarmlandtrust.ca/farmland-protection/farmland-easement-agreements/

Ontario Ministry of Agriculture, Food and Agribusiness. (2025). *2025 Local Food Report*. Retrieved March 18, 2026, from https://www.ontario.ca/page/2025-local-food-report

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). (2023). A*gricultural system implementation procedures for the Greater Golden Horseshoe*. Retrieved March 18, 2026, from https://www.ontario.ca/files/2023-07/omafra-implement-procedures-ag-systems-greater-golden-horseshoe-en-2023-07-25.pdf

Ontario Ministry of Municipal Affairs and Housing. (2019). *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* (2019). Retrieved March 18, 2026, from https://www.ontario.ca/page/growth-plan-greater-golden-horseshoe-2019-order-council-6412019.

Ontario Ministry of Municipal Affairs and Housing. (2024). *Provincial planning statement, 2024.* Retrieved March 18, 2026, from https://www.ontario.ca/page/provincial-planning-statement-2024

Ontario Public Health Association. (2002, January). *A systemic approach to community food security: A role for public health.* Retrieved from https://opha.on.ca/wp-content/uploads/2020/09/2002-01_pp.pdf

Ontario Power Generation Inc. (2025). *Board charter.* Retrieved March 19, 2026, from https://www.opg.com/documents/board-charter/

Pajoga, Madalina. (2025, April 23). *How Agrihoods Attract Wellness-Minded Renters.* Retrieved March 18, 2026, from https://www.multihousingnews.com/agrihoods-an-increasingly-popular-response-to-contemporary-living-needs/

Principles for Responsible Investment. (n.d.). *What is responsible investment?* Retrieved March 18, 2026, from https://www.unpri.org/responsible-investment/intro-guides/what-is-responsible-investment

Regional Municipality of Durham. (2022, February 1). Planning and Economic Development Committee minutes: *Report #2022-EDT-2 – Evaluating the feasibility of establishing a Durham Region Local Food Logistics Hub and Innovation Centre.* https://www.durham.ca

Regional Municipality of Durham. (2023). *Growing agri-food Durham strategy and action plan (2023–2027).* Retrieved from https://www.durham.ca/en/economic-development/resources/PDF/2023---2027-Growing-Agri-Food-Durham-Strategy--Action-Plan---ACCESSIBLE.pdf

Regional Municipality of Durham. (2024). *Envision Durham: Regional Official Plan.* Retrieved March 18, 2026, from https://www.durham.ca/en/doing-business/resources/Documents/PlanningandDevelopment/Envision-Durham/Approved-Durham-ROP-2024.pdf

Regional Municipality of Peel. (2019). *Urban Agriculture: Peel 2041 Discussion Paper.* Retrieved March 18, 2026, from https://peelregion.ca/sites/default/files/2024-08/urban-agriculture-discussion-paper.pdf

Regional Municipality of Waterloo. (2023). *Strategic plan 2023–2027: Growing with Care.* Retrieved March 18, 2026, from https://www.regionofwaterloo.ca/en/resources/Strat-Plan-2023-27/Strategic-Plan-2023-2027-booklet---Access.pdf

Kucharsky, Danny (2017, April 25). *Lufa Farms rooftop greenhouses trending in Montreal.* https://renx.ca/lufa-farms-rooftop-greenhouses-montreal

Santo, R., Palmer, A., & Kim, B. (2016). V*acant lots to vibrant plots: A review of the benefits and limitations of urban agriculture.* Johns Hopkins Center for a Livable Future. Retrieved March 19, 2026, from https://clf.jhsph.edu/publications/vacant-lots-vibrant-plots-review-benefits-and-limitations-urban-agriculture

Serenbe. (n.d.). *About Serenbe*. Retrieved March 18, 2026, from https://www.serenbe.com/about

Shafie, S. (2018). *The Business Case for Rooftop Urban Agriculture* (Master's thesis, OCAD University). Retrieved March 18, 2026, from https://openresearch.ocadu.ca/id/eprint/2307/7/Shafie_Sharene_2018_MDes_SFI_MRP.pdf

Shutt, S. (2015, Feb). *Green on Top. Canadian Lawyer Magazine.* Retrieved: March 17, 2026. https://www.canadianlawyermag.com/news/features/green-on-top/269676

Song, Y., & Stevens, M. R. (2012). The economics of new urbanism and smart growth: Comparing price gains and costs between new urbanist and conventional developments. In N. Sipe & K. Vella (Eds.), *Urban land use and transportation policy: A review of the literature* (pp. 503–528). Edward Elgar Publishing. Retrieved March 19, 2026, from https://www.researchgate.net/publication/264766591

Specht, K., Siebert, R., Hartmann, I., Freisinger, U. B., Sawicka, M., Werner, A., Thomaier, S., Henckel, D., Walk, H., & Dierich, A. (2014). *Urban agriculture of the future: An overview of sustainability aspects of food production in and on buildings*. Agriculture and Human Values, 31(1), 33–51. https://doi.org/10.1007/s10460-013-9448-4

Sustain Ontario. (2017). *New and young farmers network research report.* Retrieved March 18, 2026, from https://sustainontario.com/custom/uploads/2016/12/New-and-Young-Farmers-Network-Research-2017-.pdf

Timothy C., *Developing conservation subdivisions: Ecological constraints, regulatory barriers, and market incentives*, Landscape and Urban Planning, Volume 92, Issue 2, 2009, Pages 117-124, ISSN 0169-2046, https://doi.org/10.1016/j.landurbplan.2009.03.004

Thomaier S, Specht K, Henckel D, et al. Farming in and on urban buildings: Present practice and specific novelties of Zero-Acreage Farming (ZFarming). Renewable Agriculture and Food Systems. 2015;30(1):43-54. doi: https://doi.org/10.1017/S1742170514000143

Toronto and Region Conservation Authority. (n.d.). Retrieved: November 9, 2025. U*rban agriculture: McVean Farm*. https://trca.ca

Talen, E. (Ed.). (2019). *A Research Agenda for New Urbanism.* Edward Elgar Publishing. https://doi.org/10.1080/07352166.2021.1912565

The Stop Community Food Centre. (2018). *Annual Report 2018*. Retrieved March 18, 2026, from https://www.thestop.org/wp-content/uploads/The-Stop-2018-Annual-Report-1.pdf

The Stop Community Food Centre. (n.d.). *About us.* Retrieved March 18, 2026, from https://www.thestop.org/about-us/

Truth and Reconciliation Commission of Canada. (2015). *Honouring the truth, reconciling for the future: Summary of the final report of the Truth and Reconciliation Commission of Canada.*

Urban Land Institute. (2016). Agrihoods: Cultivating best practices. Urban Land Institute. https://americas.uli.org/wp-content/uploads/ULI-Documents/Agrihoods-Final.pdf

University College London. (2025, January). *Analysis: Five reasons why vertical farming is still the future despite recent business failures.* Retrieved March 18, 2026, from https://www.ucl.ac.uk/news/2025/jan/analysis-five-reasons-why-vertical-farming-still-future-despite-recent-business-failures

Valorisons Montréal. (2023). *Fiche – Foncier aérien: Serres sur toit.* Retrieved March 19, 2026, from https://www.valorisonsmtl.ca/fiche-foncier-aerien-serres-sur-toit

Vasquez Alarcon, C. (2021, July 8). *Amsterdam and Paris exchange on urban agriculture practices.* Retrieved March 19, 2026, from https://www.agritecture.com/blog/2021/7/8/amsterdam-and-paris-exchange-on-urban-agriculture-practices

Ville de Montréal. (n.d.). *Commerce Montréal: Subventions pour la rénovation d'immeubles et de locaux commerciaux.* Retrieved March 19, 2026, from https://montreal.ca/programmes/commerce-montreal-subventions-pour-la-renovation-dimmeubles-et-de-locaux-commerciaux

Ville de Montréal. (2021). *Stratégie d'agriculture urbaine 2021–2026*. Retrieved March 19, 2026, from https://portail-m4s.s3.montreal.ca/pdf/vdm_strategie_agriculture_urbaine_corrigee_2023.pdf

World Economic Forum. (2023). *Innovation with a purpose: The role of technology in the future of agriculture.* Retrieved from https://www3.weforum.org/docs/WEF_Innovation_with_a_Purpose_VF-reduced.pdf

World Health Organization. (2016). *Urban green spaces and health: A review of evidence. WHO Regional Office for Europe.* Retrieved March 17, 2026, from https://blogs.ubc.ca/2017wufor200/files/2017/01/Urban-Green-Spaces-and-Health-WHO-2016.pdf

York Region. (2024). *York Region agriculture and agri-food sector strategy 2024–2027*. Retrieved March 19, 2026, from https://www.yorklink.ca/wp-content/uploads/2024/11/2024-2027-yr-agriculture-agrifood-sector-strategy.pdf