



# ENABLING LOCAL CHAIN AGRICULTURE SUSTAINABLY.

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IMPACT REPORT 2022

TECHNOLOGY TO FEED A CHANGING WORLD  
[cubicfarms.com/ESG](https://cubicfarms.com/ESG)

 **cubicfarm** | LOCAL  
SYSTEMS CORP. | CHAIN  
AG-TECH

**TO SAVE OUR  
RESOURCES AND  
OURSELVES, FOOD  
AND FEED MUST BE  
LOCALIZED, GROWN  
INDOORS AND USE A  
MINIMUM OF RESOURCES  
IN A RESPONSIBLE,  
SUSTAINABLE, AND  
AFFORDABLE MANNER.**





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## THE WORLD NEEDS AN AGRICULTURAL REVOLUTION AND CUBICFARMS IS LEADING IT.

To save our planet and ourselves, we must grow what we eat where we live. It's not enough to increase food and feed production, we must eliminate risks to our food supply chains by localizing production and bringing it indoors.

By enabling communities to independently and sustainably produce enough fresh food and livestock feed in any climate 365 days a year, our indoor, automated and modular local chain ag-tech represents a whole new way to feed humanity for generations to come.

Dave Dinesen, CEO, CubicFarm Systems Corp.



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*What we do today matters tomorrow. As we chart a roadmap to a zero-hunger future, we will lead with integrity for people and our planet.*

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## ABOUT THE COMPANY AND THIS REPORT

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# OUR MISSION IS TO CREATE AGRICULTURE TECHNOLOGIES TO FEED A CHANGING WORLD.

To accomplish this, we must help farmers to keep growing. It's our responsibility not to simply understand the global food security crisis we're facing, but to take significant action. We are a company founded by farmers with decades of growing experience.

Environmental, social, and governance (ESG) concerns are central to CubicFarms' business. We believe it's part of our corporate responsibility to deliver shareholder value with transparent shareholder communications while integrating ESG matters into our decision-making processes. That's how we're considering the longevity of our business and our role in creating a better world.

We actively deliver sustainable benefits to society needed for the long term. Investors looking for financial returns while also responding to global challenges are looking to

the landscape of ESG and impact investing for a reduction in downside risk and increased resilience. We're combining cost benefits with a positive effect on the environment to create shareholder value and make the world a better place.

Positively impacting the environment is at the heart of our ESG practices driven by the fact that our technologies significantly reduce the amount of fresh water and energy requirements for farmers. It's not just using fewer natural resources, it's also eliminating the need for pesticides, herbicides, and fertilizer. With every installation of our indoor growing systems, farmers are using less and growing more.

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## IT'S THE FUTURE OF FARMING NOW.

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OUR IMPACT

**OUR TECHNOLOGIES  
SIGNIFICANTLY REDUCE  
THE AMOUNT OF FRESH  
WATER, LAND, AND  
ENERGY USED  
BY FARMERS.**



**OUR IMPACT REPORTING IS GUIDED BY THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDG) AND THE GLOBAL REPORTING INITIATIVES (GRI) FRAMEWORK.**





# MISSION, VISION, AND VALUES

CubicFarms' business is intertwined with environment, social, and governance matters. We deliver sustainable benefits to society needed for long-term sustainability while offering quality jobs and prosperity, and contribution to a climate-resilient, domestic food supply.

Our technologies significantly reduce the amount of fresh water, land, and energy used by farmers. It's not just using fewer natural resources, it's also eliminating the need for pesticides, herbicides, or fertilizer. With every installation and expansion of the company's indoor growing systems, farmers are using innovative technologies to grow nutritious food on a commercial scale, locally in their communities.

## OUR MISSION

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### Enabling local chain agriculture

Our mission is to create agriculture technologies to feed a changing world. To accomplish this, we must help farmers to keep growing. It's our responsibility not to simply understand the global food security crisis we're facing, but to take significant action. With our automated indoor modular agriculture technologies, we enable farmers to localize plant, food, and livestock feed production at commercial scale while also protecting our people, resources, and economy.

## OUR VISION

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### Enabling local food & feed ecosystems

Our vision is to transform the agriculture system to enable local food and feed independence. Our local chain ag-tech solutions directly help farmers, protect our natural resources, and contribute to a zero-hunger future. We convert wasteful long supply chain agriculture into local chains creating local independent food ecosystems now and for future generations.



OUR VALUES

We are a team of curious, respectful, resourceful, and accountable people who passionately strive to make an impact in the world while celebrating our successes to feed a changing world. We are innovative, entrepreneurial hard workers who are future focused and enjoy working together for our collective greater good. Our excellent and rewarding work is driven by our core values:





**PASSION**

We are passionate about the work we do to positively impact people, planet, and the economy.





**RESPECT**

We respect the work we all do individually and as a team to benefit others.





**CURIOSITY**

We consistently seek and create innovative solutions to help feed a changing world.





**ACCOUNTABILITY**

We do what we say we will do and own the outcomes from our choices.





**RESOURCEFULNESS**

We find quick and clever ways to overcome difficulties to solve problems.





**CELEBRATION**

We celebrate our hard work as we create the future, now.



OUR PRODUCTS

**OUR TECHNOLOGIES  
PROVIDE INDEPENDENT  
AND EFFICIENT FRESH PRODUCE  
AND LIVESTOCK FEED SUPPLY  
FOR EVERY CITY, COMMUNITY,  
GOVERNMENT, AND COUNTRY,  
365 DAYS A YEAR.**



# RESPONSIBLE TECHNOLOGY TO FEED OUR PLANET

CubicFarm Systems Corp. is a leading local chain agricultural technology company that provides unique automated on-site commercial-scale food and livestock feed technologies. CubicFarms' technologies convert wasteful long supply chain agriculture into local chains to improve independent access to quality food and maximize crop yield all while reducing the environmental cost of food and feed production. These technologies provide independent and efficient fresh produce and livestock feed supply for every city, community, government, and country, 365 days a year.

The Company operates two segments: Fresh and Feed Divisions.

  
**95%**  
less fresh water  
than traditional farming

  
**54-62%**  
Crop Motion Technology™  
uses a single row of light to  
reduce energy consumption

  
**1**  
**Metric Tonne**  
HydroGreen fresh forage can  
reduce 1 metric tonne of carbon  
equivalents per animal, per year



*The work we're doing is changing the world for the better and making a positive, concrete impact in the world. We are building a modern and robust local chain ecosystem driving more rapid innovation, data acquisition, and the use of automation enabling scale. We are leading the digital farming future that works for growers, farmers, and ranchers."*

Edoardo De Martin, Chief Technology Officer and President, CubicFarms



## FRESH DIVISION

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Our Fresh Division operates using the CubicFarm™ System, which contains CubicFarms' patented technology for growing leafy greens and other crops. The CubicFarm System modules address two of the most difficult challenges in the vertical farming industry: high electricity and labour costs, using patented Crop Motion Technology™.





## FEED DIVISION

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Our Feed Division operates using the HydroGreen Automated Vertical Pastures™, the Company's technology for growing nutritious livestock feed. The HydroGreen System is fully automated and performs all growing functions including seeding, watering, lighting, harvesting, and re-seeding—all with the push of a button—to deliver nutritious livestock feed without the typical investment in fertilizer, chemicals, fuel, field equipment, and transportation. HydroGreen machines not only provide superior nutritious feed to benefit the animal, but also enables significant environmental benefits to the farm.



## REDUCING IMPACT ACROSS THE SUPPLY CHAIN

Beyond selling products that directly and positively impact climate change and improving the use of land and water resources, by localizing food and livestock feed production, CubicFarms and its products promote food security and food equality globally.

**CubicFarms' technology** developed within the **Fresh Division** reduces impacts across the supply chain through the following:



**95%**

less fresh water used compared with traditional field farming



**54-62%**

Crop Motion Technology™ innovation using single row of light to reduce energy consumption



**80%**

shortened supply chains by growing local, results in 80% less waste



**Zero**

pesticides or herbicides used



**52X**

significantly less land required to grow the same amount of food



**45%**

more nutrients found within produce grown locally compared to produce transported via long supply chains



The use of the **HydroGreen technology** within the **Feed Division** reduces impacts across the supply chain through the following:



**95%**

less fresh water used compared with traditional field farming



**6 Days**

seed to feed in 6 days, grown on-site, reducing long supply chains



**90%**

digestible forage with highly nutritional feed full of vitamins, antioxidants, and digestive enzymes



**Zero**

pesticides or fertilizer used



**52X**

significantly less land required to grow the same amount of food



**25M**

pounds of fresh livestock feed grown in an Automated Vertical Pasture™ annually

**HydroGreen technology delivers reliable, cost-effective production with a minimal environmental footprint.**





## ANIMAL HEALTH & WELFARE

We care about animal welfare and use our considerable animal and plant science knowledge to create technologies that support animal health and well-being. We are conducting research and data collection on dairy cattle consuming HydroGreen fresh livestock feed as part of the herd's ration.

Using a crossover experimental design that spanned six months in 2021 studying close-up cows, researchers found that adding HydroGreen's nutrient-dense fresh forage in the weeks prior to calving boosted feeding behaviour, increased milk production post-calving, and enhanced cow health performance fertility metrics, reducing their risk of suffering from metabolic disorders, and hypocalcemia after calving.

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**The nutritious fresh livestock feed growing using HydroGreen technology contains high quality protein in the form of amino acids and simple peptides, resulting in high quality energy in the form of simple sugars and starches, with nutrients that are critical for health, growth, production, and reproduction.**

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The texture and palatability, as well as the higher moisture of the HydroGreen fresh feed improves ration conditioning, resulting in less sorting of ingredients by the animals, and a lower incidence of upper respiratory issues due to dust inhalation. Not only is the fresh livestock feed nutritious, it's also devoid of anti-nutritional factors, with reduced hemagglutinins, trypsin inhibitors, tannins and pentosans, and phytic acid.



# STUDIES SHOW DAIRY COWS FED HYDROGREEN FRESH FORAGE EXPERIENCE SIGNIFICANT HEALTH AND PERFORMANCE BENEFITS.

| TRANSITION BENEFITS        | LACTATION BENEFITS               | REPLACEMENT HEIFER BENEFITS         | ENVIRONMENTAL BENEFITS            |
|----------------------------|----------------------------------|-------------------------------------|-----------------------------------|
| <b>+12%</b> Feed Intake    | <b>+2 lbs.</b> Milk Production   | <b>+8% avg.</b> Daily Weight Gain   | <b>95%</b> Water Saving           |
| <b>+5%</b> Milk Production | <b>+4.5%</b> Milk Fat Production | <b>+30%</b> Liver Health & Function | <b>-24%</b> Methane Emission Flux |
| <b>+8%</b> Pregnancy Rate  | <b>+11%</b> Resting Time         | <b>-25%</b> Cost of Weight Gain     | <b>+10%</b> Fibre Digestion       |



— GET 45% —  
MORE NUTRIENTS  
*when you eat local produce*

**WASTE LESS!**

BY BUYING ALLWAYS LOCAL,  
— YOU'RE ELIMINATING —  
DESTRUCTIVE SUPPLY CHAINS

— EVERY YEAR —  
1.3 BILLION TONNES  
— OF PRODUCE —  
ROTS IN TRANSPORT

**CUBIC FARMERS**

— **GROW** —  
CLEAN, CRUNCHY  
*flavourful greens*

— LESS LAND —  
**ANY SEASON**  
— EVERY CLIMATE —  
*365 days a year*



# ALLWAYS LOCAL™

FARMING FOR THE FUTURE

As a company founded by farmers, we're serious about enabling farmers. ALLWAYS Local is the consumer brand we offer to our Farmer Partners as a turnkey solution to get retail distribution for the fresh food they grow. It's a brand we developed with our team of food distribution and retail experts with over 25 years experience. Our Farmer Partners can grow with the confidence that there will be demand and brand recognition for the food they grow.



## Hours not days

CubicFarms produce is grown locally so it travels from farm to table in hours, not days



## 45%

CubicFarms produce gives you 45% more nutrients because the roots are attached and still living



OUR PEOPLE

**WE'RE ATTRACTING AND  
RETAINING WORLD-CLASS  
TALENT AND PASSIONATE  
INDIVIDUALS WHO BELIEVE  
IN OUR MISSION AND THRIVE  
IN THE WORKPLACE, IN THE  
OFFICE, OR ON THE FARM.**





# OUR PEOPLE

CubicFarms is attracting and retaining world-class talent and passionate individuals who believe in our mission and thrive in the workplace, in the office, or on the farm.

There aren't many things that can instill a sense of purpose and fuel innovation like creating technology to feed our changing world. Our team members feel a sense of responsibility to care for the planet and the people who live in communities all over around the world.



## 16.3%

average employee turnover rate for the end of quarter 2022



## 67.2%

overall employees are men



## 32.8%

overall employees are women



## 112

employees at end of 2021: 112 and the end of first quarter 2022



## 80.5%

leadership are men



## 19.5%

leadership are women



*There's no question, we are attracting top talent. Every day I'm blown away by the calibre of expertise we're drawing into CubicFarms by offering the chance for our teams to make a real-world impact in their everyday work. I think the secret sauce to attracting the best people is our commitment to diversity and inclusion, the fact that our leaders are transparent and accountable, and we develop, nurture, and reward our people."*

Amanda van Tilborg, VP Human Resources



PHILANTROPY & COMMUNITY GIVING

**OUR TEAM SUPPORTS INITIATIVES IN OUR COMMUNITIES, DONATES OUR TIME, AND HELPS SUPPORT OUR LOCAL FOOD BANKS.**



COMMUNITY  
**GIVING**

The CubicFarms Community Giving program organizes initiatives specifically chosen to align with our ESG priorities, organizing community clean ups and addressing food and water insecurity by fundraising for local food banks and participating in the World Vision Global 6K for Water.





# COMMUNITY EDUCATION

6,667

visitors toured the farm in 2021

Our Alberta Grow Centre offers school tours to educate the next generation of farmers and donates surplus fresh, nutritious food to local food banks. In Abbotsford, British Columbia our HydroGreen system is at the EcoDairy Farm Discovery Centre, which is a working demonstration farm, the first of its kind in Canada. In partnership with Science World, children and youth gain first-hand knowledge of agriculture technology in a “Discovery Zone” where children can meet cows face-to-face and “push up” HydroGreen fresh forage to the animals.



*“When you show people the HydroGreen system and teach them that this system has the ability to reduce the amount of land needed to feed animals, uses a fraction of the water needed traditionally and it has a health benefit to the animals. They then ask, why don’t all farmers have this system?”*

Scott Johnson, B.P.E. B.Ed. M.Ed.  
EcoDairy Manager





## DIVERSITY, EQUITY, AND INCLUSION

At CubicFarms, we embrace different perspectives and value the contributions of our team members. One of our core values is respect, and we take that a step further by creating a culture celebrating diversity and allowing individuals to do their best work and thrive. No matter who you are or what role you hold, our goal is to foster an inclusive workplace where people know they belong, that their unique talents matter, and that their needs are cared for by our leaders and other team members. We're a growing company with talented people working toward a common goal.

Our Diversity and Inclusion Committee is composed of team members across all job functions and levels in the Company. This Committee investigates and actions new ways to increase and support employee diversity and inclusion at the Company and to ensure a positive and inclusive work environment.

We are an equal opportunity company and hire without regard to age, ancestry, colour, race, citizenship, ethnic origin, place of origin, creed, disability, family status, marital status (including single status), gender identity, gender expression, sex (including pregnancy and breastfeeding), or sexual orientation. CubicFarms believes that there is strength in diversity, and we actively encourage our team members to bring their whole selves to work.

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**CubicFarms has an engaged workforce with a mission to transform agriculture, using our curiosity and resourcefulness with our teams.**

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LOCAL LABOUR

**BY LOCALIZING FOOD AND LIVESTOCK FEED GROWN INDOORS USING OUR TECHNOLOGIES, CUBICFARMS IS ENABLING MORE FOOD INDEPENDENCE FOR COMMUNITIES THAT NEED IT, ESPECIALLY WITH AN INCREASING GLOBAL POPULATION.**

CubicFarms builds strong relationships with an ecosystem of farmers, food service distributors, and more. Instead of concentrating the areas where produce is grown, CubicFarms technologies allow for more local growing distributed all over the world and in nearby communities. This allows farmers to grow with less physical labour than before, promoting greater inclusivity.



Growing fresh produce in -30°C weather enables communities to feed themselves independent of long supply chains year round.



Feeding dairy cattle in drought stricken regions keeps reliable food sources within local communities.



## ADVOCACY AND MEANINGFUL ENABLEMENT FOR FARMERS

The Company is advocating for government support for indoor growing and additional financing opportunities for farmers, helping farmers to localize food production and operations so local jobs can be provided for more vibrant, thriving communities.

CubicFarms' government lobbying efforts have resulted in positive changes to the way agricultural lands are administered in British Columbia, allowing for the use of both ag-tech and controlled environment agriculture to become a permitted use on agricultural lands designated under the Agricultural Land Reserve. This change was announced by the Province of British Columbia and the BC Ministry of Agriculture on February 19, 2022.

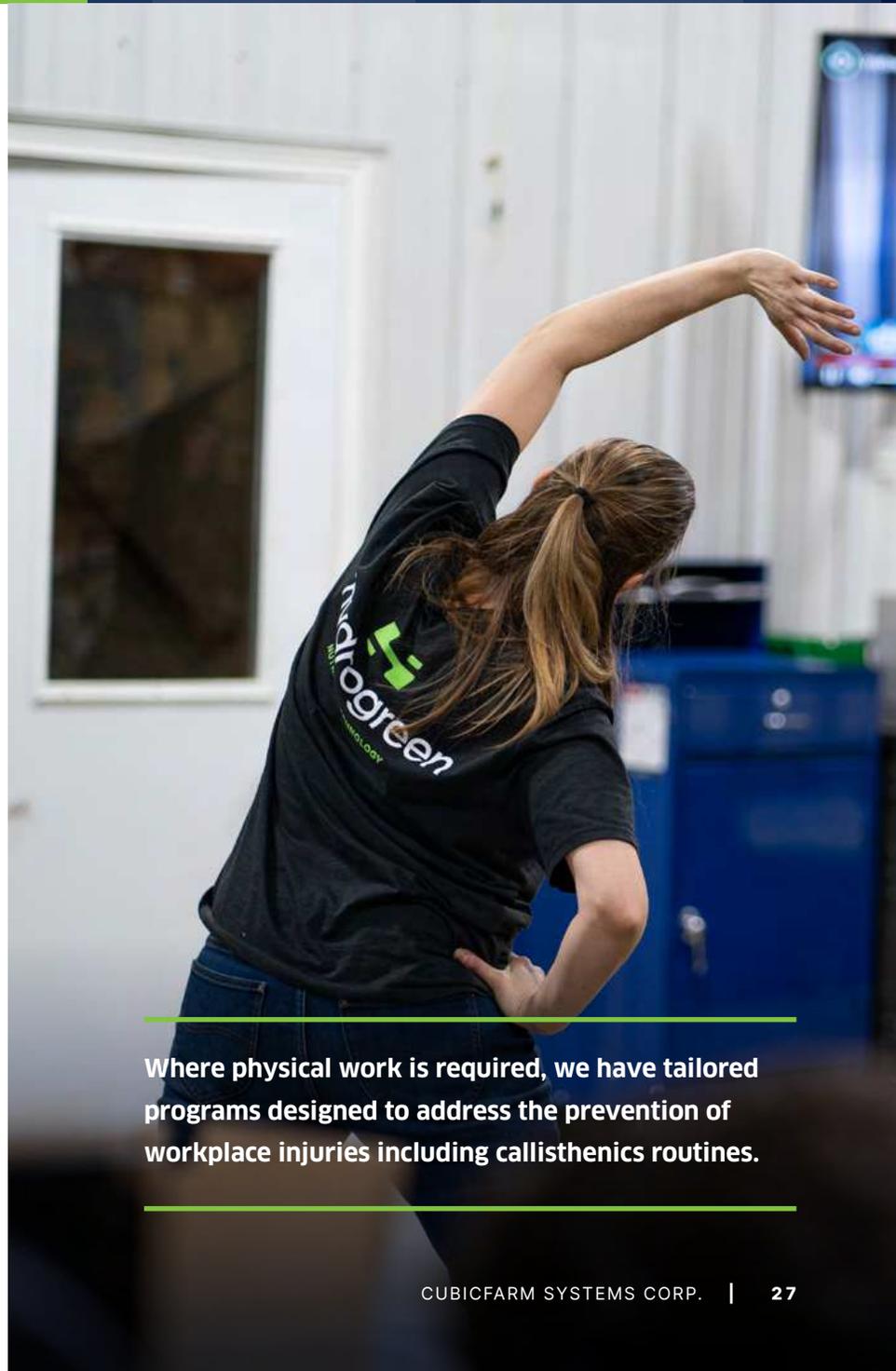




## HEALTH AND SAFETY

The Company is committed to the health and safety of its employees, customers, vendors, and community. We have comprehensive Health and Safety Plans that apply to the health and safety of every employee, visitor, contractor, and customer. It ensures that all required acts and regulations are addressed which is overseen by CubicFarms' Joint Occupational Health and Safety Committee or Health and Safety Representatives. Where applicable, team members receive comprehensive health and safety education and training, including:

- Conducting new worker orientation sessions for new workers and site-specific orientations.
- Conducting Toolbox Talks on a regular basis during construction projects.
- Developing safe job procedures and instructing workers in these procedures.
- Monitoring ongoing requirements for health and safety instruction.
- Delivering specialized training for employees.
- Implementing a StaySafe program to ensure the safety of team members working alone.



**Where physical work is required, we have tailored programs designed to address the prevention of workplace injuries including callisthenics routines.**



OUR PLANET

**CUBICFARMS AND  
HYDROGREEN HAVE  
ENDORSED THE DECADE OF  
AG, THE FIRST-EVER SECTOR-  
SPECIFIC VISION FOR THE  
SUSTAINABLE FOOD SYSTEMS  
OF THE FUTURE.**



95%

**CubicFarm Systems** use less fresh water than traditional farming



52X

more land efficient. Our current **CubicFarm System** is up to 52 times more land efficient than field farming



80%

less waste with our **CubicFarm System**



54-62%

**CubicFarms' Crop Motion Technology™** uses less energy than other vertical farms



95%

**HydroGreen Automated Vertical Pastures™** use 95% less water than irrigated fields



500

acres of farmland can be repurposed with a **HydroGreen Automated Vertical Pasture™**



1 Metric Tonne

**HydroGreen fresh forage** can reduce 1 metric tonne of carbon equivalents per animal, per year



25%

feeding cows **HydroGreen** has shown a 25% consistency improvement of their feed intake and rumination activity which can be beneficial to their health



Hours not days

**CubicFarms** produce is grown locally so it travels from farm to table in hours, not days



Zero

**CubicFarm and HydroGreen Systems** use zero pesticides or herbicides



10%

**HydroGreen** helps cows increase fibre digestion by 10% resulting in less waste



25M

pounds of fresh livestock feed grown in an Automated Vertical Pasture™ annually



# ENVIRONMENTAL COMMITMENTS

**THE GLOBAL POPULATION IS PREDICTED TO REACH 9.7 BILLION BY 2050,<sup>1</sup> AND TO FEED EVERYONE, IT IS ESTIMATED THAT GLOBAL FOOD PRODUCTION WILL NEED TO INCREASE BY UP TO 70% IN THE NEXT 30 YEARS.<sup>2</sup>**

<sup>1</sup> [www.un.org/development/desa/en/news/population/world-population-prospects-2019.html](http://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html)

<sup>2</sup> [www.fao.org/fileadmin/templates/wfs/docs/expert\\_paper/How\\_to\\_Feed\\_the\\_World\\_in\\_2050.pdf](http://www.fao.org/fileadmin/templates/wfs/docs/expert_paper/How_to_Feed_the_World_in_2050.pdf)

<sup>3</sup> [www.fao.org/2019-ncov/q-and-a/impact-on-food-and-agriculture/en/](http://www.fao.org/2019-ncov/q-and-a/impact-on-food-and-agriculture/en/)

<sup>4</sup> [www.fao.org/3/ar591e/ar591e.pdf](http://www.fao.org/3/ar591e/ar591e.pdf)

<sup>5</sup> <https://ourworldindata.org/meat-production>

There are many challenges to overcome before fears of a worldwide food shortage can be allayed, including rising temperatures and more frequent droughts caused by climate change. These obstacles are making traditional farming methods increasingly inefficient and unpredictable.

Traditional farming has also been hit hard by the COVID-19 pandemic. According to the Food and Agriculture Association of the United Nations (“FAO”), border closures, quarantines, and disruptions to supply chains are limiting some people’s access to food, especially in countries hit hard by the virus or already affected by high levels of food insecurity.<sup>3</sup>

FAO reports that one third of the planet’s land is currently used for livestock feed production;<sup>4</sup> and as the world’s population grows, so does the demand for animal protein.<sup>5</sup> Meanwhile, studies have shown that globally, 5 million hectares of forested lands are being converted into agricultural land each year.<sup>6</sup>

<sup>6</sup> <https://science.sciencemag.org/content/361/6407/1108>

<sup>7</sup> Canaccord Genuity Group Inc. - US Equity Research – March 4, 2022

<sup>8</sup> American Farm Bureau Foundation – 2021 Disaster Estimations Reveal at Least \$12.5 Billion in Crop and Forage Losses (<https://www.fb.org/market-intel/2021-disaster-estimations-reveal-at-least-12.5-billion-in-crop-and-forage-l>)



Geopolitical tensions are driving up the prices for oil, natural gas, wheat, fertilizers, and other commodities. The effects of rising input costs are likely to compound already substantial inflation for food. In January 2022, US grocery prices rose by 7.4% compared to the prior year, according to the US Bureau of Labor Statistics. The FAO estimates that global food prices recorded an increase of 28% in 2021 and expects the trend to continue on persistent supply chain disruptions.<sup>7</sup>

Weather and climate disasters in 2021, including drought, flooding, and wildfires, also negatively impacted traditional farms and ranches across North America. In the United States alone there were over USD\$12.5 billion in crop and rangeland losses. The full extent of damages across the sector is likely far higher when livestock, infrastructure, timber, and other ag-related factors are considered. Already in 2022, farmers and ranchers are experiencing severe drought. The stability of US farms and ranches relies on their ability to be resilient under an array of climate and weather conditions.<sup>8</sup>

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**WITH GLOBAL DEMAND FOR BEEF AND DAIRY PRODUCTS CONTINUING TO GROW, LIVESTOCK PRODUCERS ARE LOOKING FOR INNOVATIVE SOLUTIONS TO LOWER ENVIRONMENTAL IMPACTS AND ENHANCE STEWARDSHIP.**

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## VERTICAL FARMING

Rising interest in organic food among consumers interested in healthy living is expected to elevate the global vertical farming market. Increasing demand for high quality food, technological advancements in agriculture techniques, and growing urbanization are some of the significant factors impacting global vertical farming industry growth. With the unprecedented growth of world population, the demand for urban agriculture is increasing, shifting the focus to vertical farming.<sup>9</sup>

## SUSTAINABLE AGRICULTURE

**CubicFarms and HydroGreen** have endorsed the Decade of Ag, the first-ever sector-specific vision for the sustainable food systems of the future. Our endorsement is a pledge to work with leaders and organizations and work toward a resilient, restorative, economically viable, and climate-smart agricultural system that produces abundant nutritious food and livestock feed.

<sup>9</sup> Allied Market Research – Vertical Farming Market by Structure (Building-based Structure and Container-based Structure), Growth Mechanism (Hydroponics, Aeroponics and Aquaponics), and Component (Irrigation Component, Lighting, Sensor, Climate Control, Building Material, and Others): Global Opportunity Analysis and Industry Forecast, 2021 – 2030 – September 2021



## FOOD SECURITY THROUGH LOCAL CHAIN AG-TECH

By localizing food and livestock feed grown indoors using our technologies, we're enabling more food independence and food security for communities that need it. And as it turns out, with our increasing global population, we're all going to need it.

We're advocating for government support for indoor growing and additional financing opportunities for farmers, enabling them to localize food production and operations so they can provide local jobs for more vibrant, thriving communities.





CLIMATE CHANGE

**WITH GLOBAL POPULATIONS GROWING AND NATURAL RESOURCES GETTING SCARCER, WE ARE SUSTAINABLY SCALING UP THE AMOUNT OF FOOD WE GROW USING LESS RESOURCES.**



# CLIMATE CHANGE

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**THE IMMINENT PRESSURES ON OUR FOOD SYSTEMS THROUGH DEMAND FOR CONSUMPTION OF ANIMAL PRODUCTS, WHICH ARE BECOMING MORE APPARENT AS OUR GLOBAL POPULATION INCREASES, INCLUDE ESTIMATES SUGGESTING A GLOBAL POPULATION OF ALMOST 10 BILLION BY 2050.**

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CubicFarms and our Scientific Advisory Board (SAB) are contributing to scientific research developed through a collaboration of academic researchers and industry experts. *Hydroponic fodder and greenhouse gas emissions: a potential avenue for climate mitigation strategy and policy development* was published by Canadian Science Publishing in FACETS, the official journal of the Royal Society of Canada's Academy of Science.

Feed production and animal waste represent the two largest sources of these GHG emissions, representing 45% and 39% respectively. This research estimates that the HydroGreen demonstration farm produced 7.4% fewer GHG emissions (per nutrient mass) than were found with conventional barley grain fodder farming, and greater reductions can be achieved with improved seed-to-fodder output, indicating that transitioning to such systems can result in GHG reductions and climate mitigation benefits.<sup>10</sup>

<sup>10</sup> Robert Newell, Lenore Newman, Mathew Dickson, Bill Vanderkooi, Tim Fernback, and Charmaine White. Correction: Hydroponic fodder and greenhouse gas emissions: a potential avenue for climate mitigation strategy and policy development. FACETS. 6(1): 870-870. <https://doi.org/10.1139/facets-2021-0050>



*With approximately 70% of all agricultural land being used for some aspect of livestock production, beef and dairy farming currently represents approximately 14.5% of all human-induced GHG emissions. Finding solutions like the HydroGreen hydroponic growing system that can lower overall GHG emissions caused by livestock will be critical to solving the world's GHG emission problems and reduce the overall effects of global warming."*

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Dr. Lenore Newman, Director and Canada Research Chair in Food Security, Member of the CubicFarms SAB, Co-Author of the published FACETS Research Study



# OUR FARMERS ARE FACING

SEVERE DROUGHT



SCARCITY OF ARABLE LAND



DAILY NEED FOR NUTRITIOUS FRESH LIVESTOCK FEED



INCREASING SEVERE WEATHER EVENTS



DEPENDENCE ON FEED SUPPLIERS



FARMERS NEED INCREASED YIELD WITH REDUCED FOOTPRINT AND REDUCED METHANE.



# METHANE REDUCTIONS TO MEET INTERNATIONAL PANEL ON CLIMATE CONTROL'S 2050 GHG TARGETS

**A single cow can produce up to 220 pounds of methane every year. The global population of cows is around 1 billion which means cows alone contribute about 220 billion pounds of methane a year. In the US, agriculture contributes 9.6% of greenhouse gas emissions and according to the EPA, 36% of methane emissions are from livestock.**

Globally, the production of enteric methane (CH<sub>4</sub>) by dairy cattle and other ruminant animals poses a threat to our climate due to the high global warming potential of CH<sub>4</sub>, about 28 times that of carbon dioxide (CO<sub>2</sub>).<sup>11</sup> Without intervention, current CH<sub>4</sub> emissions from the agricultural sector will be directly responsible for a 1.5°C global increase surpassing current climate targets.<sup>12</sup>

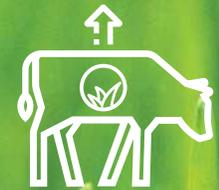
Recent research trials where dairy cows received HydroGreen fresh forage in the ration significantly increased dry matter intake (DMI), rumination activity, and nutrient digestibility with a 24% methane reduction in HydroGreen groups.

These results show that including HydroGreen in feed ration can help meet the estimated reduction required to meet the International Panel on Climate Control's 2050 agricultural greenhouse gas targets.<sup>13</sup>

<sup>11</sup> Intergovernmental Panel on Climate Change, 2014 AR5 Climate Change 2014: Mitigation of Climate Change — IPCC (<https://www.ipcc.ch/report/ar5/wg3/>)

<sup>12</sup> Global food system emissions could preclude achieving the 1.5° and 2°C climate change targets (<https://www.science.org/doi/10.1126/science.aba7357>)

<sup>13</sup> Robert Newell, Lenore Newman, Mathew Dickson, Bill Vanderkooi, Tim Fernback, and Charmaine White. Correction: Hydroponic fodder and greenhouse gas emissions: a potential avenue for climate mitigation strategy and policy development. FACETS. 6(): 870-870. <https://doi.org/10.1139/facets-2021-0050>



# 10%

**EFFICIENCY INCREASE**

**HYDROGREEN HELPS COWS TO INCREASE FIBRE DIGESTION BY 10% FROM TYPICAL PERFORMANCE LEVELS RESULTING IN LESS WASTE, AS EVERY GRAM FED IS UTILIZED MORE EFFICIENTLY.**



OUR GOVERNANCE

**“CUBICFARMS AND HYDROGREEN TECHNOLOGIES ARE TACKLING SOME OF THE WORLD’S BIGGEST PROBLEMS AND ARE ENABLING FARMERS TO SUCCEED FOR GENERATIONS TO COME.”**

Janet Wood, CubicFarms Board Member





## TRANSPARENCY

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As a publicly traded company, we're committed to open and transparent communications with all stakeholders. We strive for clarity without unnecessary complexity in our news and financial statements, avoiding unnecessary jargon for maximum understanding of the company's messages. CubicFarms combines cost benefits with a positive effect on the environment to create shareholder value and attempt to make the world a better place.

CubicFarms is committed to disseminating all material information that would reasonably be required to make an informed decision about investment in or trading securities of the company (TSX:CUB) in a fair, timely, and cost-efficient manner. Material information is available on our Investors page with a link to all associated documents listed on the CubicFarm Systems Corp. company profile at [www.sedar.com](http://www.sedar.com).

## SCIENTIFIC ADVISORY BOARD

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The SAB is comprised of top experts in the fields of agriculture and technology and are primarily responsible for making recommendations to the company's senior leadership team regarding research and development priorities to advance food production technology.



**DR. LENORE NEWMAN**  
CHAIR



**DR. TAMMARA SOMA**  
MEMBER



**DR. LAILA BENKRIMA**  
MEMBER



**DR. EVAN FRASER**  
MEMBER



GROW TOGETHER PROGRAM

**OUR EMPLOYEES  
STRONGLY BELIEVE  
IN OUR MISSION.  
THEY'RE ACTING LIKE  
OWNERS OF THE  
COMPANY BECAUSE  
THEY ARE.**





## **GROW TOGETHER EMPLOYEE SHARE PURCHASE PROGRAM**

Grow Together is our Employee Share Purchase Program that provides eligible employees the opportunity to purchase shares in CubicFarms and the opportunity to profit from the success they are helping to generate. Through automated payroll contributions, CubicFarms matches \$1 to \$1, up to a maximum amount per year as a long-term investment vehicle.



## CORPORATE GOVERNANCE COMMITTEE

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Corporate Governance Committee has a general mandate to assess all issues that may affect CubicFarms in the areas of corporate governance and to recommend appropriate governance policies to the Board. In addition, CubicFarms benefits from the HydroGreen Advisory Board and our Scientific Advisory Board. The boards are comprised of top experts in the fields of agriculture and technology and are primarily responsible for making recommendations to our senior leadership team regarding research and development priorities.

Among other advantages, our focus on ESG provides us with opportunities to tap into new markets and expand into existing ones while attracting top talent to our goal of transforming agriculture globally.

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### Cautionary Note Regarding Forward-Looking Information

This report contains forward-looking statements. Forward-looking statements include any statements that do not refer to historical facts and are typically identified by words such as “believe”, “may”, “estimate”, “continue”, “expect”, “goal”, “plan”, “predict”, “potential”, “future”, “outlook” and other similar expressions that predict or indicate future events or trends.

These forward-looking statements are based on various assumptions, whether or not identified in this report, and on the current expectations of CubicFarms’ management. These assumptions may ultimately prove to have been inaccurate and, as a result, actual results or events may differ materially from expectations expressed in or implied by the forward-looking statements. There can be no assurance that CubicFarms will achieve its goals or objectives.

Readers are cautioned not to place undue reliance on forward-looking statements as a number of factors could also cause actual future performance and events to differ materially from those expressed in the forward-looking statements.

Accordingly, this document is subject to the disclaimer and qualified by the assumptions, qualifications and risk factors described in detail in CubicFarms’ Annual Information Form dated March 31, 2022 and in other CubicFarms public disclosure documents and filings with securities regulatory authorities in Canada (on SEDAR at [sedar.com](https://www.sedar.com)).

Except as required by law, CubicFarms disclaims any intention or obligation to update or revise these forward-looking statements. Forward-looking statements in this report are presented for the purpose of assisting stakeholders in understanding certain environmental, social and governance goals of CubicFarms. Such information may not be appropriate for other purposes.

An aerial photograph of a dense, vibrant green forest. In the center, four small, irregularly shaped ponds are arranged in a cross pattern, reflecting the sky. The forest is partially shrouded in a soft, white mist or fog, particularly on the right side and in the lower corners. The overall scene is serene and natural.

**WE ARE PASSIONATE ABOUT  
CREATING TECHNOLOGIES  
TO HELP FARMERS TO KEEP  
GROWING, SUSTAINABLY.**

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## **WE'RE PROUD OF ALL WE'VE ACCOMPLISHED.**

With this inaugural Impact Report we hope to inspire more ambitious targets across our stakeholder ecosystem to collectively further our Environmental, Social, and Governance commitments.

We'll continue sharing our progress as a growing company on a mission to feed our changing world.

## **WE MUST GROW WHAT WE EAT, WHERE WE LIVE.**

Join us on our journey as we transform the future of farming.

