



ECG/HYCUBE CONTACT:

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FACT SHEET

Summary

The HyCube™ is an innovative, patent-pending hydroponic system built in an illuminated, modern structure that's as beautiful as it is functional. Thanks to its precisely controlled, cleanroom technology, the HyCube produces nature's finest possible greens...non-GMO, highly nutritious, cleaner-than-organic, virtually flawless in appearance and delectable in taste.

The HyCube's visually striking, vertical tower structure can be built right on-property to provide a variety of pristine edibles that may be plated immediately after picking. Its produce is grown in a soil-free, contaminate-free and pest-free environment with carefully selected nutrients, filtered air and filtered water. What's more, the HyCube's ideal environment provides accelerated grow cycles for a wide variety of lettuce, leafy greens, spinach, microgreens, edible flowers and herbs, 365 days a year. This flexibility will unleash chefs to create menus according to their creativity rather than seasonal availability.

The HyCube's glowing presence will transform the guest experience by enabling them to be more connected to the food they are eating. It includes a viewing room where guests can learn and observe how their food is being grown, from seedling to fully grown plants. You may even conduct guided VIP tours of the HyCube for guests to get an up-close, personalized experience.

At A Glance

The HyCube™ is an innovative, patent-pending, vertical controlled-environment equipped with a hydroponic growing system deployed in a modern structure that's as beautiful as it is functional. The HyCube structure and system was designed, engineered, and built by Eco Convergence Group, Inc. (ECG), a privately-held corporation headquartered in Orlando, Florida.

- Data-driven for precise control, provides plants with perfect grow conditions and nutrients resulting in accelerated grow cycles and high yields
- Utilizes semiconductor cleanroom - inspired technology that uses multiple levels of filtration to decontaminate air and water
- HyCube produce is highly nutritious, cleaner-than-organic, virtually flawless in appearance and delectable in taste
- Growing methods are vegan, non-GMO, pesticide-free, insecticide-free, fungicide-free, hormone-free, antibiotic-free
- Can grow multiple culture layers to mix and match crops according to demand
- HyCube is energy-efficient, does not discharge waste, and uses 90% less water than traditional farming
- Modular outer shell design/shape is customizable according to space and environment



USPs

1. The HyCube transforms how produce can be sourced by chefs and experienced by guests.
2. For Chefs: Its ideal environment provides accelerated grow cycles for a wide variety of lettuce, leafy greens, spinach, microgreens and herbs, 365 days a year. This flexibility will unleash chefs to create menus according to their creativity rather than seasonal availability.
3. For Hotels/Resorts: The HyCube's glass structure and VIP viewing room invites guests and visitors to get an up-close view of local, sustainable hydroponic production and feel more connected to the food they are consuming.
4. For Restaurants: Through its B2B chef service HyTaste, the HyCube can also supply produce to local restaurants within a few hours of picking, 365 days a year.
5. For Guests: Thanks to its precisely controlled, cleanroom technology, the HyCube™ produces nature's finest possible greens...non-GMO, highly nutritious, cleaner-than-organic, virtually flawless in appearance and delectable in taste.

Supporting Features/Benefits

1. Modular, vertical tower design provides unparalleled flexibility in crop planning. The HyCube can grow multiple culture layers.
2. The structure can be built right on-property to provide a variety of pristine edibles that may be plated immediately after picking.
3. Highly controlled microenvironment eliminates the need for insecticides, pesticides, or fungicides.
4. Crops are grown in a soil-free, contaminate-free, and pest-free environment with carefully selected nutrients, filtered air and filtered water.
5. Ability to mix and match crops to demand on short notice
6. High-yield, energy-efficient, and fully automated systems produce vegetables grown using organic methods at conventional market prices.
7. The HyCube 's glowing presence will transform your guests' experience by enabling them to be more connected to the food they are eating.

HyCube Structure

1. Illuminated, modern glass structure that's as beautiful as it is functional.
2. The sleek outer structure can be customized according to size, environment and preference.
3. HyCube structures are energy-efficient and use green materials.
4. Includes a viewing room where guests can learn and observe how their food is being grown, from seedling to fully grown plants.
5. The HyCube can be designed and built on a rooftop of a high-rise, in the middle of a mall, in a hotel atrium or resort patio, in an airport, offshore, in remote areas or in an urban square.
6. Contains a visually striking and space-efficient vertical tower system.
7. The HyCube at the Marriott houses more than 500 LED grow light modules. The lights are "raspberry" in color, providing an optimal light spectrum for accelerated growth.
8. The HyCube has 21 vertical growing towers with 4 levels of plants on each tower, with each level holding 180 plants.



Technology/Type of Hydroponic System

1. Precisely controlled, data-driven “cleanroom” technology can optimize conditions for each variety of vegetables grown.
2. Parameters are tightly set to accelerate crop cycles, and the air and water is purified and decontaminated using multiple levels of filtration.
3. The vertical tower hydroponic system fits the most amounts of plants per square foot.
4. Its watering channels are a hybrid between Nutrient film technique and ebb and flow. This means there is always a few centimeters of water available to the plants at all times. This means the water pumps run only half the time; reducing energy output.
5. A float system is used for baby green production. This system allows 1500 plants per sq ft with relatively low labor and maintenance costs.
6. A hydroponic fodder system is used to grow microgreens and sprouts in troughs. Each of these 3 systems is specific to the crops that will be grown in them.
7. Our growing methods do not require any pesticides, insecticides, fungicides, hormones, or antibiotics. We are using organic nutrients and organic growing methods. We do not use GMOs.
8. In-demand crops and varieties are not limited to a specific season or region, as long as the temperature, humidity, light and nutrient requirements for that crop are met.

Energy Efficiency/Recycling

1. HyCube hydroponics provides an increased opportunity for food production to become cleaner, more sustainable and environmentally conscious.
2. The vertical tower system is the most efficient use of space, fitting the most amount of plants per square foot.
3. Water is recycled in recirculating hydroponic systems. Recirculating systems are much more efficient and the only water lost is due to transpiration by the plant. This allows for much less water to be wasted than in the field.
4. Traditional field grown crops require on average 5x to 8x (and some up to 20x) more water than recirculating systems like ECG's. For instance, a fully-grown head of lettuce in a recirculating hydroponic system uses approximately 2 gallons of water in its lifetime. Compare to traditional lettuce farming, which uses about 12 gallons of water per fully-grown head of lettuce.
5. The Philips GreenPower LED “raspberry color” lighting are optimized for accelerated plant production, providing only the red and blue spectrums that the plants need. This conserves energy and limits heat output.
6. Harvest trays are easy-to-clean hard plastic; they can be reused after each harvest rather than tossing hundreds of cardboard boxes every week.
7. Currently the grow media--the plugs or cubes that provide support for the plant roots and keep them moist--are the only materials that are thrown away, because by harvest time, plant roots are densely embedded into the media. ECG is the process of adopting biodegradable, compostable materials such as coco coir to use for future grow media.
8. The HyCube processes do not discharge waste.



Growing Process/Cycle

1. **Grow Process:** The plants are seeded into trays of about 200 plants per tray. These trays are placed in what is called the “germination station” which are large tables stacked 4 high that flood twice daily to keep the trays moist while the seeds germinate. After 2 weeks (sometimes 3 depending on the product), the baby plants are spaced out into the towers. Each level of the tower holds 180 plants. The best 180 of 200 seeded plants are used to ensure a good crop harvest about 3-4 weeks later.
2. **Grow Cycle:** 1 week to procure seeds, 2 weeks for germination, 3-4 weeks maturing cycle depending on the type of crop and variety; in the case of microgreens, the process is much more compressed: 1 week to procure seeds, 2 weeks grow cycle.
3. **Accelerated Growth:** Growing cycle is lessened considerably. For instance a lettuce crop that may take 55 days to mature in field may only take 42 days or less in a controlled hydroponic environment. Similarly, a lettuce crop that takes 35 days to mature in the field takes 28 days or less in a controlled environment like the HyCube.
4. **Precise Control:** The plant growing cycles can be precisely modulated; ie increase vegetative growth, quicken flowering, extend fruiting time, etc.
5. Many plants grow better this way because each stage of the plant growth cycle can be closely monitored and the plant can be given exactly what it needs when it needs it.

HyCube Produce

1. **Lettuce**
Oak Leaf, Red Romaine, Bibb, Magenta Crisp, Romaine, Lollo Green, Lollo Red, Salanova, Endive, Green Leaf, Red Leaf, Green Crisp, Butterhead
2. **Leafy Greens**
Kale, Red Kale, Black Kale, Dandelion, Rapini, Swiss Chard, Spinach, Collard, Red Mustard, Rainbow Chard, Orach, Kalette
3. **Herbs**
Basil, Curly Parsley, Italian Parsley, Dill, Cilantro, Mint Watercress, Sage, Thyme, Oregano, Lemon Basil, Tarragon, Chervil, Thai Basil, Chives
4. **Microgreens, Edible Flowers, Sprouts**
Mung, Rapa, Arugula, Amaranth, Mustard, Brussel Sprouts, Radish, Marigold, Pansy, Viola, Wheatgrass, Alfalfa, Beans
5. **Vegetables***
Roma Tomato, Cherry Tomato, Heirloom Tomato, Cluster Tomato, Lunchbox Pepper, Chili Pepper, Bell Pepper, Yellow Squash, Squash, Zucchini, Slicer Cucumber, Beit Alpha Cucumber, English Cucumber
6. **Fruit***
Strawberry, White Strawberry, Black Strawberry, Heirloom Strawberry, Blackberry, Cantaloupe, Honeydew, Bonsai Melon, Galia Melon, Yellow Honeydew, Pepino Dulce

**Vegetables and Fruit are grown at ECG's off-site hydroponic farm.*



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Quality of Produce

1. Each plant grown in our precisely-controlled facilities receives just the right amount of nutrients, filtered water, light, and humidity to achieve its dense, crisp, near-perfect state.
2. Produce is crispier, fresher, more flavorful and colorful than store-bought produce
3. Grow parameters are precisely controlled to impact the nutritional value of the plants. ECG is running several R&D projects with University of Florida IFAS researchers, and one of the projects shows that we can increase the contents of antioxidants in lettuce leaves by modifying the spectrum of the grow lights at certain times during the grow cycle.
4. Because produce is grown on site, it will arrive on a guest's plate much quicker, thus holding onto more nutrients and flavor than a crop that's been harvested a week or more in advance.
5. The produce is cleaner and safer than organic, and is free of pesticides or insecticides

Organic vs. Hydroponic

1. Hydroponics is a way of growing produce using nutrients injected directly into the water versus using traditional soil-based fertilizers.
2. Many people find hydroponics to be better than organic from the point of view of produce safety. There have been lately quite a few organic produce recalls due to contamination, so organic does not necessarily mean safe.
3. The US organics program has been rocked by some high-profile scandals, from fraudulent imports to suspect dairy feedlots. Organic sales topped \$47 billion in 2016, according to the Organic Trade Association, representing 5% of all U.S. food sales. This growth has not been driven by idyllic family farms...increasingly, the organic market is dominated by industrial brands that look little different from their conventional counterparts.
4. 100% organic certified is an audit you must pass ensuring all your pesticides and soil additives are organic. However, organic farmers often use significantly more pesticides than traditional farming. And although the pesticides might be slightly less harmful to humans, they are still something we do not want in our food.
5. ECG's position is that hydroponics is consistent with the goals of the organic program: It can utilize organic fertilizers as well as conventional ones, it cuts down on water use, vertical hydroponics helps preserve valuable land that otherwise would have been used for farming, and ECG does not use any harmful pesticides or insecticides.

About ECG

Eco Convergence Group, Inc. (ECG) is a fully owned subsidiary of Eco Convergence Group AS of Oslo, Norway and its United States headquarters is located in Orlando, Florida. ECG has developed the HyCube™, a patent-pending, data-driven, high-tech vertical hydroponic system that combines semiconductor industry-inspired environment control techniques with plant science to create perfect growing conditions resulting in produce with superior nutritional value, crispiness, consistency, and vibrancy. In HyCube's highly controlled environment, produce coming from organic, non-GMO seeds grows contamination-free without the use of harmful pesticides, insecticides or fungicides. By eliminating outside climate factors this scientific approach results in high-yields and



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grow cycle reduction, without any seasonal restrictions on the offered product. HyCubes have a visually striking, modular, and extensible design using advanced energy efficient construction approaches. They are deployed on or near customer premises for near zero food-miles and minimum storage requirements, such that HyCube-grown produce can be plated within hours of harvesting. ECG is currently working on a rollout of its HyCubes in the hospitality and food services industries in the United States and abroad. For more information visit www.ecghydro.com.

ECG Background

In 2008-2009, the founders of what would become Eco Convergence Group consulted for a sustainable city project which aimed at converting a conventional city-planning project into a fully sustainable eco-city on the model of Masdar City in the UAE. Local sustainable food production was one of the requirements of the project, and the ECG founders proposed a vertical hydroponic solution to meet these requirements. At that time, the first concepts of vertical farming in urban areas were proposed in the academic world by researchers such as Dickson Despommier of Columbia University. Using their background from the semiconductor and biomedical industries, ECG's founders started working out the details of implementing the urban vertical farming concept by using hydroponics in controlled environments (i.e. clean rooms), and realized that this approach was feasible. When the eco-city project collapsed due to a legal dispute between the developers, the founders created ECG and spent another 5 years perfecting their vertical hydroponics technology to the point where it became commercially viable.

Hydro Farm Partnership

1. In 2017 ECG created a joint venture with an existing outdoor hydroponic farm named Brook Hollow Hydro Farm (BHHF); the partnership has taken over 1 acre of Brook Hollow's land and has installed a number of hydroponic greenhouses in order to grow produce for Marriott and other customers in the area.
2. The on-property HyCube is a high-tech controlled environment growing smaller produce such as leafy greens and edible flowers in a vertically stacked hydroponic system, whereas BHHF grows produce in hydroponic greenhouses.
3. BHHF grows produce that is too large, bushy, or vine-like for the vertically stacked system in the HyCube, e.g. tomatoes, bushy herbs, or herbs that are very slow growers such as thyme, oregano, etc.

Marriott Partnership

1. The HyCube at the Orlando World Center Marriott (OWCM) is growing lettuce, baby greens, microgreens, herbs, and edible flowers in a 2,000 square foot HyCube grown room.
2. The HyCube houses more than 500 GreenPower LED production modules as well as 14 top lights, supplied by Philips Lighting. It also has 21 vertical growing towers with 4 levels of plants on each tower, with each level holding 180 plants.
3. ECG's local partner, Brook Hollow Hydro Farm, is growing tomatoes, berries, and other fruit for Orlando World Center Marriott.
4. OWCM's new restaurant Latitude & Longitude, headed up by Executive Chef Eric Martinez, will be the recipient of the HyCube and Brook Hollow hydroponic produce.
5. Chef Eric Martinez quote: "It's our resort's biggest restaurant, and we wanted something that has the feel of farm to table. Consumers are more likely to buy locally grown produce that is sustainably grown."



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6. Besides the advantage of same day harvest and delivery, HyCube can supply exactly the amount of food the restaurant needs in peak periods because they can precisely steer the yield.
7. A demo germination station is included in the hydroponic garden at the Marriott so guests can experience all stages of plant growth and fully appreciate where the food they eat is coming from.
8. ECG will have horticulturists on site to care for and harvest the HyCube produce.

Philips Lighting Partnership

1. Philips Lighting supported ECG with the lighting strategy, using more than 500 GreenPower LED production modules as well as 14 top lights in the Marriott's HyCube.
2. Philips conducted trials with ECG for 4 years to work on plant growth recipes for city farms
3. ECG/Philips lighting strategy was implemented to grow high-quality produce year-round
4. This is Philips and ECG's first joint commercial project
5. About Philips Lighting: Philips Lighting (Euronext: LIGHT), the world leader in lighting products, systems and services, delivers innovations that unlock business value, providing rich user experiences that help improve lives. Serving professional and consumer markets, we lead the industry in leveraging the Internet of Things to transform homes, buildings and urban spaces. With 2017 sales of EUR 7.0 billion, we have approximately 32,000 employees in over 70 countries. News from Philips Lighting is located at the Newsroom, Twitter and LinkedIn. Information for investors can be found on the Investor Relations page.

HyTaste Chef Service

HyTaste is ECG's new wholesale produce supply service that delivers exclusively to chefs within the local area of urban-based ECG hydroponic farms, so nature's finest possible produce can be enjoyed by guests within hours of picking. Crops may be planned according to current needs or demand. This kind of access unleashes chefs to create menus fueled by their creativity rather than seasonal availability.

- Grown locally
- Safer than organic
- Non-GMO
- Contaminant-free
- Nutrient-rich
- Sustainable
- Available year-round
- Flexible crops
- Denser, crisper, fresher
- Delectable in taste
- Competitive pricing

For more information on HyTaste and ordering, visit www.hytastechef.com



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Reframe Consumer Product Line

ECG is launching a new consumer line of wellness products called Reframe that will be sold exclusively in select resorts and hotels. The product line's name refers to "reframing" consumer expectations of products for the body, that what goes on and in the body should benefit health using only natural, clean ingredients. Reframe's innovative products are carefully formulated with only hand-selected, certified organic and post-organic ingredients, powerful herbs, naturally fermented cultures, and quality essential oils, with no artificial ingredients, GMOs, chemicals, pesticides, fillers or anything questionable.

Reframe Products include:

1. Reframe Fizz
 - a. Product name: Reframe Fizz/Probiotic Refreshers
 - b. Product descriptor: Naturally fizzy beverages with natural flavors and fresh herbs fermented with probiotic cultures.
2. Reframe Travel
 - a. Product name: Reframe Travel/Herbs on the Go
 - b. Product descriptor: Travel-sized herbal blend drops for immune system support, stomach issues, cold/flu etc. while travelling.
3. Reframe Beauty
 - a. Product name: Reframe Beauty
 - b. Product descriptor: Innovative skincare products including scrubs, creams and polishes that are carefully formulated with only the highest quality, natural ingredients. 100% clean from vine to jar.

Future Reframe products:

1. HyCube extracts for resort spas
2. Filtered water from the HyCube system

Reframe products will only be available on a wholesale basis to select hotel and resort retailers. For more information contact Cristian Toma, CEO of Eco Convergence Group at info@ecghydro.com or call 407.574.8204.