

VERTICAL FARMS

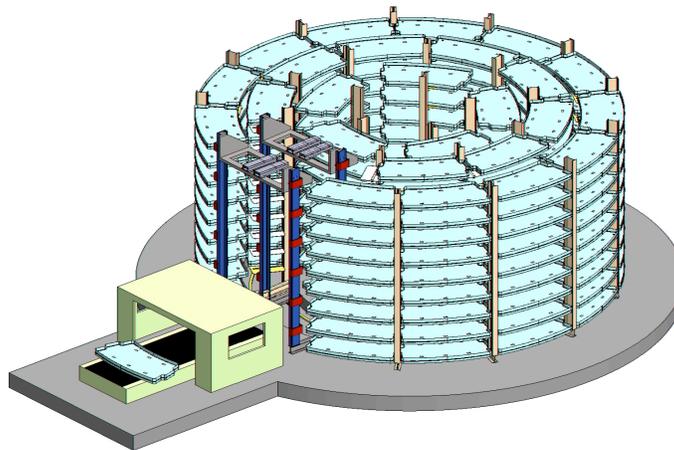
Brought to You by Chamber of Eco Commerce



Urban Farm Ventures says “The Next is Vertical Farms”

Urban Farm really works! It is not just a vision but a reality, says Urban Farm Ventures team of experts. New solutions are being delivered to renew the Urban Fresh Food Supply. Growing crops in fully automated controlled environment vertical farms can be an efficient way to produce, store, and distribute fresh food to consumers.

When you have limited space, the solution is to build up (i.e. vertically). New Automated Circumference building solutions make it possible to combine farming, warehousing, and distribution efficiently into urban environments with limited space such as New York City, Shanghai, Dubai, Hong Kong, or London.



Urbanization and the world's population is expected to increase to over 9 billion by 2050, around 70% of the world's population will be living in urban areas, and over 30% of world's population will achieve same standard of living as Europeans and Americans have today. Feeding urbanites will mean an increased demand for fresh food in densely populated cities. A combination of higher crop yields and an expansion of the area under cultivation in urban areas will help meet fast growing demand for fresh foods. So why not create more agricultural land by building upwards? It truly makes sense, to move farms closer to where people are living while space is optimized.

The solution is Urban Farm Ventures' Automated Circumference Farm (ACF); a fully automated vertical farm building (patented) with controlled environment, an even crop distribution, rapid growth to harvest cycles, and high-quality food. The design fills buildings with floor upon floor of fields and orchards, producing crops year-round. Growing plants indoors in a controlled environment improves output both in speed and yield. ACF will also reduce cool chain shipping costs; putting breaks on inefficient refrigerated trucks, and reducing

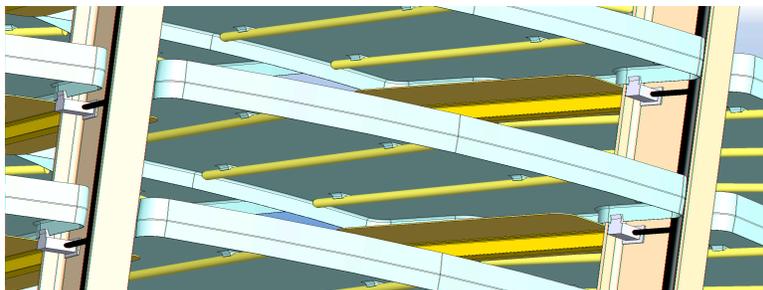
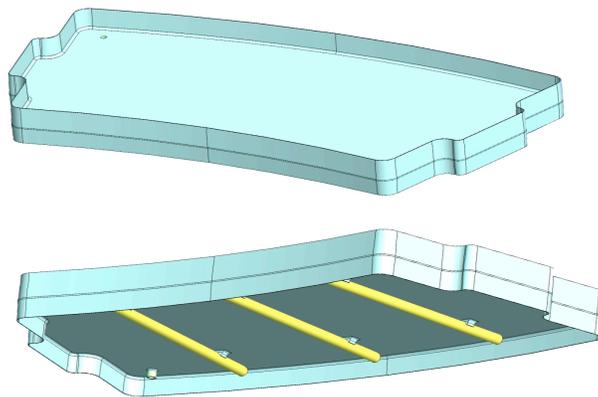
VERTICAL FARMS

Brought to You by Chamber of Eco Commerce

spoilage and emissions associated with moving fresh food over long distances. In addition, compared with conventional farming, the use of pesticides, herbicides and fungicides can be kept to a bare minimum by growing plants indoors. The soil erosion will not be an issue because the food will be grown hydroponically, in a solution of minerals dissolved in water. With artificial lighting the result will improve crop distribution, as plants are exposed to SMART-controlled energy. With no agricultural run-off and recycling, ACF techniques will enhance efficiencies with regards to energy, water, nutrients, and environmental impact. ACF has proven advantages particularly in urban areas when compared with conventional farming, greenhouses, and urban fresh food supply chain.

Let There Be Artificial Light and RET

Artificial lighting is needed to enable vertical farming. In the past, inefficient greenhouse design and the cost of powering artificial lights has made indoor farming prohibitively expensive. The new ACF solution will utilize solar-powered LED lights, and save energy and cut emissions by using available proven Renewable Energy Technologies (RET).



Energy systems such as solar panels, wind turbines, and waste to energy, are combined with the ACFs to achieve food production with near-zero net carbon emissions. The details of the ACF technology, developed by Urban Farm Ventures, is to use vertically stacked hydroponic trays that move on rails, to ensure that all plants grow in a controlled environment, including even amount of artificial light. The ACF uses multiple layers of stacked LED-lighted trays that operate within a multi-store fully automated vertical greenhouse, where artificial light enters from above. Each floor and all plants receive an equal amount of light and water. These vertically integrated new greenhouses, involve the integration of fully automated circumference building into vertical farm, warehouse, storage, and distribution center, with homes, offices, restaurants, schools, hospitals etc. Plants are growing in buildings, sandwiched between layers and rotating on a conveyor. Growing crops in ACFs also solves the controlled environment and light problem for agriculture, acting as an all inclusive greenhouse-supermarket, but the area available is much smaller and transportation between fresh food production and point of sales will be optimized.

VERTICAL FARMS

Brought to You by Chamber of Eco Commerce



First Application (FA) and Market Replication (MR) Projects

Urban Farm Ventures' FA and MR partner projects will deploy new ACF buildings to grow food in the heart of cities with minimal resource-consumption and maximum resource-efficiency, using less resources and growing crops faster than comparable field farms without agricultural run-off. Operating 24/7, the vertical farm can grow more food than could have been produced by a field of the same size.

The immediate opportunity is to take advantage of the very limited space available on urban areas, and to pursue fully automated vertical farming, rather than fancy glass farm skyscrapers or greenhouses. UFV's international team of experts, is working with investors and real-estate developers, to enable technology transfer that will accelerate construction of the world's first commercial ACFs. The farms produce fresh food efficiently and provide healthy profits to investors through fresh food sales to fast growing group of urbanities across densely populated cities worldwide.

Vertical farming is a significant step in the right direction of solving real world problems of growth, sustainability, quality of life, and basic needs for the global population. The local UFV will design and build Vertical Farms with investors and real-estate developers, and a local "operator or urban farmer" will run these farms. The farmer can lease or buy a vertical farm building from Urban Farm Ventures to grow food and supply local food vendors and operators with high quality and competitively priced fresh foods under UFV brand name.

ACFs are designed to compete with other fresh food suppliers in a global market. Urbanites are committed to buy local food and many are even prepared to pay more for more safe, fresh, and local food, according to a study by Deloitte in 2010. ACFs are more efficient, and less glamorous, than the grand vision of green towers made of glass. But, ACF's more down-to-earth approach is much more realistic than the fancy glass greenhouse skyscrapers.

Urban Renewal for Fresh Supply Chain

http://www.chamberofecocommerce.com/images/PR_July_1_2012.pdf

CEC to Train Entrepreneurs, Companies, Trade Industry Groups, Regulatory Agencies

http://www.chamberofecocommerce.com/images/PR_6_June_2012.pdf

First Application (FA) and Market Replication (MR) Projects

<http://www.chamberofecocommerce.com/partnerprojects/famr.html>

www.UrbanFarmVentures.com

Contact your local CEC Chapter or Eco Commerce Exchange (ECE) of Atlanta for information