

House Agriculture Committee

Full Committee Hearing

Hearing Title: 21st Century Food Systems: Controlled Environment Agriculture's Role in Protecting Domestic Food Supply Chains and Infrastructure

Witness: Edward Verbakel, CEO, VB Greenhouses & Co-Founder Atrium Agri Group

Good morning to you all, and thank you for having me. My name is Edward Verbakel and I am CEO of VB Greenhouse Projects out of The Netherlands, and I am also one of the founders of the Atrium Agri Group, which is a multi-scope Infrastructure as a Service (IaaS) provider, of Controlled Environment Agriculture (CEA) developments. The group is comprised of some of the leading companies in the CEA services space. Regrettably I cannot attend in-person today, but thanks to technology, I can still participate in this historic moment. I refer to this convening as historic, because with almost 30 years of experience designing and building CEA facilities in countries all around the world, this is the first time I have witnessed government and private sectors coming together in a proactive manner to coordinate efforts to develop this type of infrastructure. My father was one of the very first from our country to realize Dutch greenhouse technology right here in the USA, since 1971 on Long Island NY. For me it is an honor to provide you with relevant information. For this I commend you all. What is more common, is state-driven projects in countries much like my own where necessity demanded a solution, and in other instances where farmers looking to innovate, became early adopters because of the contrasting benefits to their conventional practices. In either scenario, what is constant is the role my firm and those like us have, and continue to play in providing the development and construction expertise for all types of projects in all climatic conditions. We can provide the best climate for growth.

I have had the good fortune to see first hand the impact of this type of modern agriculture on countries and their economies. As we now find ourselves, a planet acutely focused on resource management and climate adaptation, I am certain that what I will share with you today will resonate and that the initiative taken thus far to advance this very important conversation, will culminate in your collective understanding and impetus to act to enable all participants in the fresh produce supply chain to work cooperatively to deliver a 21st Century Food System capable of meeting the demands of today, and tomorrow. I would be remiss not to speak to the skeptics towards the CEA segment, and say that the facts speak for themselves in all areas of consideration, namely Viability, Productivity and Sustainability.

1. Viability - the idea that CEA is a nascent industry segment is inaccurate. Producers all over the world have for many years (dating back to the 1970's) utilized varying levels of greenhouse structures to protect and deliver high-risk crops and delicate horticultural products. As with all industries, technology has enabled innovation and growth in all areas of greenhouse production. Additionally, the true benefit has come from the collective growth in widely varying geographies that have allowed for deeper understanding of the environment(s) and how to adapt structures and even products to optimize across all processes.

2. Productivity - when compared with other forms of conventional agriculture, what you will see is clear outperformance in all areas by CEA. These areas include, energy saving, water consumption, crop loss and yield per meter (or Square Foot, which is your unit of measure). And this is before taking into account the removal of seasonality which limits traditional production cycles annually.

3. Sustainability - in this area, I like to start with the least acknowledged fact about greenhouses, which is that they are in fact reusable structures, and thus allow for transferability, and an elongated useful life. Very few industries can claim circularity of raw materials at such scale. If we then look at resource utilization, the highlight for many reasons is water use, which on average can be upwards of 50 - 60 percent less than conventional agriculture practices. Another key consideration is the use of renewable energy which then allows for even greater carbon offsets in relation to the use of artificial light.

I would like focus your attention to what I believe to be a key component of this conversation, which is the fact that CEA as a sector largely exists, and has grown exponentially over the past two decades in response to adversity related to agricultural production, and the necessity to develop new ways of meeting the demands of food systems supporting a global population that is already twice what it was at the dawn of the industrial revolution, and growing, fast.

We have entered into a new era of food production driven by developments in technology. This is particularly true in CEA. Whether be the engineering and introduction of new materials or the advances in climate management, crop monitoring or energy production, each have played a key role in making CEA production more accessible to supply chains and ultimately the consumers who they serve.

Levels of automation of operating processes have also risen greatly in some production types such as lettuce, where in many instances there is little to no human interaction with the actual product, ensuring even greater levels of food safety than ever before. This is of particular relevance to the broader fresh produce supply chain that is most susceptible to risks than other areas.

More so, it has become clear that the countries with the largest economies have or are fully embracing CEA as a core delivery mechanism to support their food systems.

Those of us that have been around long enough, like to think of this industry as currently coming of age. Seeing new entrants to the market on multiple fronts, is exciting and at the same time sobering, because it is clear that there is still a long way to go, and in reality, which you will hear or have heard from my colleagues, there is a lot that is still missing, which inevitably limits the true potential of this type of infrastructure. One such area is that of capital. There is no escaping the significant capital expenditure necessary to develop CEA facilities, but this is in fact true of all infrastructure. As stated earlier, the value of CEA is realized at scale and subsequently where projects have experienced the greatest success is where the capital has been made

available to not only build facilities, but build them with the focus on integrity and sustainability. No industry is devoid of a spectrum of costs, and what is germane to all is that the long (or intermediate) term benefits often outweigh the short term costs when properly evaluated. These costs are not merely hard costs for the physical infrastructure, but both hard and soft costs of the supporting infrastructure, be it digital or human.

In closing, I would offer to this committee one last attestation, which is that the factors driving the growth of Controlled Environment Agriculture have been consistent and the global outlook for future development is higher than it has ever been. Thank you again for the opportunity today.

**Committee on Agriculture
U.S. House of Representatives
Information Required From Nongovernmental Witnesses**

House rules require nongovernmental witnesses to provide their resume or biographical sketch prior to testifying. If you do not have a resume or biographical sketch available, please complete this form.

1. Name:

Edward Verbakel

2. Organization you represent:

Atrium AgriGroup
VB Greenhouse Projects Netherlands

3. Please list any occupational, employment, or work-related experience you have which add to your qualification to provide testimony before the Committee:

30 years of experience in designing and building CEA facilities around the world

4. Please list any special training, education, or professional experience you have which add to your qualifications to provide testimony before the Committee:

See above.

5. If you are appearing on behalf of an organization, please list the capacity in which you are representing that organization, including any offices or elected positions you hold:

Co-Founder of Atrium AgriGroup
CEO of VB Greenhouse Projects Netherlands

**PLEASE ATTACH THIS FORM OR YOUR BIOGRAPHY TO EACH COPY OF
TESTIMONY.**

Truth in Testimony Disclosure Form

In accordance with Rule XI, clause 2(g)(5)* of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

Committee: Agriculture

Subcommittee: _____

Hearing Date: 07/29/2021

Hearing Title :

"21st Century Food Systems: Controlled Environment Agriculture's Role in Protecting Domestic Food Supply Chains and Infrastructure"

Witness Name: Edward Verbakel

Position/Title: Co-Founder of Atrium AgriGroup, CEO of VB Greenhouse Projects Netherlands

Witness Type: Governmental Non-governmental

Are you representing yourself or an organization? Self Organization

If you are representing an organization, please list what entity or entities you are representing:

Atrium AgriGroup
VB Greenhouse Projects Netherlands

FOR WITNESSES APPEARING IN A NON-GOVERNMENTAL CAPACITY

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

Are you a fiduciary—including, but not limited to, a director, officer, advisor, or resident agent—of any organization or entity that has an interest in the subject matter of the hearing? If so, please list the name of the organization(s) or entities.

Atrium AgriGroup
VB Greenhouse Projects Netherlands

Please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the source and amount of each grant or contract.

None

Please list any contracts, grants, or payments originating with a foreign government and related to the hearing's subject that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the amount and country of origin of each contract or payment.

None

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

- I have attached a written statement of proposed testimony.
- I have attached my curriculum vitae or biography.

* Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:

(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a non-governmental capacity, a written statement of proposed testimony shall include— (i) a curriculum vitae; (ii) a disclosure of any Federal grants or contracts, or contracts, grants, or payments originating with a foreign government, received during the past 36 months by the witness or by an entity represented by the witness and related to the subject matter of the hearing; and (iii) a disclosure of whether the witness is a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B)(iii) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form 24 hours before the witness appears to the extent practicable, but not later than one day after the witness appears.