RESTORING BIODIVERSITY

Who does not enjoy a colourful and green environment? Not only people, but also bees! Biodiversity conservation is greatly needed as ecosystems around the globe are under increasing pressure. With its products, management of nature, biodiverse planting, and increasing biodiversity within CEA, growers want to help Europe's biodiversity on its path to recovery.

As major producer of flower and plants, CEA can be a driving force in growing more food for native pollinators. Planting more flowers and plants in Europe provides supplemental nutrition for pollinators, cools our cities, and prevents flooding by keeping the soil fertile, reversing biodiversity loses and mitigating climate change. By growing the right species, including ones listed on the European Red List, flowers and plants can attract pollinators and natural predators that contribute to controlling pests in CEA, pollinating flowers and plants, and restoring biodiversity. To live up to its full green potential, CEA asks for:

- *A revision of the **New Deal for Pollinators** shall stimulate research into which species lead to increased biodiversity outside the CEA facility and can control pest pressure indoors as well by not unintentionally attracting harmful pest or diseases. Likewise, the New Deal shall provide recommendations to (bee-friendly) green and revert biodiversity losses in (sub) urban ecosystems through integrating European flowers and plants.*
- ***Responsibly produced peat (RPP)** shall be recognised as sustainable practice in EU law, like the Soil Monitoring Law and Sustainable Taxonomy. Complying with EU biodiversity objectives whereas not generating new CO_2 emissions, demands more peat-based growing media to meet the growing demand for fruit, vegetables, flowers, and plants in Europe by 2040.*
- *Updates of the **list of Invasive Alien Species** shall take a regional rather than a Union approach and assess per climate zone whether a species classifies as invasive.*

CLEAN WATER

Clean water is the driving force of life. It is an essential resource for people, nature, and climate. It is equally crucial for sustainable horticulture. In preventing and mitigating water scarcity, growers are storing rainwater and reuse it as much as possible. Through smartly storing rainwater, we help communities prevent flooding caused by heavy rainfall. Reusing water prevents PPPs and nutrients from ending up in the environment. Net-zero emission of nutrients and PPPs from CEA thus averts deterioration of water quality regionally.

In 2030, the emissions of PPPs and nutrients from CEA will be reduced to such an extent that there are virtually no emissions. In principle, we use very little water per harvested product compared to conventional farming. And by applying innovative techniques for air treatment, we can recover even more water, making CEA extremely efficient in its water use. Nonetheless, quality and quantity of water remains vital for resilient plants:

- *Urban wastewater is one of the main sources of water pollution if it is not collected and treated properly. The targets in the **Urban Wastewater Treatment Directive** shall therefore not be lowered and its implementation shall not be delayed. CEA has proven that wastewater can effectively be collected, treated, discharged, or reused. Collaboration between water authorities and CEA in waste-water treatment and accelerating procedures for end-of-waste could reduce costs for citizens and foster circularity in Europe.*
- *The **Water Framework Directive** shall retain the ability to extract and desalinate groundwater in case of water scarcity. Good irrigation water is essential for maximum reuse of water in CEA.*
- *In addition to deriving nitrogen fertilisers from animal manure (RENURE), a **Fertiliser Strategy** shall stimulate retrieving nutrients from plant material to boost circularity, increasing European sovereignty and limiting costly external inputs.*

INCLUSIVE EMPLOYMENT

Employees are our most precious asset and indispensable for a resilient sector. CEA wants to be a good and attractive employer of great economic value at EU level and a sector in which employees and employers contribute to a greener society and EU food sovereignty.

The sector is therefore working continuously on a social policy at every CEA facility. Employees are offered a wide variety of career and development opportunities in a social, sustainable, and inclusive working environment. This implies opportunities for all, social inclusion, job creation, life-long learning, and training policies. As well as improving real incomes with fair primary, secondary, and tertiary working conditions. Where employers shall provide quality of jobs and employment, the EU shall commit to a level playing field:

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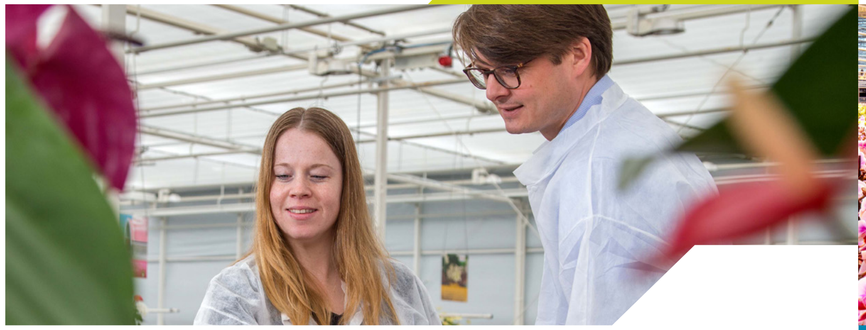

- *A review of the **Directive on Adequate Minimum Wages** shall establish a fair and uniform minimum wage, arranging predictable wages for employees. This also ensures a level playing field for employers at EU level, so that they do not compete on the terms and conditions of employment to the detriment of (migrant) workers. A European minimum wage is consequently beneficial for both (vulnerable) employees and employers.*
- *The **European Employment Strategy (EES)** shall be updated. Uniform guidelines shall be proposed to Member States to foster equal working conditions for all, promote sustainable and inclusive growth and job creation (including actively securing sufficient migrant workers especially for seasonal labour), end pricing of temporary labour relationships, offer life-long education and training matching horticultural labour market opportunities, and set a European housing target for migrant workers.*

A COMPETITIVE SECTOR

CEA is basically the urban farm of Europe. Growers deliver daily fruit, vegetables, flowers, and plants in an efficient and sustainable way. Herewith, CEA forms the breeding ground for high-tech innovations, which also create solutions for major global challenges like climate change mitigation and the energy transition.

A collective effort between the EU, Member States, and sector is required to continue to adapt to new realities, take account of a changing geopolitical environment, technological development, the green digital transition, and the need to boost our long-term competitiveness and productivity through:

- *A **Digital Agriculture Strategy** supports the deployment of digital solutions for the agricultural sector. Digitisation plays a key role in CEA. With the scarcity of labour and knowledge, the need for digital support in growing is growing. A digital strategy promotes the benefits of digitisation and assists growers and employees with training, resources, and incentives to adopt new technologies while retaining data ownership.*
- *Simply reporting progress made in corporate social responsibility is key in a successful adoption of the **Corporate Sustainability Reporting Directive (CSRD)** and the anticipated **Corporate Sustainability Due Diligence Directive (CSDDD)**. Any sector-specific standards for agriculture in delegated acts shall ensure a level playing field in the EU. Moreover, they shall reduce the administrative burden for growers in scope 3 to the maximum extent via digitisation and avoiding duplication of data already collected for existing public and private initiatives.*

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Controlled environment agriculture

AMBITION

Happier and healthier together. That is our vision for the future of Europe. Europe's growing and aging population does not just need tasty products in order to be fed, but also fresh and green products that improve our public health and well-being. As a leading supplier of flavourful soft fruit and vegetables and fascinating flowers and plants on the European market, controlled environment agriculture (CEA) could contribute to EU food sovereignty and fostering public health of millions of European citizens in the most sustainable manner.

Fruit and vegetables are not just delicious but also healthy. These appetising little packages contain macro and micro-nutrients necessary to start your day well and to function optimally all day long. Good nutrition is also closely related to public health. Yet, most Europeans consume too little fruit and vegetables. If we all would eat a bit healthier and therefore become slightly healthier, it would relieve pressure on healthcare as well. Hence, through growing wholesome food, CEA wants to make European citizens more aware of the benefits fruit and vegetables can deliver for everyone's health and welfare. A message that is never too young to instil.

Flowers and plants too have a positive effect on people's well-being by enhancing the celebration of life's important moments and social connectivity. Colourful flowers boost happiness by decorating our world, increase people's quality of life, and encourage social behaviour. Meanwhile, plants green and cool our cities and communities, ameliorate air quality, and reduce stress. It has been proven that a green living environment and green interiors contribute to mental health, making us feel creative and more productive. Meaning, future Europe needs more flowers and plants!

Aiming at climate-neutrality by 2040 and net-zero emissions of plant protection products (PPPs) and nutrients by 2030, CEA is committed to making a substantial contribution to feeding, greening, and healing Europe.

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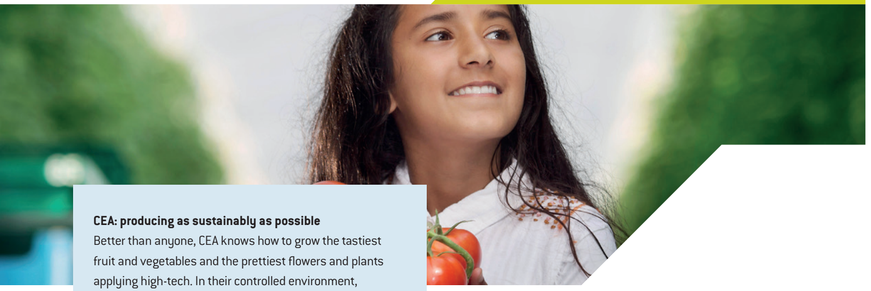


CEA: producing as sustainably as possible
Better than anyone, CEA knows how to grow the tastiest fruit and vegetables and the prettiest flowers and plants applying high-tech. In their controlled environment, growers are able to create the most optimal climate for their crops regardless of the weather and its environment out there. By giving plants just the necessary amount of light, water, and temperature, they can harvest more fruit, vegetables, plants, or flowers than they would if these crops were grown outdoors.

This allows us to generate more yields on a relatively small area using a minimal amount of nutrients, PPPs, and water. For example, our production per square metre is five times higher than that of conventional farming while having a much lower impact on the environment as we **aim at net-zero emissions** of greenhouse gas emissions, PPPs, and nutrients. Taking such an intensive production approach to cultivation in CEA, we spare land across Europe for other things like **nature and biodiversity restoration.**

This type of sustainable horticulture will become **fully circular** in the coming decades. Having the lowest environmental impact possible – by **reusing primary raw materials** in the EU economy across sectors to the maximum extent (e.g., nutrients or bio-based materials) and minimising the use of new raw materials – reduces pressure on natural resources and paves the way for a healthier and cleaner Europe.

Moreover, CEA supports **food waste prevention** by shielding crops from weather elements like the cold, hail, rain, and water evoking yield losses. In a changing European climate, it will become more and more challenging to grow in open fields. In the future, CEA therewith could reduce food losses in Europe, saving nutritious food for those in need and mitigating climate change.

HEALTHY FOOD FOR ALL

The illegal invasion of Russia in Ukraine has posed a serious threat to global food security with the most vulnerable countries and lower-income households being most at risk. With European growers still recovering from the COVID-19 pandemic and suffering from the ongoing climate crisis and the rising energy prices, food security and resilience of the European food system finally has been put on the agenda. Access to healthy nutrition should never be endangered and may under no circumstances ever be used as a geopolitical weapon.

Ensuring food security and steady prices for inputs will drive down consumer food prices, stabilise global agricultural markets, and safeguard the most vulnerable in society. Food sovereignty should therefore be a top priority for the Union:

- *A **Common Food Policy** shall endorse EU strategic food autonomy by ensuring healthy and affordable food, providing sustainable diets for all, strengthening the financial position of (young) farmers along the chain, protecting fertile agricultural land, investing in technology and skills, and maintaining critical logistics in Europe while protecting our precious environment.*
- *An **EU Protein Strategy** shall develop effective measures to increase European protein production to supply consumers with high plant-protein content food whilst reducing our dependence on import of protein-rich crops from third countries.*
- *A **Health Promotion and Disease Prevention Strategy** shall promote healthy nutrition for the benefit of public health via informed consumer decision-making, lowering taxes on fruit and vegetables, and providing for and prioritising healthy food in public spaces.*

SUSTAINABLE PLANT PROTECTION

Healthy plants that are less susceptible to pest and diseases form the basis of a robust and resilient EU horticulture. Reducing and optimising the use of chemical PPPs can both bring health, biodiversity, and social benefits, and offer economic gains for growers if sufficient effective green alternatives are available.

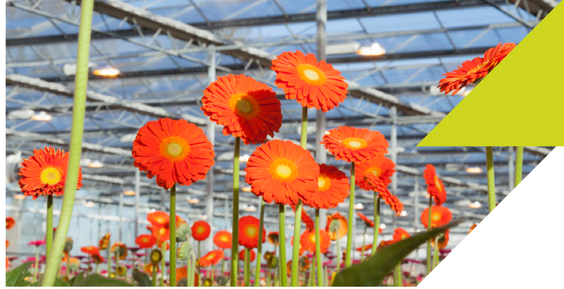
Growers are transitioning from conventional synthetic to greener plant protection and micro and macro-organisms (e.g., natural predators). The past 15 years, the environmental impact of CEA has already dropped by more than 90 per cent and 95 per cent of the CEA area is covered by natural predators to combat pests and diseases. Integrated Pest Management (IPM) has become the standard in CEA. Nevertheless, even in IPM, conventional PPPs remain needed to a limited extent to combat sudden outbreaks. There are many ways to improve the resilience of plants in Europe:

- *A **Plant Health Action Plan** shall facilitate the placing of effective low-risk and biological active substances, biocontrol, and precision techniques on the market. Accordingly, it shall reduce the length of authorisation processes in Member States, create a predictable and robust investment climate, and boost precision farming and the use of artificial intelligence (AI). Profitability of EU farming shall be granted by providing a reliable investment climate for PPP producers to seduce green alternatives to entering the EU market first and to maintain products for minor crops. Accessible and affordable alternatives form the basis for greening our cultivation. Conventional PPPs shall remain available in IPM if no effective alternatives exist.*
- *For improved pest-resistance, tolerance to climate change and environmental stress, and enhanced nutrient and water-use efficiency, a **Regulation on New Breeding Techniques** (NBTs) shall be adopted to provide opportunities to alter the genetic material of plants allowing the rapid development of resilient plant varieties.*
- *A **level playing field** shall be assured in the internal market due to tackling variations in national authorisation procedures for PPPs and harmonising methods among Member States.*

In 2030, fruit, vegetables, flowers, and plants in CEA will be grown with net-zero emissions of PPPs and nutrients to the environment nor residues on the products. Growers are already growing environmentally friendly since almost all water is reused and outputs are degraded in waste water treatment systems. That is how we will assure no PPPs or nutrients are released to the environment. Moreover, in such high-tech systems, it is possible to grow in a natural ecosystem in which diseases and pests are tackled as much as possible with natural predators or biologically.

A tailored approach in EU legislation is hence needed to further reduce the environmental impact of CEA. Rather than legally binding reduction targets and usage prohibitions, like in the Sustainable Use Regulation (SUR), measures to minimise emissions would support CEA better to become more sustainable. Reducing our impact calls for:

- *__Integral environmental indicators__ shall be developed to adequately assess the use and risk of PPPs applied in CEA on human health and the environment. Indicators monitoring the PPP usage per unit harvested product, application of biology and precision technology, and implementation of IPM form a better framework to measure reduction progress of CEA given its net-zero emissions to the environment.*
- *__Physical buffers and risk-mitigation techniques,__ including CEA, safeguard a negligible risk of the possibility of exposure of humans and the environment to PPPs, allowing their use in and near sensitive areas. Acknowledging this type of risk mitigation permits the expansion of innovative food systems, like urban farming, vertical farming, or CEA in densely populated areas.*
- *The **202? Common Agricultural Policy** (CAP) shall fund and promote the implementation of IPM, the use of alternatives to chemical pesticides, and other sustainable practices across all EU sectors regardless of their participation in the CAP.*



CLIMATE-NEUTRAL HORTICULTURE

Fruit, vegetables, flowers, and plants climate-neutrally grown through energy-efficiency and scaling-up renewable energy production, that is our ambition for 2040. Growers are eager to rapidly reduce their dependence on fossil fuels by fast forwarding the clean transition and joining forces to achieve a more resilient energy system in Europe.

To meet year-round demand for fruit, vegetables, flowers, and plants in Europe, CEA needs heat and light to establish optimal climate conditions for the plants to grow every day of the year. Access to renewable, non-fossil, and affordable power supply is a key enabler in the decarbonisation of CEA.

Reducing our energy consumption through LED lightening and insulation, and replacing fossils with residual heat from local industry, geothermal heat, green electricity, heat pumps, hydrogen, and biomass could accelerate the transition towards climate-neutrality in 2040. To swiftly adopt such innovative solutions, their availability and accessibility should be optimised:

- *The foreseen **reform of the EU electricity market design** urgently needs to advance storage innovation, technology, and grid capacity across Member States to absorb the increasing capacity demands for industrial electrification. Grid capacity issues may never hamper the industrial competitiveness of Europe. Coordinating capacity expansion, flexibility of electricity transmission tariffs and taxes, and increased battery-based energy storage empowers electrification in Europe, decreases reliance on fossils, reduces price fluctuations, and lowers electricity bills.*
- *A **Green Horticultural Research Programme** could research the use of biogas and hydrogen in combined heat and power plants (CHPs) and boilers, contributing to CEA's decarbonisation and electricity grid stabilisation. Furthermore, the programme could study the feasibility of hydrogen and nuclear energy in CEA.*

CEA is ready to accelerate the energy transition. Not just in the agricultural sector, but for society as a whole. On the one hand, growers can produce considerable solar and wind energy or geo-thermal heat locally. On the other hand, our CEA facilities have the ability to serve as a heat and electricity storage asset. This means that they collect heat and electricity during the day, at night, or in summer, when public demand is low, and release it again during peak times in the morning, evening, or winter to households, public facilities (e.g., swimming pools), and SMEs. In this way, we relieve the grid and make optimal use of the available renewables in Europe, while ensuring security of supply. Fulfilling this public asset demands:

- *A **REPowerEU 2.0 Plan** shall prioritise the infrastructural expansion of geothermal, residual heat, and electricity in Europe, especially near CEA. Targeted investments in new geothermal, residual heat (incl. from hydrogen electrolysers), and green electricity sources and connecting them in a local network, whereas employing CEA as storage asset, accelerates an increased share of renewable energy consumption by households, public facilities, SMEs, and CEA.*

CO_2 is indispensable for the growth of plants. Climate-neutral horticultural can no longer obtain the required CO_2 from the combustion of natural gas in boilers or CHPs. To nurture plants in CEA, CO_2 shall be captured from industrial processes, sustainable energy production such as biogas, or from air.

- *__Carbon Capture and Usage (CCU)__ offers possibilities to recycle carbon for the growth of vegetables, fruit, flowers, and plants in CEA. The role of CCU for overall emission reduction and sustainable carbon cycles shall be recognised to facilitate and realise CO_2 capture from industrial or sustainable energy sources and making it competitive with carbon capture and storage (CCS) and direct air capture (DAC).*
- *Helping to reach net-zero emissions in Europe, the proposed **Regulation on certification for carbon removals** shall be supplemented with a CO_2 certification system for long-term carbon storage of residual biomass in bio-based materials.*