



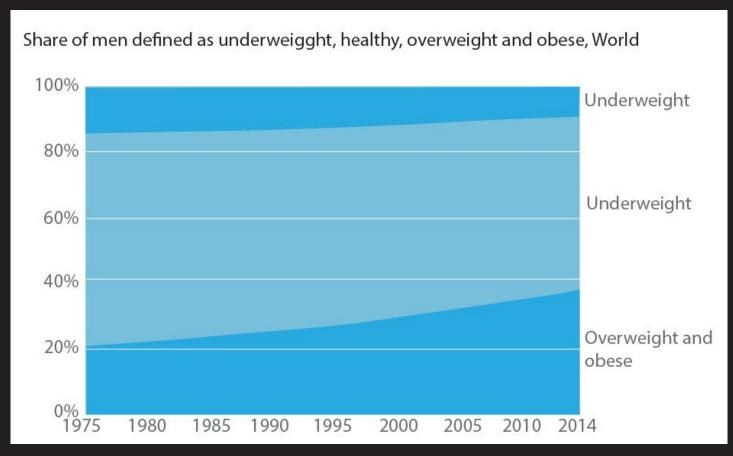


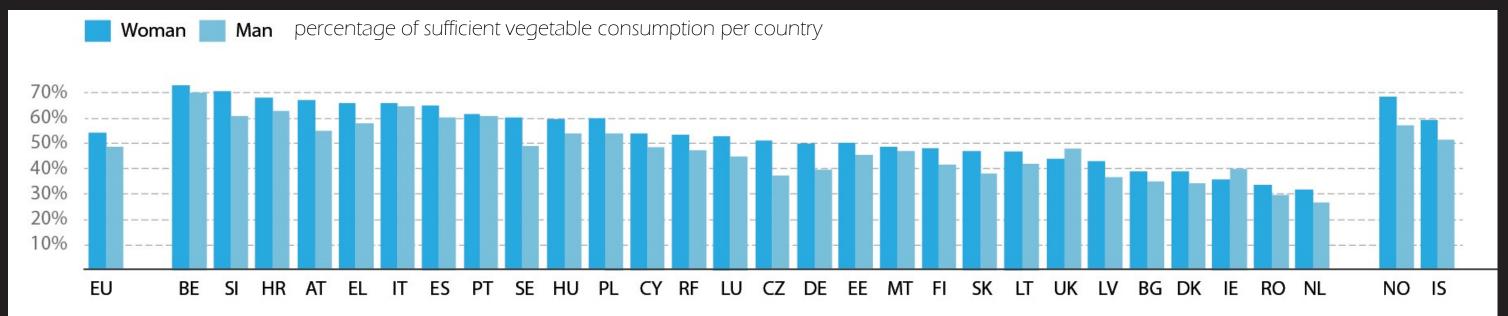




## Food = Health

A more healthier food pattern will effect our food producing landscapes.





Food = Environmental impact

Our diets need to change towards diets from sustainable food systems.

## The LancetCommissions

## Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems



Amanda Wood, Malin Jonell, Michael Clark, Line J Gordon, Jessica Fanzo, Corinna Hawkes, Rami Zurayk, Juan A Rivera, Wim De Vries, Lindiwe Maiele Sibanda, Ashkan Afshin, Abhishek Chaudhary, Mario Herrero, Rina Agustina, Francesco Branca, Anna Lartey, Shenagen Fan Beatrice Crona, Elizabeth Fox, Victoria Bignet, Max Troell, Therese Lindahl, Sudhvir Singh, Sarah E Cornell, K Srinath Reddy, Sunita Narain, Sania Nishtar, Christopher JL Murray

## **Executive summary**

are currently threatening both. Providing a growing global population with healthy diets from sustainable food systems is an immediate challenge. Although global food production of calories has kept pace with population growth, more than 820 million people have insufficient food and many more consume low-quality diets that cause micronutrient deficiencies and contribute to a substantial rise in the incidence of diet-related obesity and diet-related non-communicable diseases, including coronary heart disease, stroke, and diabetes. Unhealthy diets pose a greater risk to morbidity and mortality than does unsafe sex, and alcohol, drug, and tobacco use combined. Because much of the world's population is inadequately nourished and many environmental systems and processes are pushed beyond safe boundaries by food production, a global transformation of the food system is urgently needed.

The absence of scientific targets for achieving healthy diets from sustainable food systems has been hindering large-scale and coordinated efforts to transform the global food system. This Commission brings together 19 Commissioners and 18 coauthors from 16 counties in various fields of human health, agriculture, political sciences, and environmental sustainability to develop global scientific targets based on the best evidence available for healthy diets and sustainable food production. These global targets define a safe operating space for food systems that allow us to assess which diets Agreement are achieved.

We quantitatively describe a universal healthy reference environmental effects of adopting an alternative diet to standard current diets, many of which are high in unhealthy foods. Scientific targets for a healthy reference diet are based on extensive literature on foods, dietary moderate amount of seafood and poultry, and includes no or a low quantity of red meat, processed meat, added sugar, refined grains, and starchy vegetables. The global average intake of healthy foods is substantially lower

than the reference diet intake, whereas overconsumption Published Onlin Food systems have the potential to nurture human health of unhealthy foods is increasing. Using several January 16, 2019 and support environmental sustainability; however, they approaches, we found with a high level of certainty that http://dx.doi.org/10.1016/ global adoption of the reference dietary pattern would provide major health benefits, including a large reduction http://dx.doi.org/10.1016/ in total mortality.

The Commission integrates, with quantification of Harvard T H Chan School of

universal healthy diets, global scientific targets for Public Health, Harvard Medical sustainable food systems, and aims to provide scientific School, Channing Division of boundaries to reduce environmental degradation caused and Women's Hospital, Boston, by food production at all scales. Scientific targets for the MA, USA (Prof W Willett MD); safe operating space of food systems were established for Potsdam Institute for Climate six key Earth system processes. Strong evidence indicates Impact Research, Potsdam, that food production is among the largest drivers of (Prof JRockström PhD); global environmental change by contributing to climate stockholm Resilience Centre, change, biodiversity loss, freshwater use, interference Stockholm, Sweden with the global nitrogen and phosphorus cycles, and (Prof JRockström, B Loken PhD, land-system change (and chemical pollution, which is MJonell PhD, L JGordon PhD, not assessed in this Commission). Food production B Crona PhD, V Bignet MSc, depends on continued functioning of biophysical M Troell PhD, T Lindahl PhD, systems and processes to regulate and maintain a stable S E Cornell PhD); EAT, Oslo, Earth system; therefore, these systems and processes A Wood, S Singh MBChB); provide a set of globally systemic indicators of sustainable University of Auckland, food production. The Commission concludes that Auckland, New Zealand quantitative scientific targets constitute universal and (S Singh); Oxford Martin
Programme on the scalable planetary boundaries for the food system. Food and Centre on Populati However, the uncertainty range for these food boundaries Approaches for Nonremains high because of the inherent complexity in Communicable Disease Earth system dynamics.

Diets inextricably link human health and environmental Health (M Springmann PhD), and food production practices will help ensure that the sustainability. The scientific targets for healthy diets and Food Climate Research UN Sustainable Development Goals (SDGs) and Paris sustainable food systems are integrated into a common Network, Environmental framework, the safe operating space for food systems, so Change Institute and Oxford that win-win diets (ie, healthy and environmentally University of Oxford, Oxford, diet to provide a basis for estimating the health and environmental effects of adopting an alternative diet to framework is universal for all food cultures and University of London, London, production systems in the world, with a high potential of UK (Prof T Lang PhD, local adaptation and scalability.

Application of this framework to future projections of Gland, Switzerland patterns, and health outcomes. This healthy reference world development indicates that food systems can (5 Vermeulen PhD); Hoffmann diet largely consists of vegetables, fruits, whole grains, provide healthy diets (ie, reference diet) for an estimated Centre for Sustainable Resource legumes, nuts, and unsaturated oils, includes a low to global population of about 10 billion people by 2050 and London, UK (5 Vermeuler remain within a safe operating space. However, even Department of Ecology, small increases in consumption of red meat or dairy Evolution and Behavior foods would make this goal difficult or impossible to (D Tilman PhD), Natural Resources Science and achieve. Within boundaries of food production, the Management (M Clark PhD), reference diet can be adapted to make meals that are University of Minnesota

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Meat landscape



Vegetarian landscape

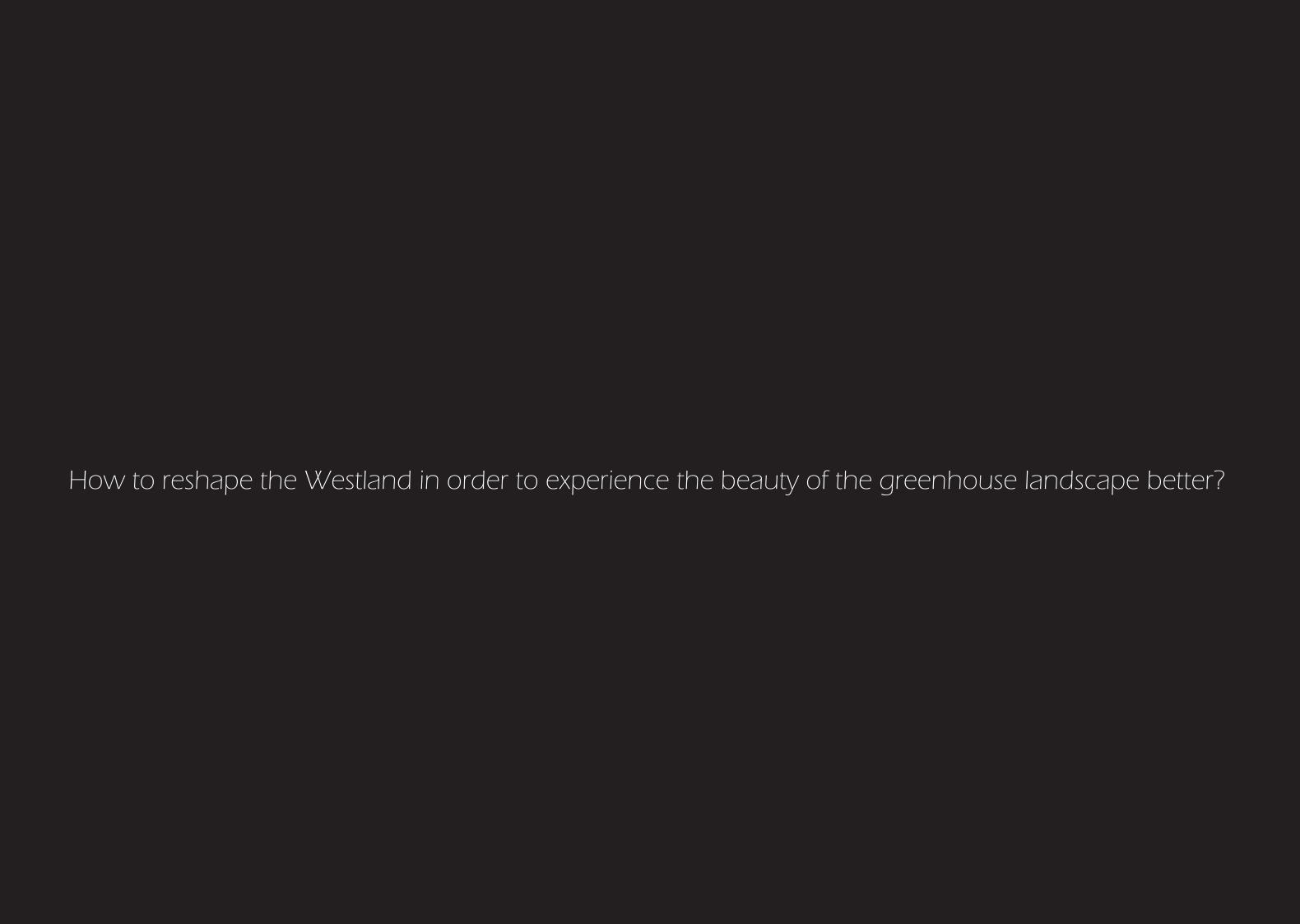




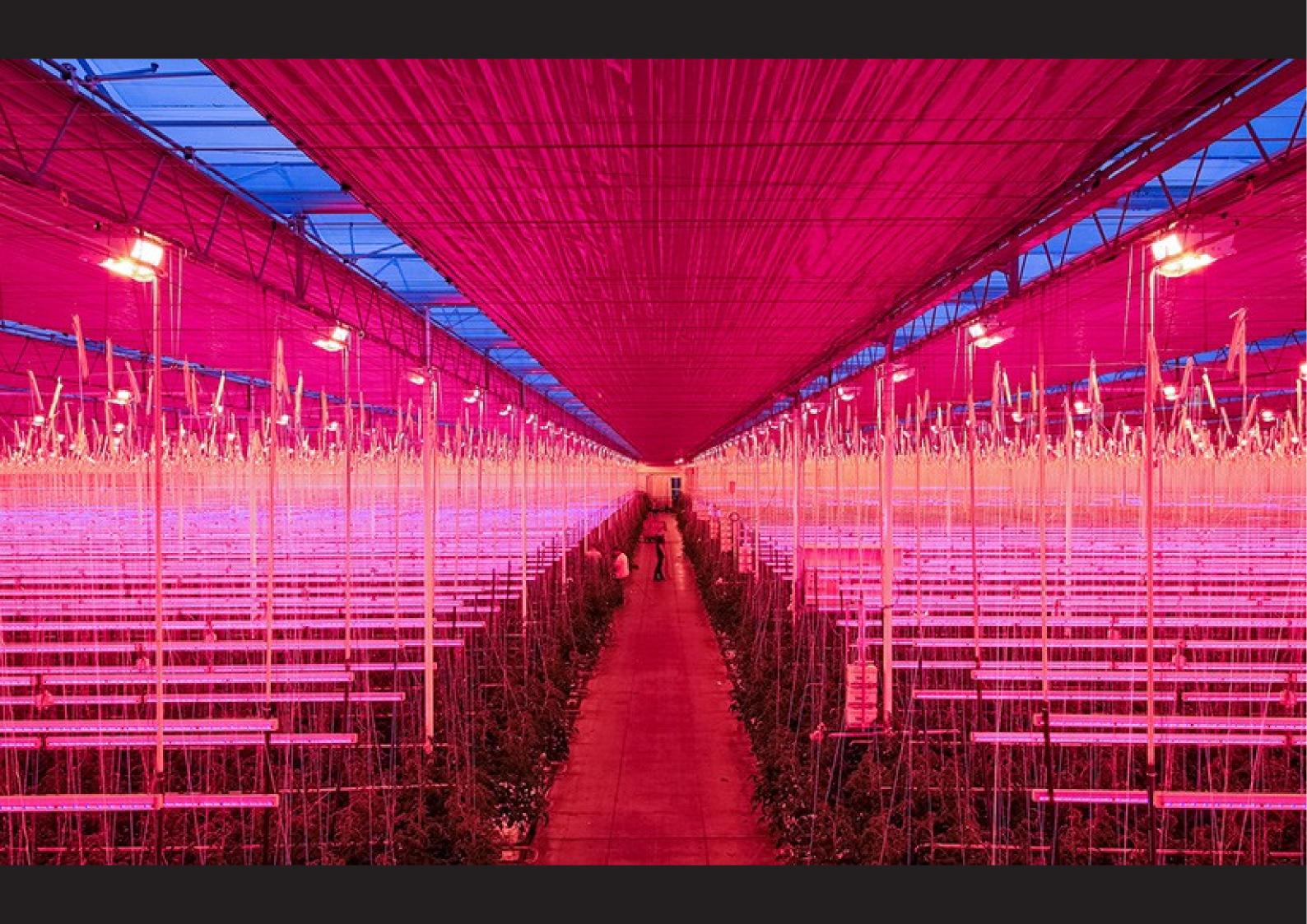


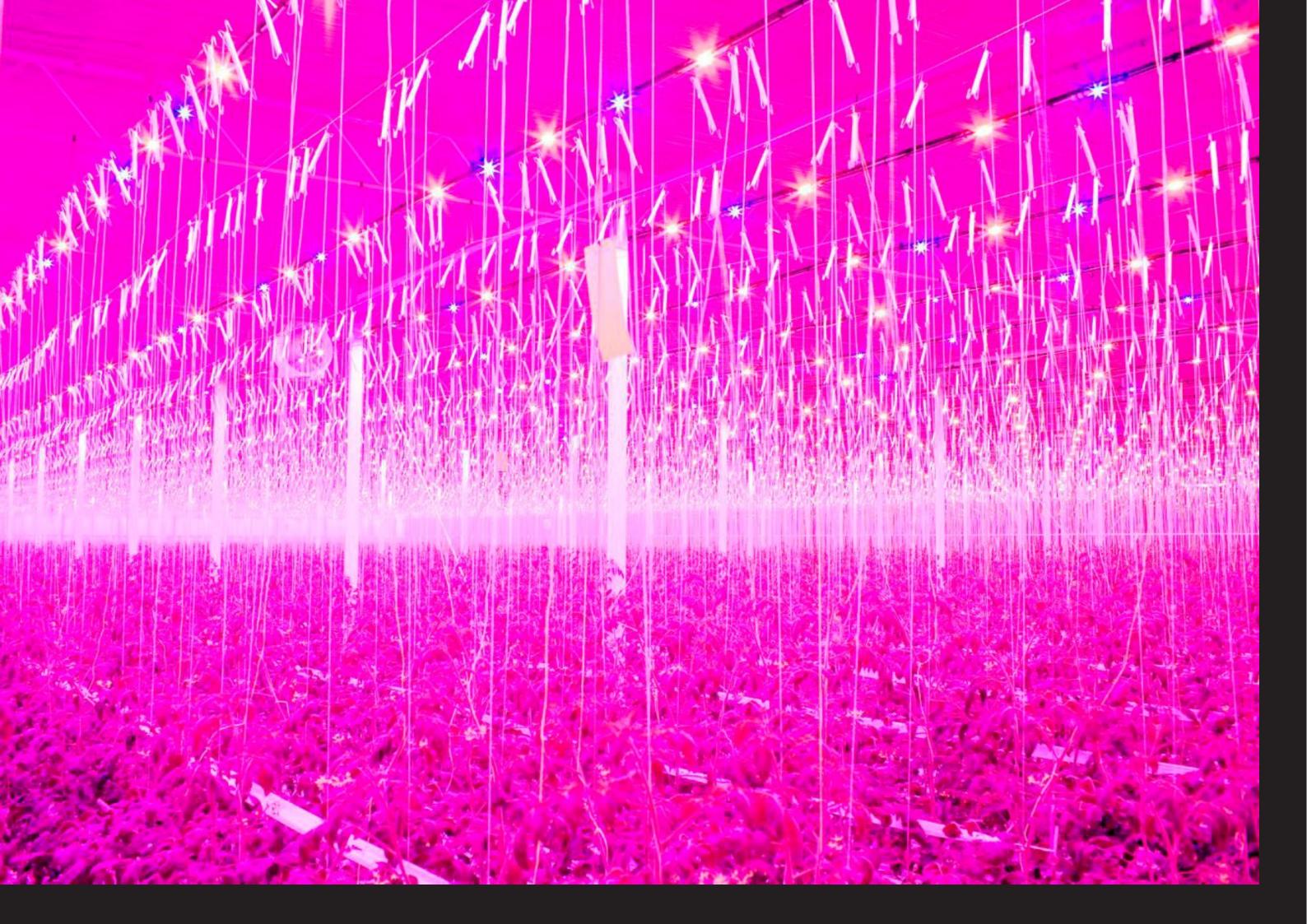


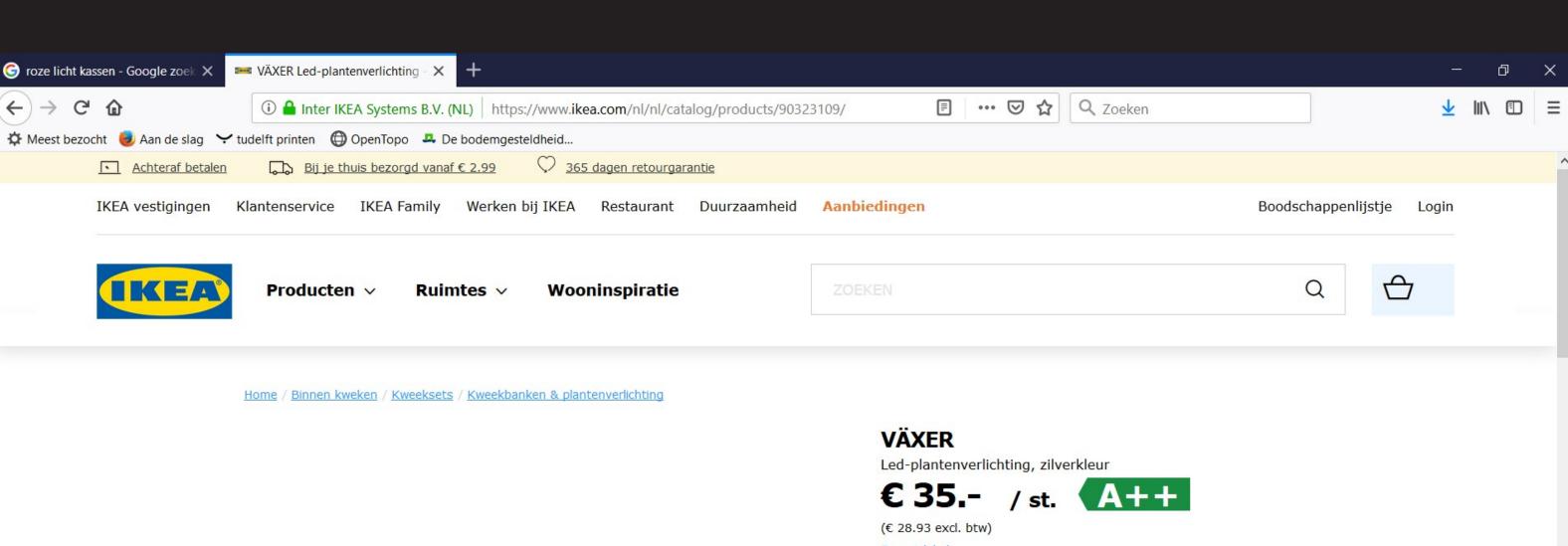










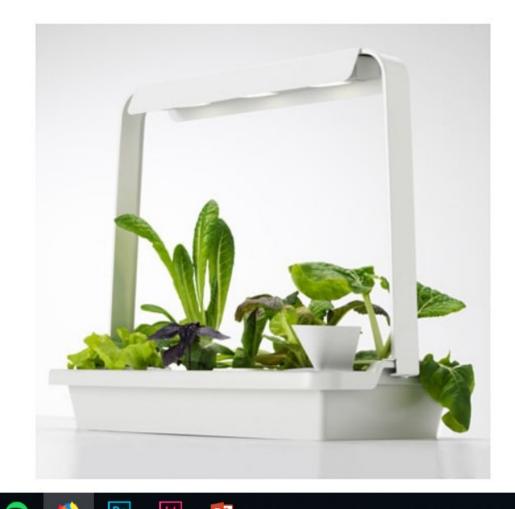








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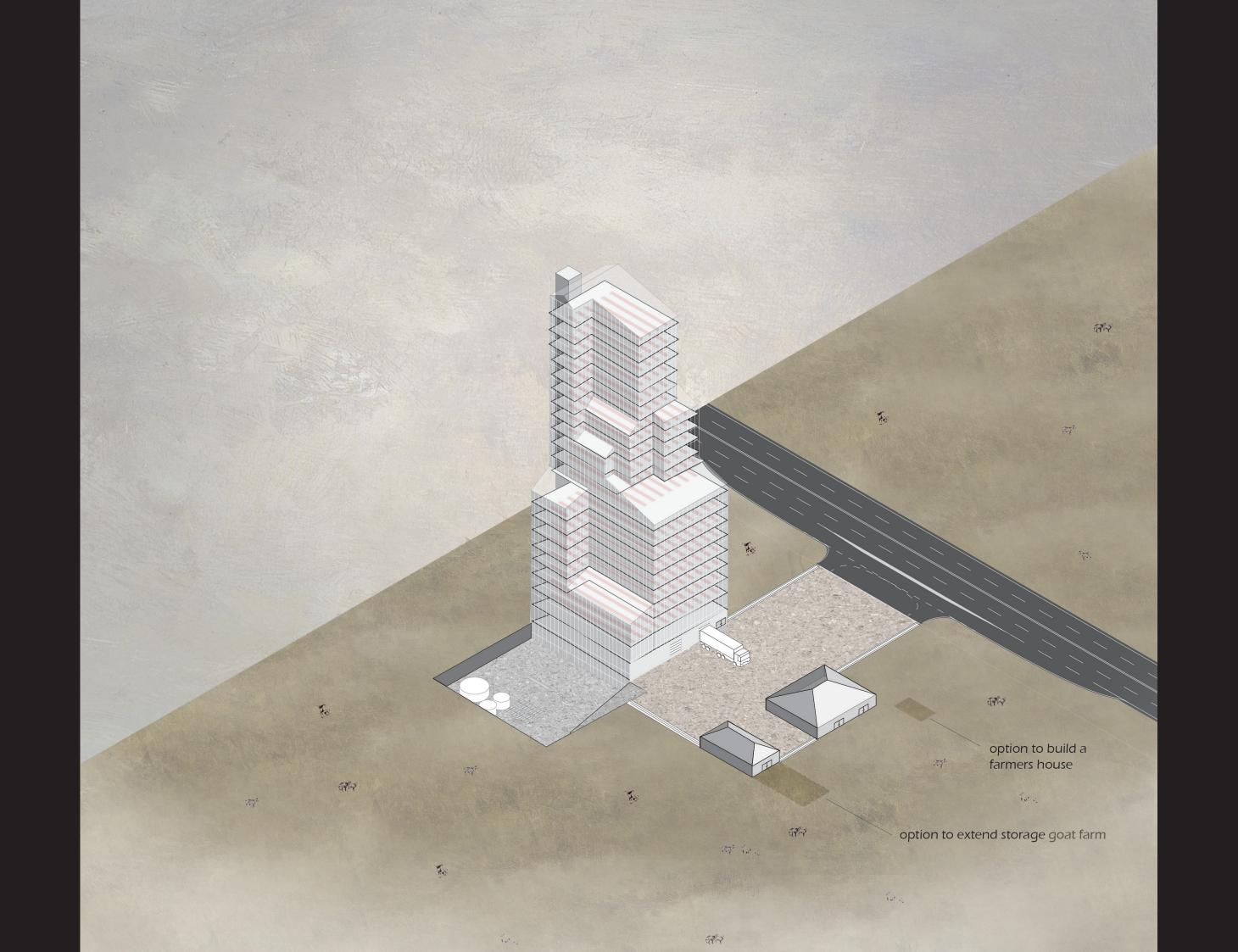


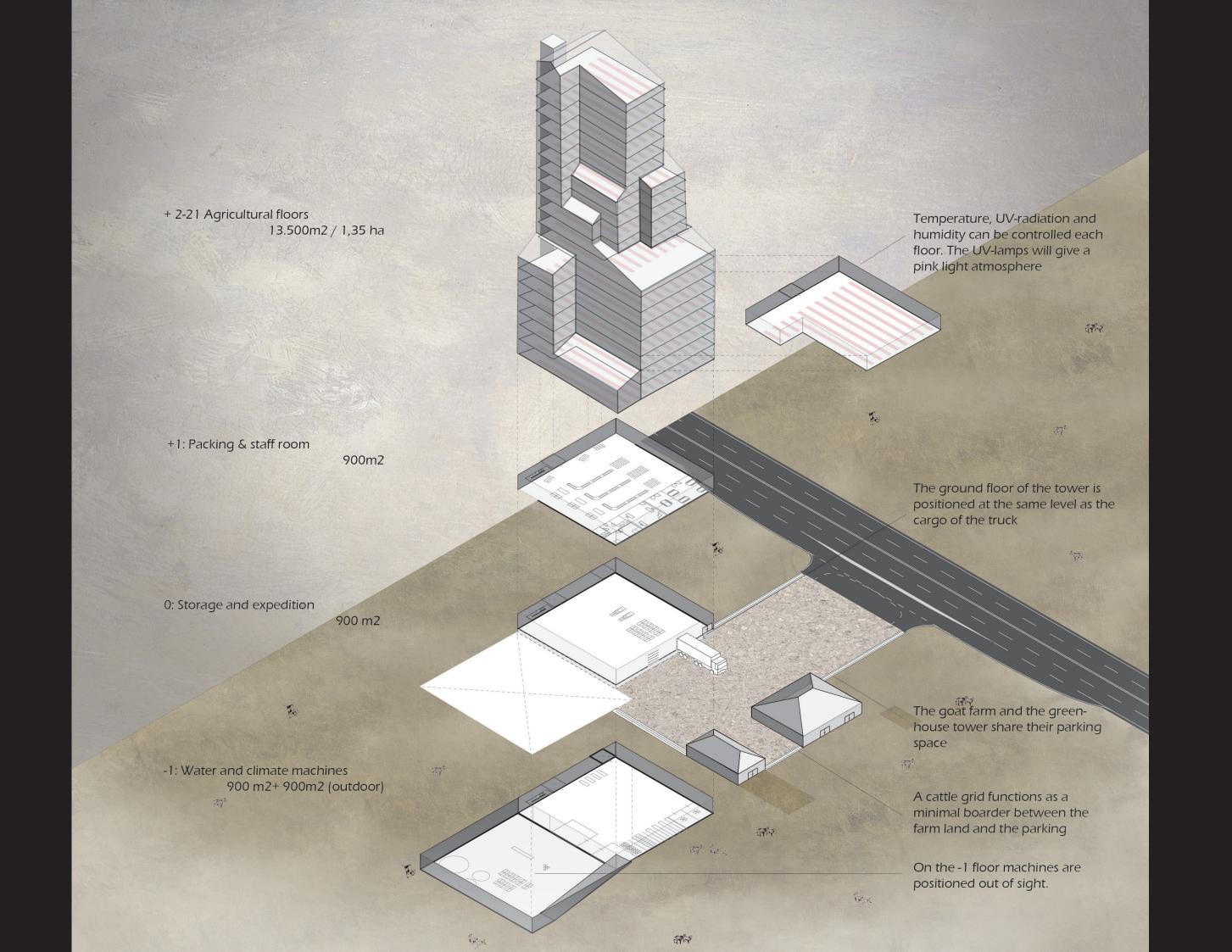


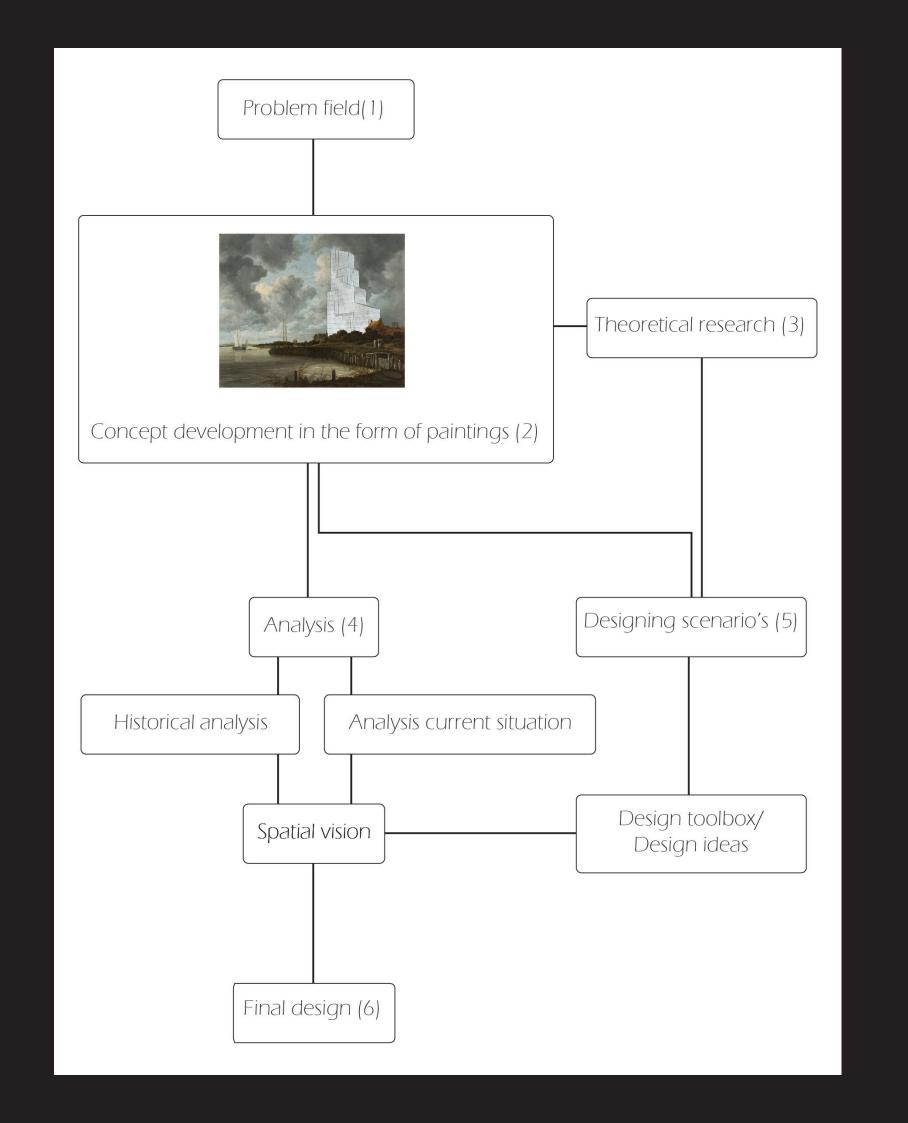














Greenhouse towers in an idyllic landscape



An open view over the greenhouses



An idyllic landscape in between the greenhouses





