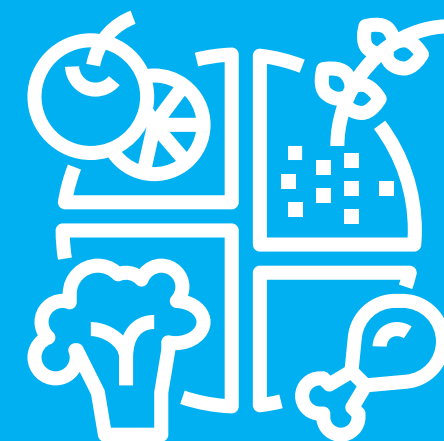


The Global Environment Outlook 7 Scoping Meeting

Expert Dialogue – Food Systems



Food Systems and the environment: challenges and solutions

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At the heart of solution space is recognising the nuances in discourse about food security

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”.
(World Food Summit, 1996)



“9 meals from anarchy” & “hunger challenge” food security: is the short term supply of food assured to allow people to eat when they are hungry?

“market-led” food security: can the market supply the sorts of food people like to eat, cheaply? The cheap-food focus ignores the costs externalised to the environment and health systems.

“Sustainable” food security: can the market be structured to supply food that people like and want, and that underpins a healthy diet, and is supplied sustainably (i.e. costs are not levied on health and environment)?



THE NEED FOR TRANSFORMATION

Food systems account for ~35% of all GHG emissions.

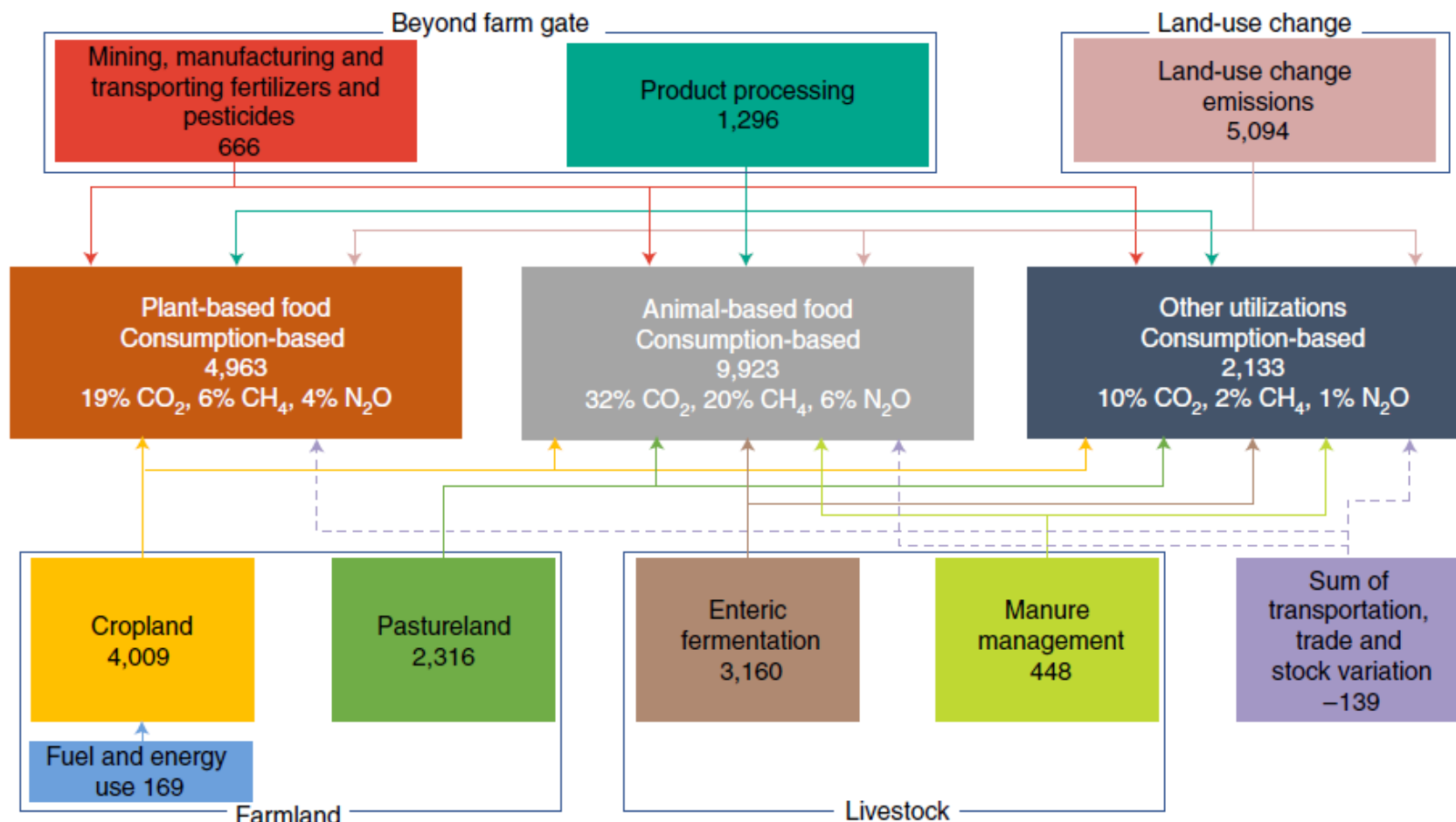
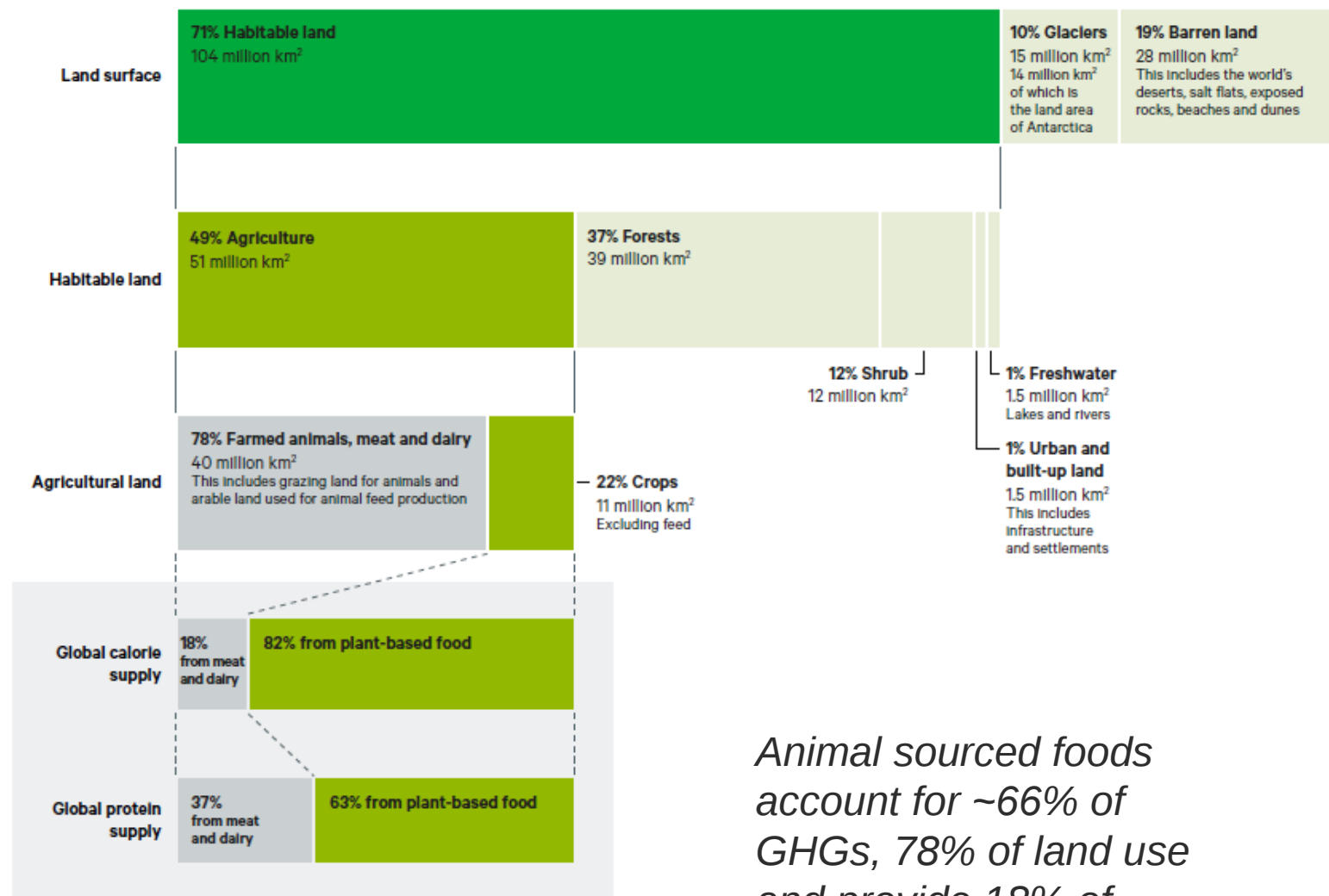


Fig. 1 | GHG emissions from different subsectors of plant- and animal-based food production/consumption. The contributions of individual GHGs provided are the percentage of the total emissions. Solid arrows indicate production-based emissions, and solid and dashed arrows combined are consumption-based emissions. The values in the boxes are mean values for 2007-2013, which may slightly differ from the median values of 10,000 Monte Carlo simulations in the text. Values are expressed in TgCO₂eq.

Food-systems are unsustainable

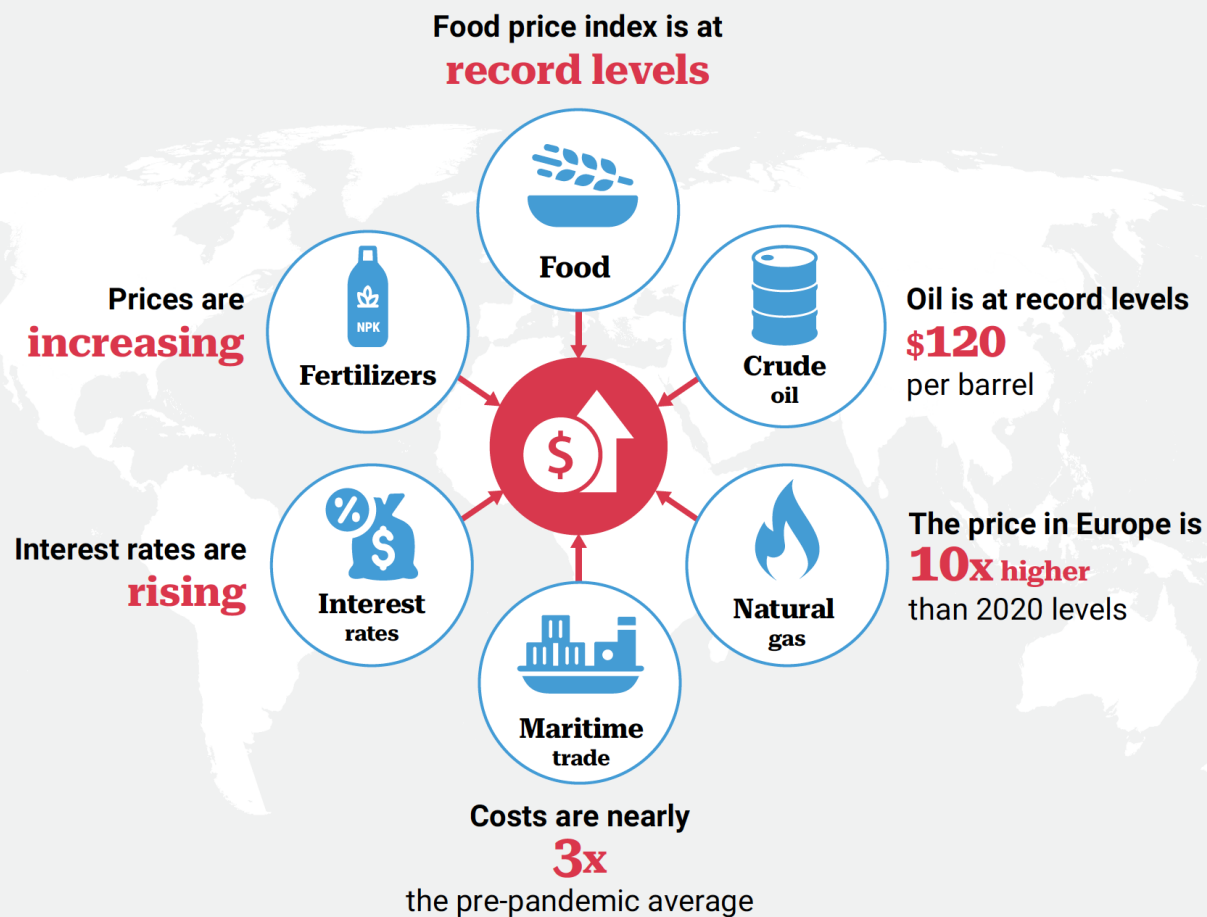
- Food systems are a major driver of climate change and ecological disruption.
- Conversion of native habitats/ecosystems to farmland.
- Creation of monocultural landscapes (with little space for nature).
- Pollution arising from inputs (e.g. pesticides, fertilizers).
- *Poor diets are now the no 1 cause of global ill health*



Animal sourced foods account for ~66% of GHGs, 78% of land use and provide 18% of calories

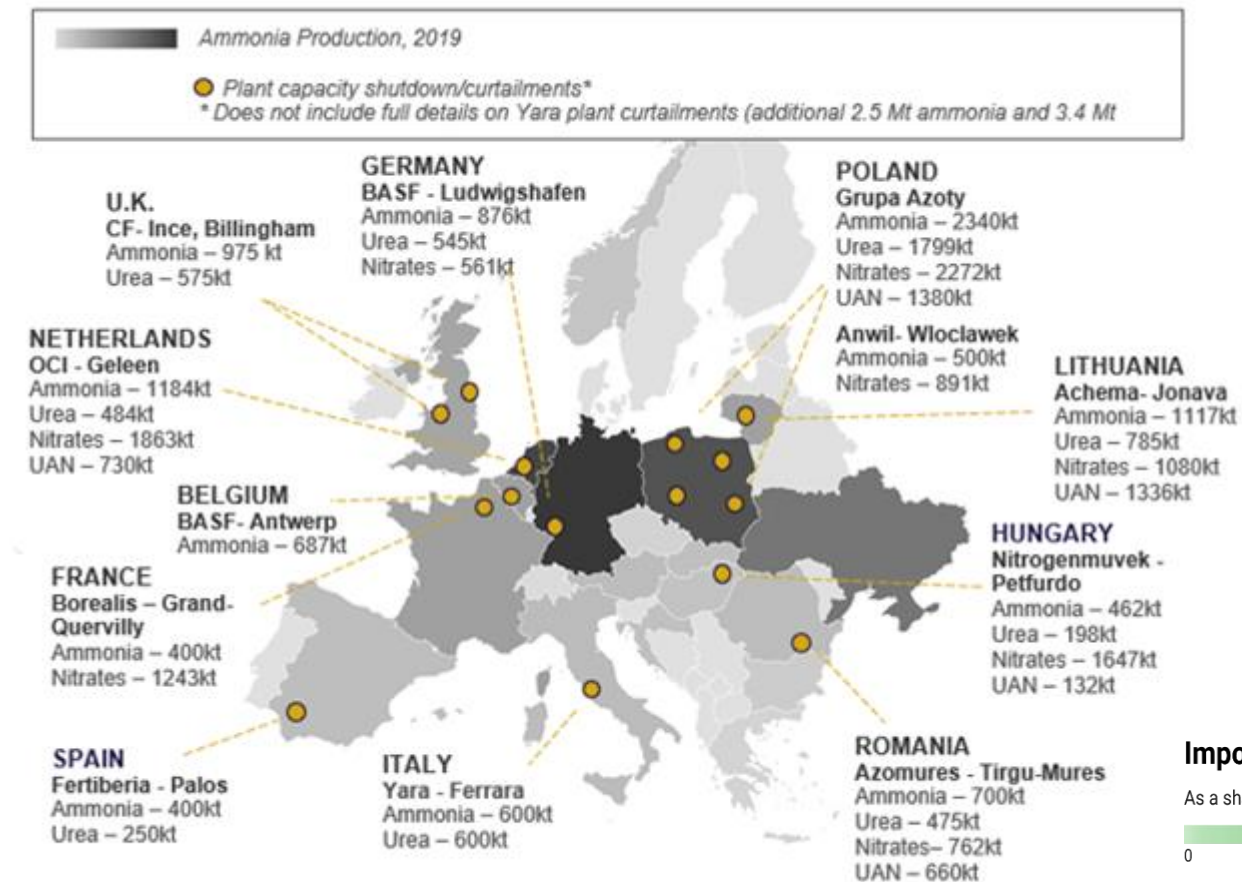
The globalised food system is both fragile and highly interconnected (across geographies and sectors)

Vicious cycles are emerging



2022's crisis arises from climate x COVID x geopolitics and, looking ahead, likely more crises will arise year-on-year

Figure 1: European nitrogen production shutdowns and curtailments



Global events – weather, geopolitics, conflict etc – all interact to affect the food system.

Much of South and Central America, West Africa and Europe – including Ukraine itself – are heavily reliant on Russia and Belarus for their fertilizer imports, especially for potash²

DATA: CRU, IFA

High energy prices curtailing fertiliser production due to energy-intensive nature of manufacturing

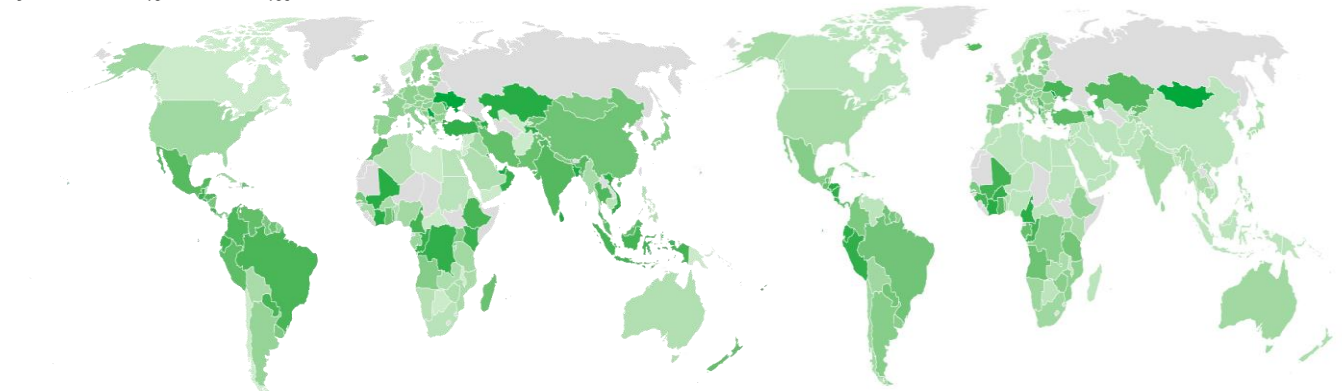
Imports of RUS, BLR, UKR Potash Fertilizers

As a share of total supply, 2018-20



Imports of RUS, BLR, UKR Nitrogen Fertilizers

As a share of total supply, 2018-20

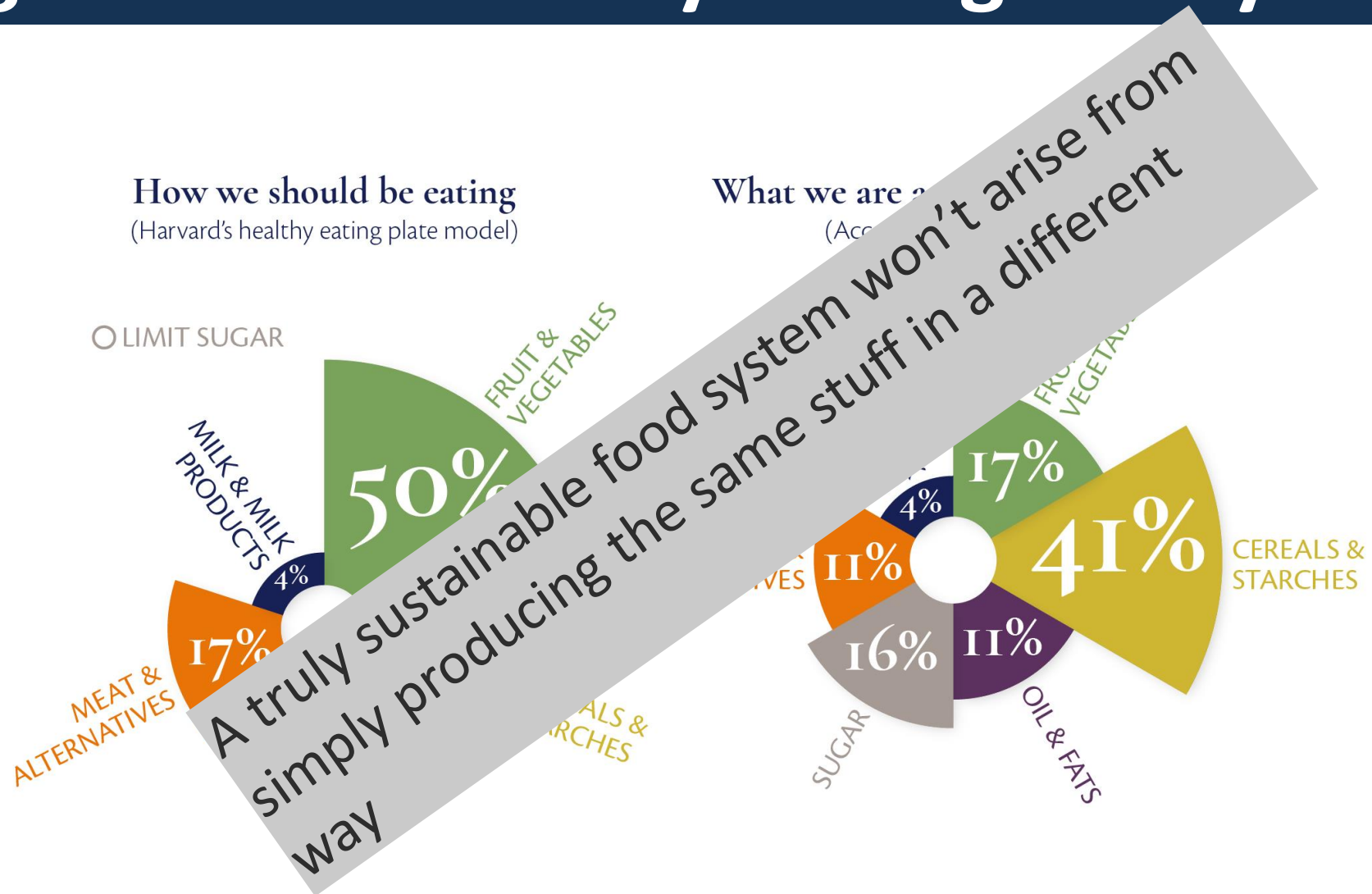


Russia and Belarus account for the majority of exports from the three countries; Ukraine itself is heavily import dependent. EU treated as a single entity.

Created with Datawrapper

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There is a fundamental mismatch between what is grown and healthy diets globally

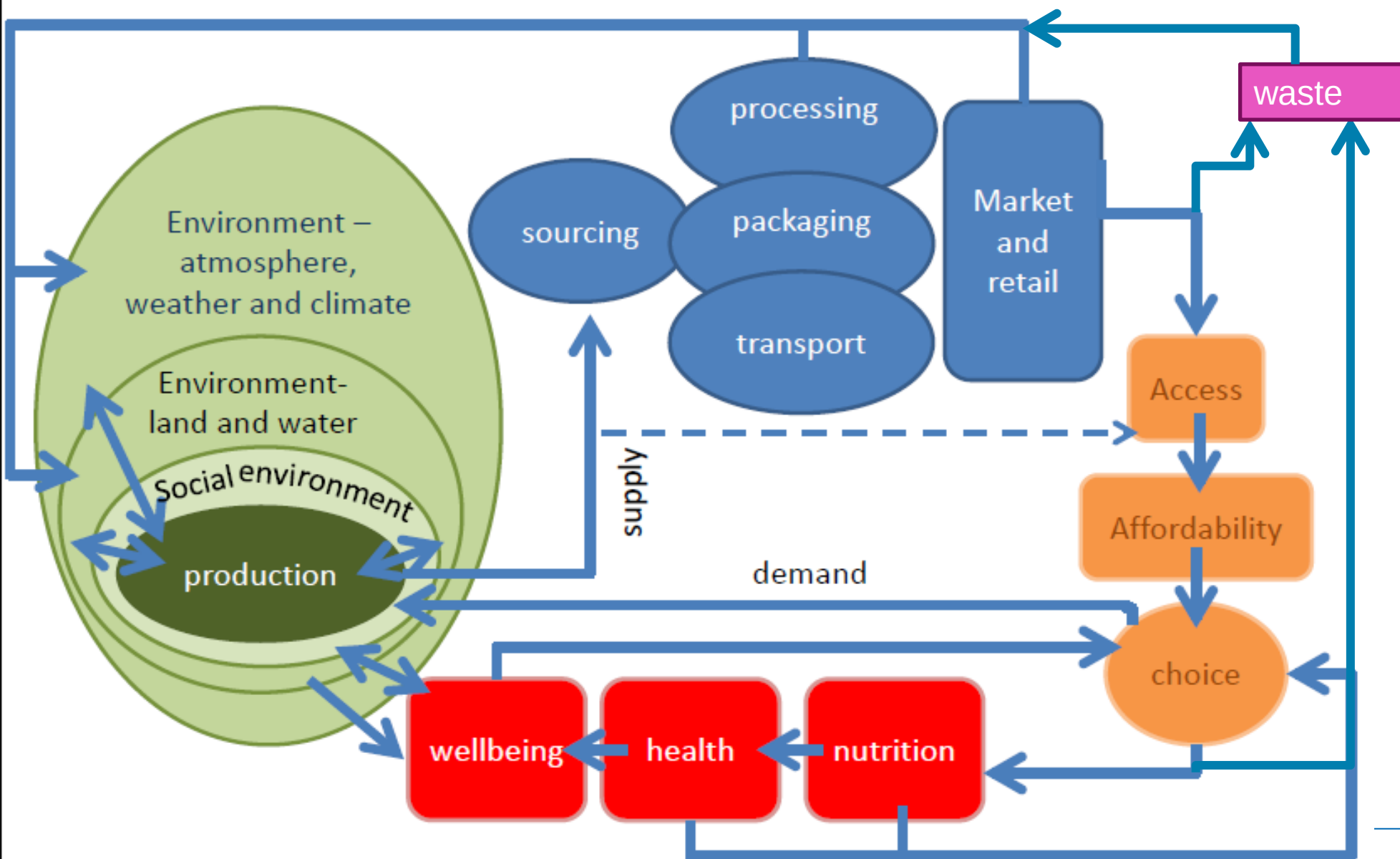


“Today, if everyone were to try to access all the foods needed for high quality, nutrient-rich, diets (e.g. fruits and vegetables, or fish, nuts, or pulses), they would not be able to do so”

Global Panel (2020)

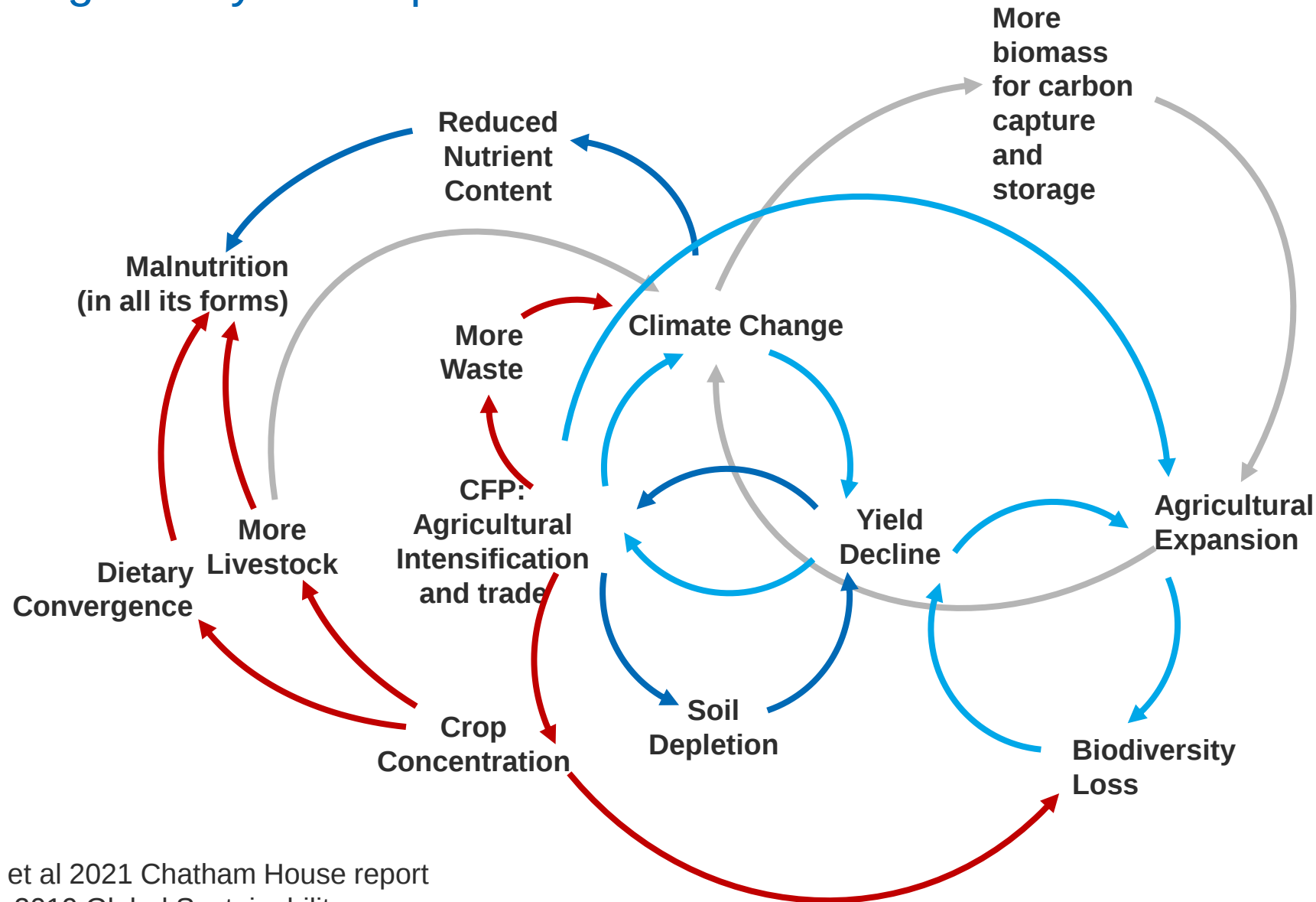
A “FOOD SYSTEMS APPROACH” HIGHLIGHTS INTERCONNECTED CHALLENGES (AND SOLUTIONS)

Taking a food systems approach is much needed to avoid problems getting worse...



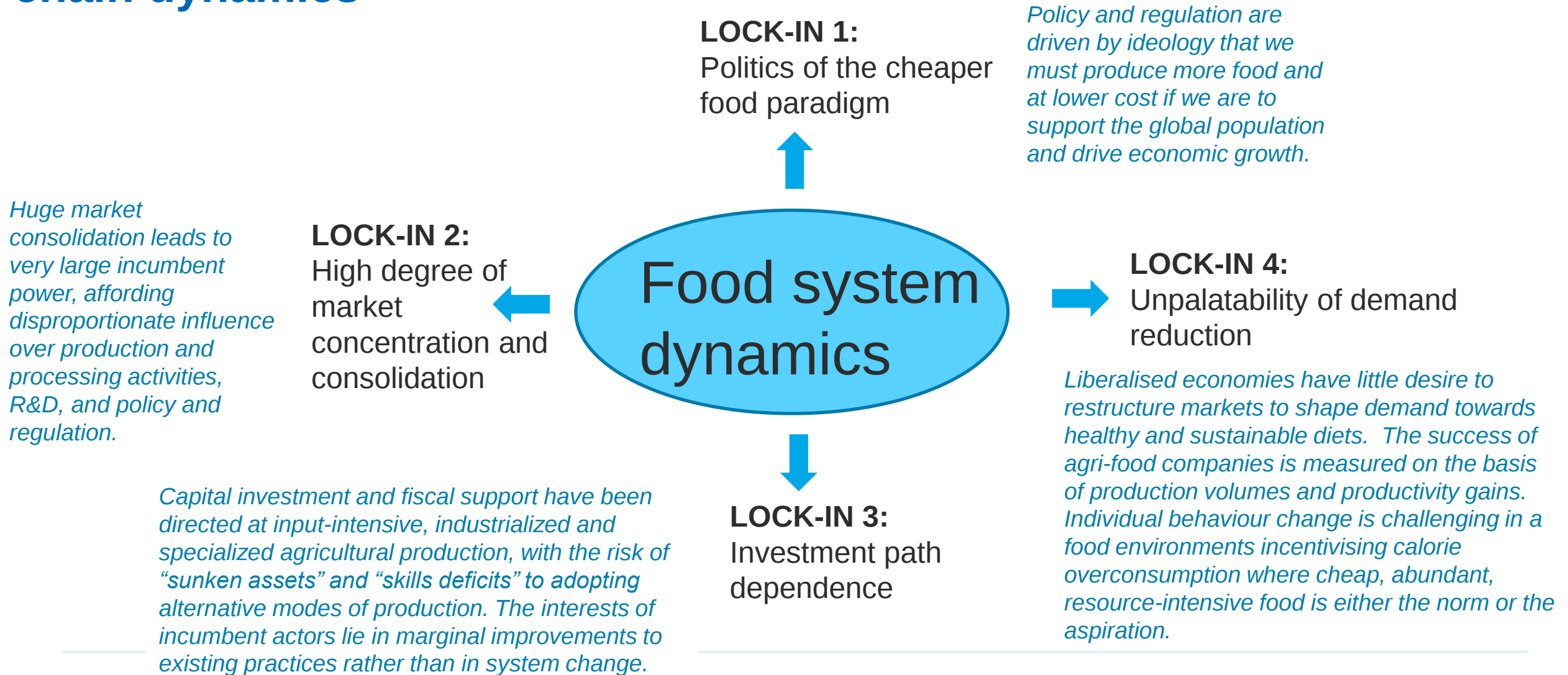
The term '**food system**' encompasses the entirety of the production, transport, manufacturing, retailing, consumption and waste of food. It also includes impacts on nutrition, human health and well-being, and the environment.

The “cheaper food paradigm” (CFP) drives interlocking vicious circles that degrade systemic performance

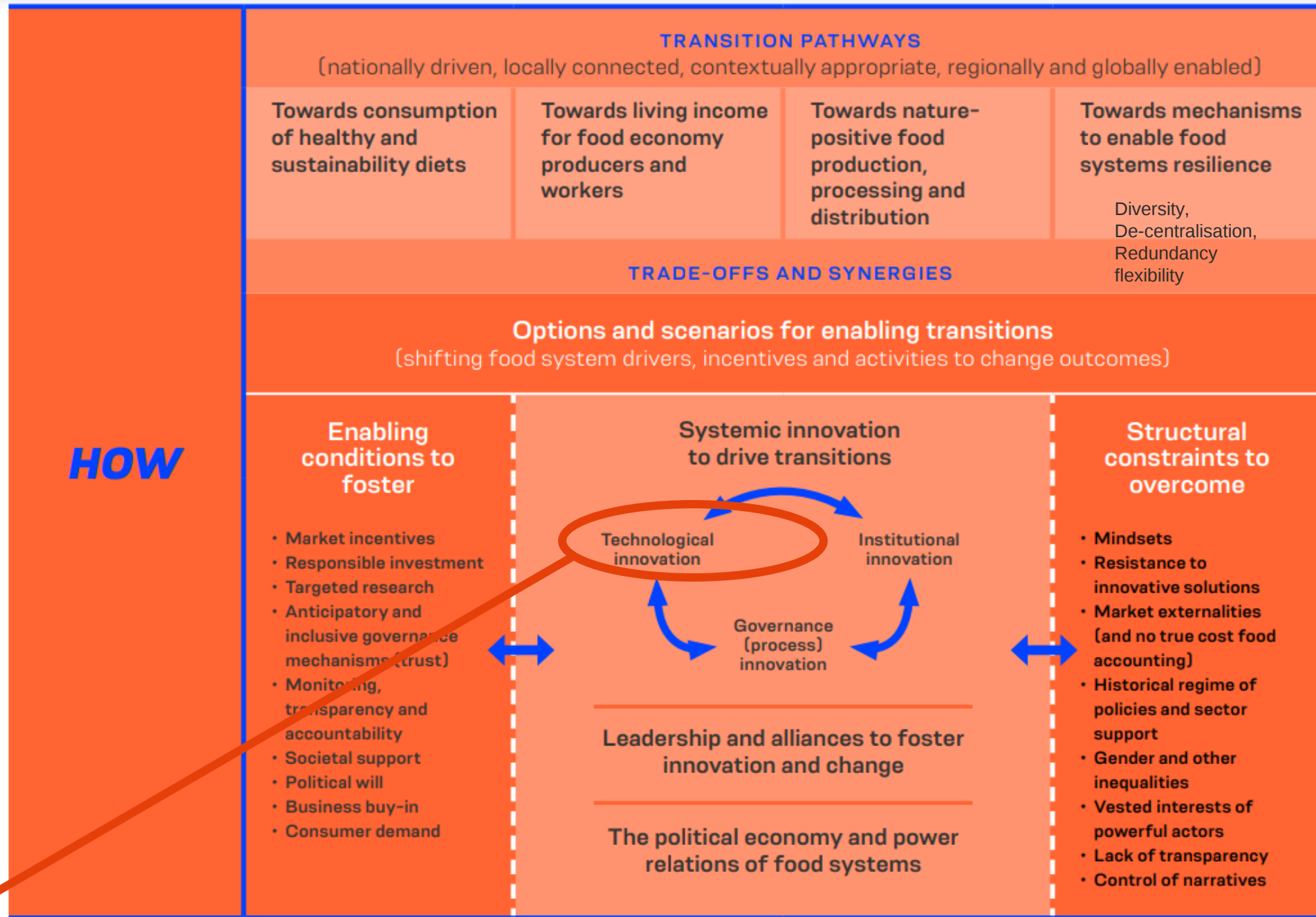


Source: Benton et al 2021 Chatham House report
Benton & Bailey 2019 Global Sustainability

Four food system lock-ins, created and sustained by the interaction of political, market, social and value-chain dynamics



Transforming the food system requires going beyond search for simple technological fixes – including market restructuring to enable better outcomes for people, planet & prosperity





Thank you!

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