Cultivating our Climate – GHG emissions in agrifood in Central and Eastern Europe

EIT Food

Co-funded by the European Union

IMPROVING FOOD TOGETHER

Food system challenge

At EIT Food we aim to overcome these challenges by bringing all players together and guiding and accelerating the innovation process to transform the food system

SOCIAL

We need to feed **10 billion** people by 2050 *(UN, 2017)*

Over to **2 billion** people are currently overweight *(WHO, 2018)*, while **800 million** are undernourished *(FAO, 2019)*

Up to **35%** of children under 5 globally are stunted, wasted or overweight (UNICEF, 2019)

ENVIRONMENTAL

1/3 of our food is wasted globally *(FAO, 2019)*

70% of global freshwater withdrawals come from the food industry *(FAO, 2016)*

Food production accounts for **26%** of greenhouse gas emissions *(Science, 2018)*

ENTREPRENEURIAL

Only **3.4%** of all EU startups are in the food industry *(ESM, 2016)*

9 out of 10 startups fail due to lack of a market need for their products *(Munich Business School, 2016)*

Meeting the UN SDGs could create innovation opportunities worth **US$200 billion** for the European business sector in agrifood by 2030 *(BSDC, 2016)*

IMPROVING FOOD TOGETHER

EIT Food vision

Our vision is a world where everybody can access and enjoy sustainable, safe and healthy food, with trust and fairness from farm to fork.

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Our community

Our community is unique because it brings together key players from across the food value chain including industry partners, startups, research centres and universities

INDUSTRY PARTNERS

SHAKEUP FACTORY
shiftn clarity in complexity
SIEMENS
sodexo QUALITY OF LIFE SERVICES
StartLife FOSTERING ENTREPRENEURSHIP
Strauss
swiss FOOD RESEARCH
SYNTEGON PROCESSING & PACKAGING
CLEANTECH BULGARIA
Waitrose
XEDA
THE YIELD LAB
zoetis
Campden BRI food and drink innovation

RESEARCH CENTRES AND UNIVERSITIES

UAM Universidad Autónoma de Madrid
imdea
unibz Freie Universität Bozen Libera Università di Bolzano Università Liedia de Bulsan
UNIVERSITY OF CAMBRIDGE
UNIVERSITY OF HELSINKI
UNIVERSITY OF HOHENHEIM
University of Reading
UNIVERSITA DEGLI STUDI DI TORINO
UNIVERSITY OF WARSAW
VITAGORA
VTT
wagralim APPETITE FOR INNOVATION
AGRICULTURAL UNIVERSITY OF ATHENS

STARTUPS

tastewise
The green data
thorice enhanced cooling technology
TIPA Sustainable Packaging
Trellis.
ID GAME CHANGERS
VAXA impact nutrition
wasteless Sell more, waste less
WHOLE SURPLUS
tera tehnopolis
YPSICON TECHNOLOGIES
AgriFood DIH Lithuania

= 1 BRILLIANT COMMUNITY!

Our reports in cooperation with Deloitte

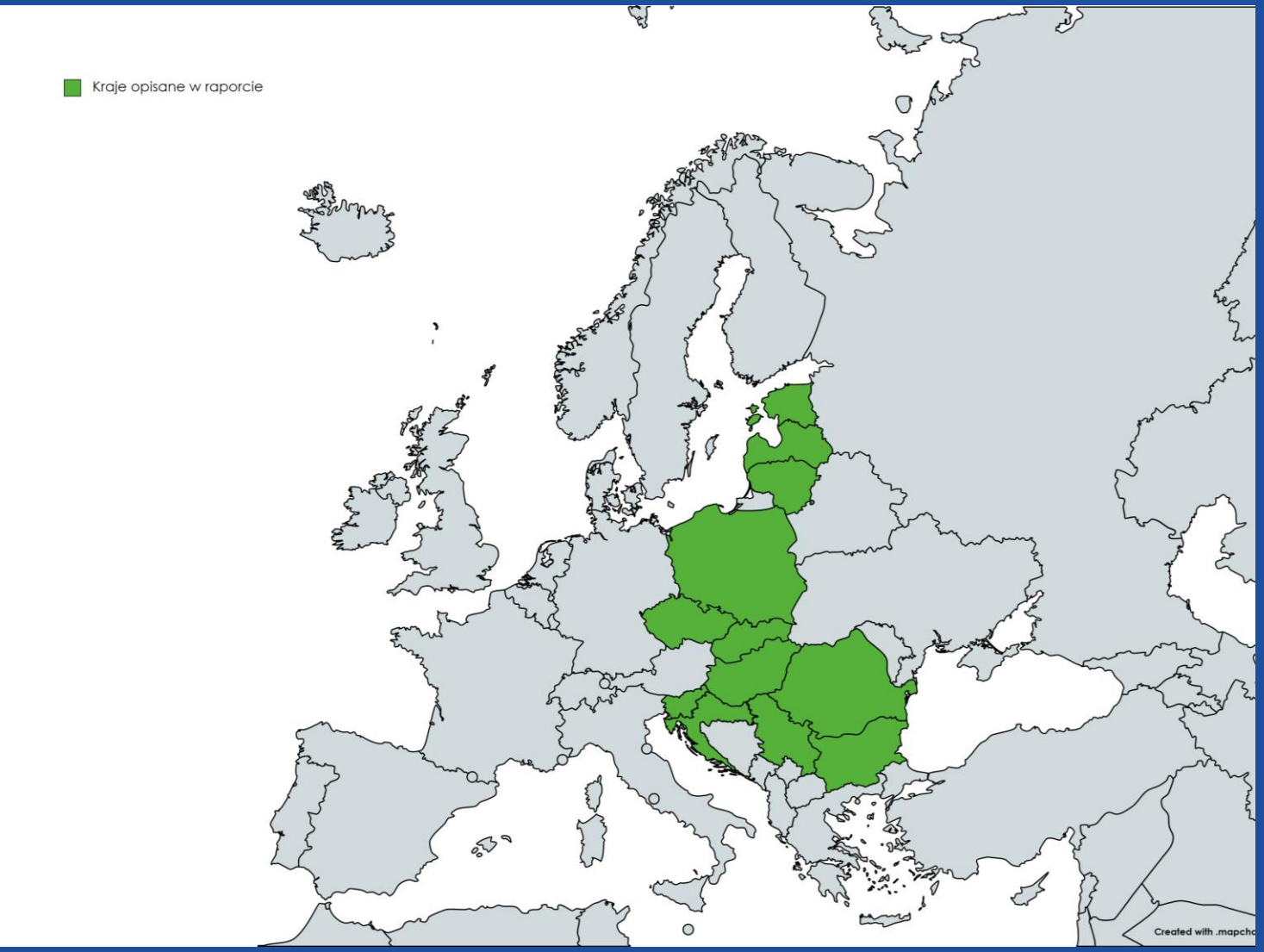
2020

http://eitfood.eu/foodforesight

2022

https://www.eitfood.eu/landing/cultivating-our-climate

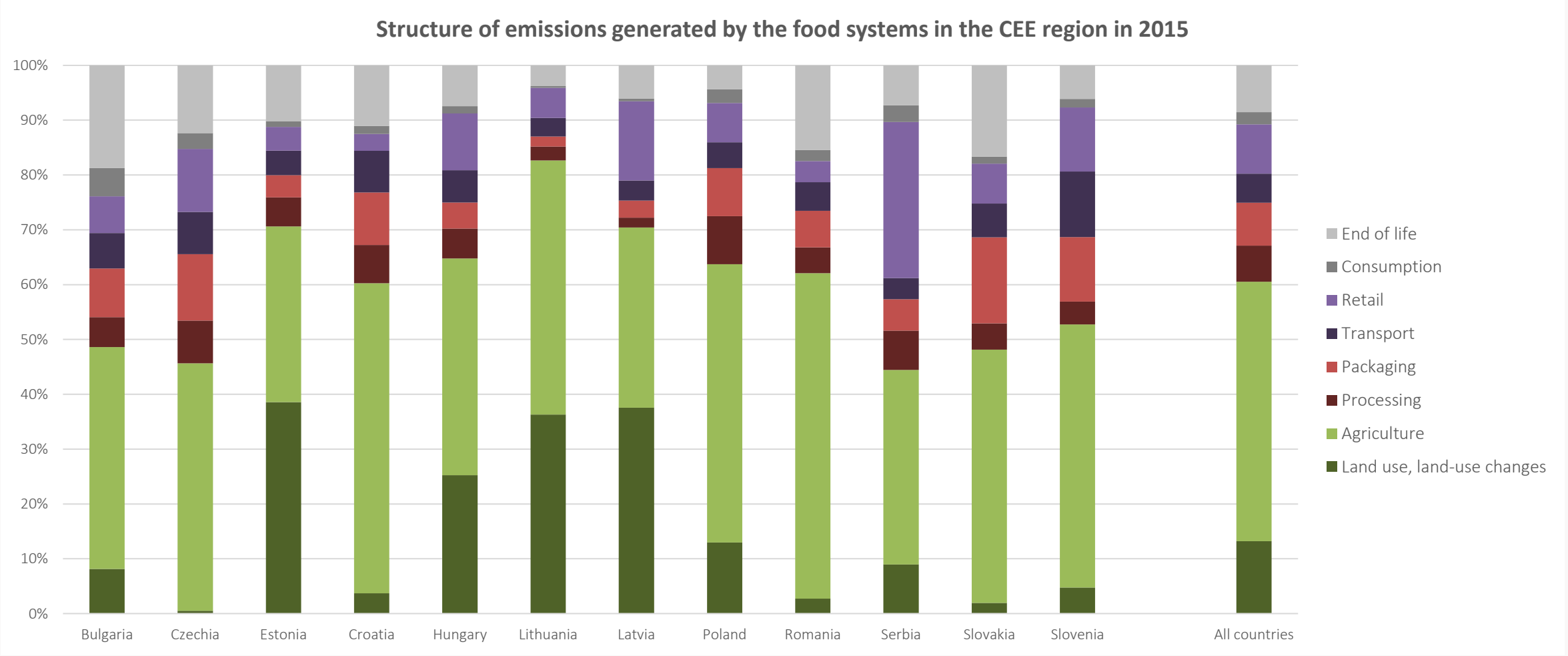
Agri-food in Central & Eastern Europe



Agri-food
Agriculture
Food processing, storage and transport
Food retail
Food services

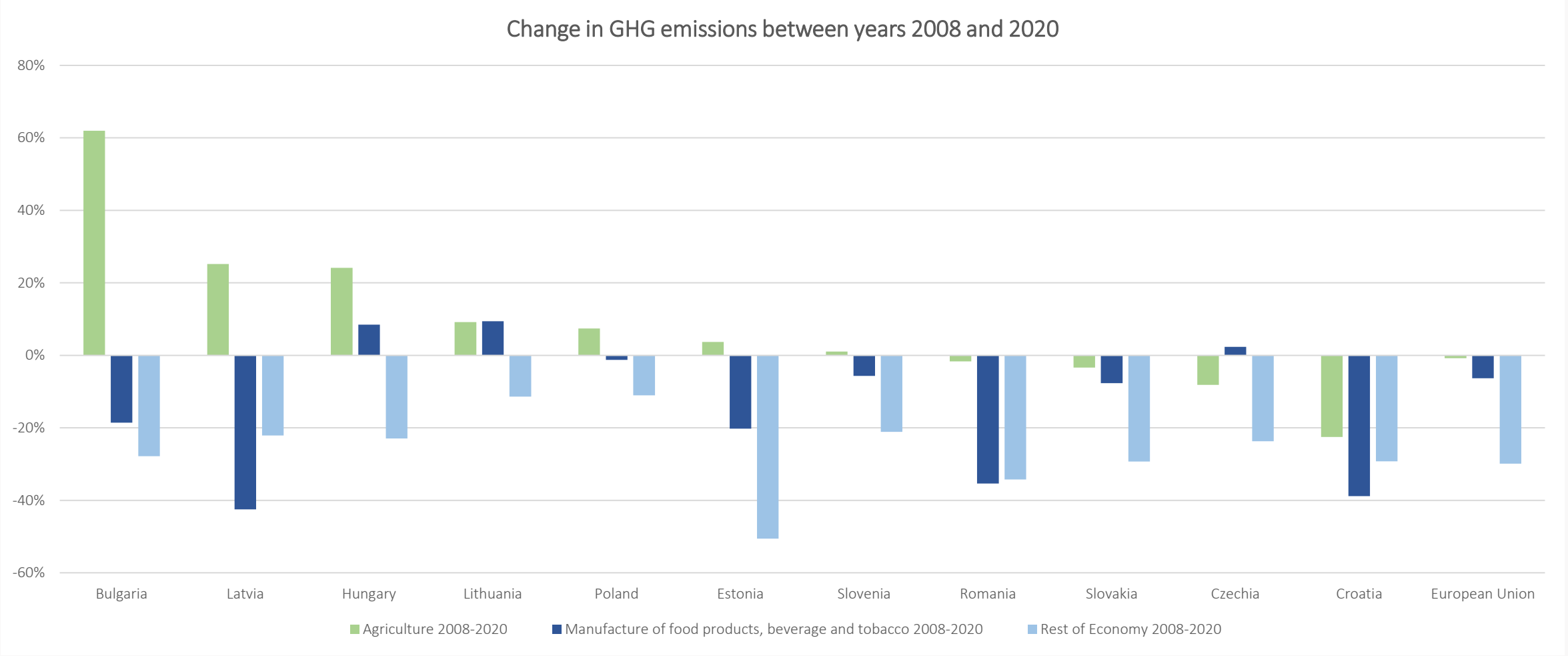
Agriculture is responsible for half of GHG emissions in agrifood...

Agri-food is responsible for 1/3 of all GHG emissions that contribute to climate change, half of which is due to agriculture.



...and stands out from other sectors in terms of reduction pace.

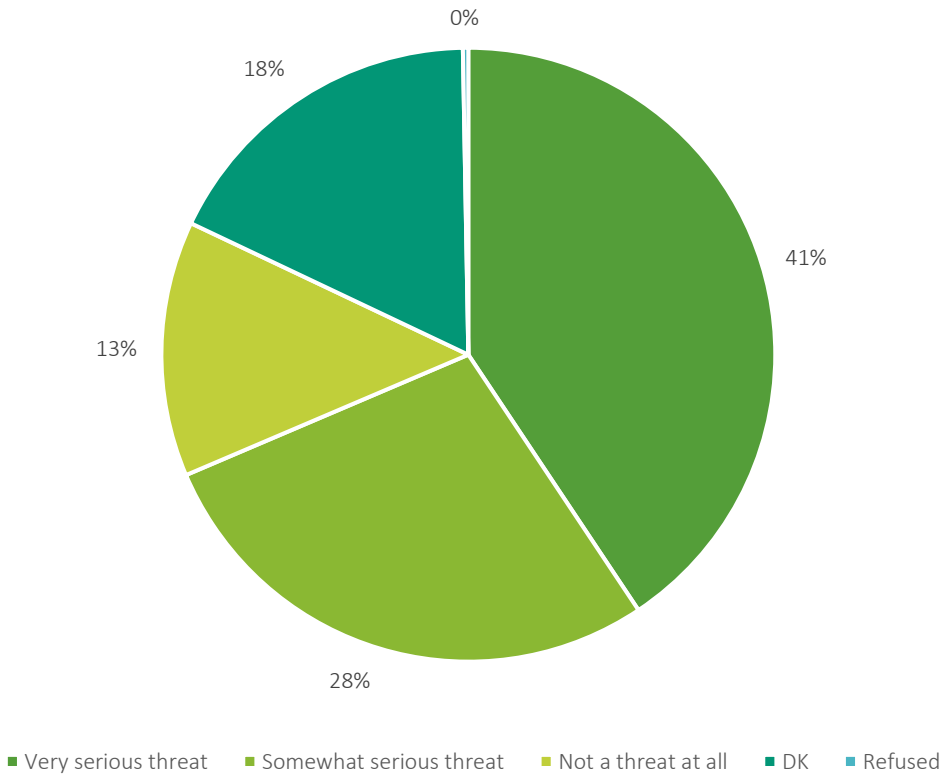
In contrary to other industries emissions in agrifood are not decreasing and in some countries are even increasing.



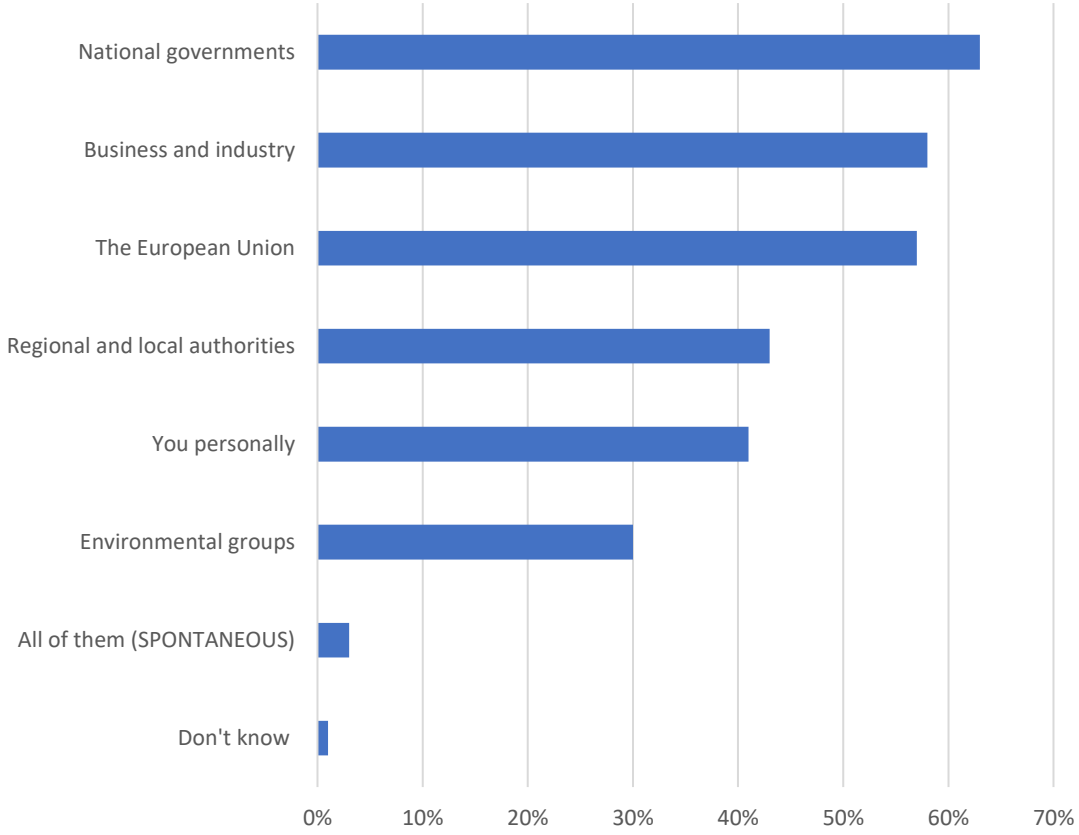
The threats regarding negative impact of climate change are increasing...

Concerned consumers require action from the governments, industry and EU.

Do you think that climate change is a very serious threat, a somewhat serious threat, or not a threat at all to the people in this country in the next 20 years?



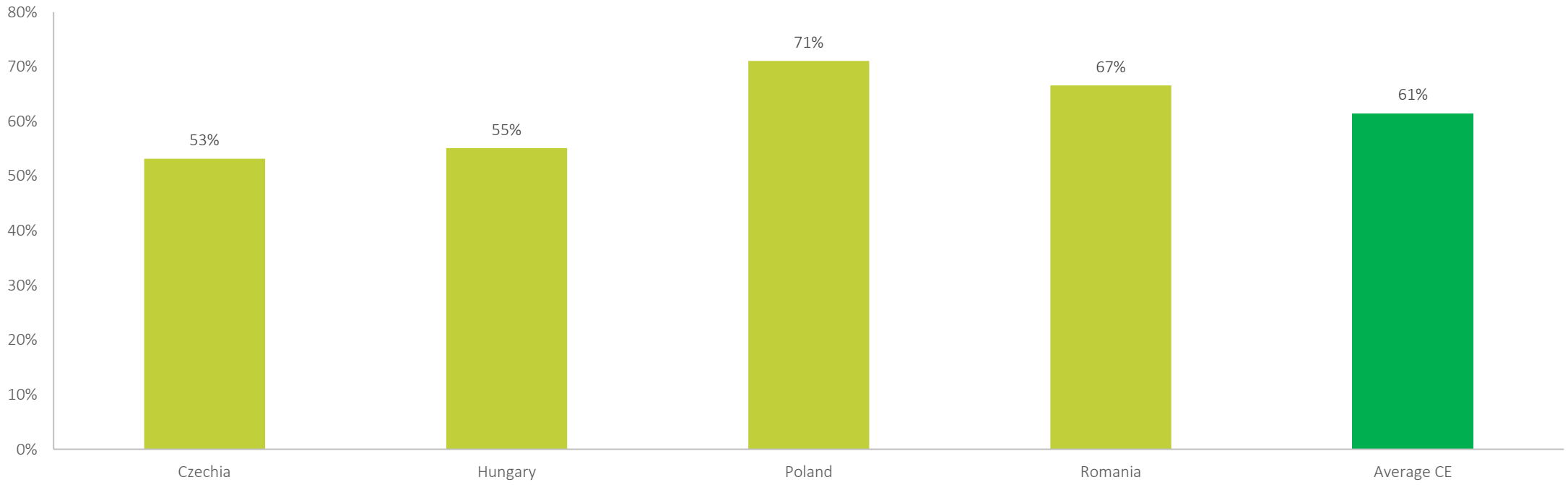
In your opinion, who within the EU is responsible for tackling climate change? (MULTIPLE ANSWERS POSSIBLE)



...change their behaviours...

Research shows that over half of CEE consumers changed their activities and shopping patterns in order to mitigate climate change.

Have you ever changed your activities or purchase behaviors to help address climate change?
% of 'yes' answers



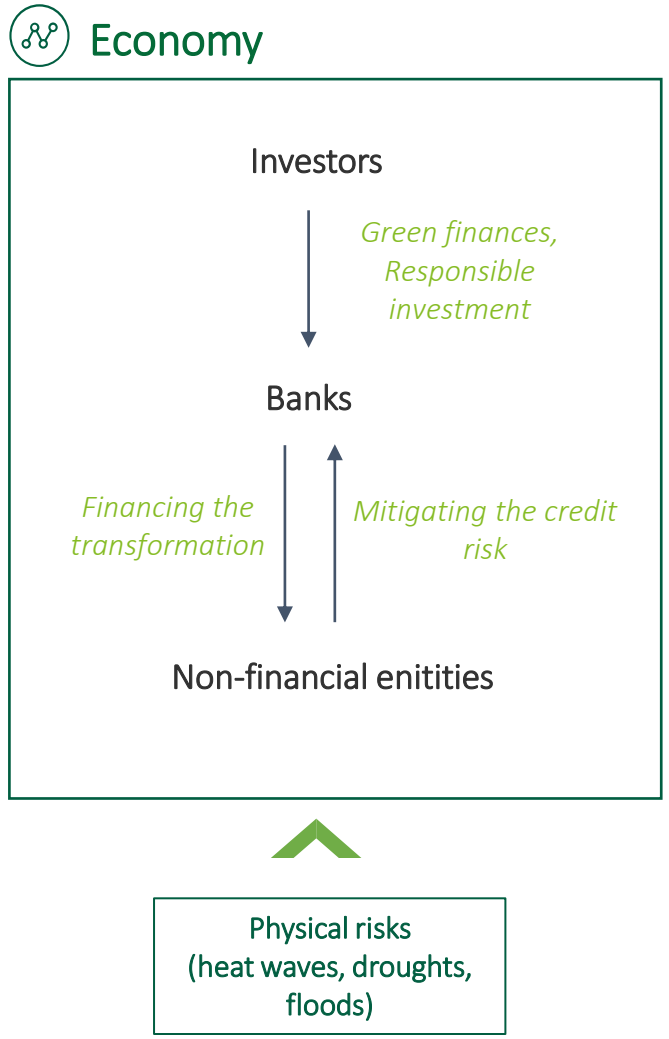
...which impacts economy.

Developments in climate research and even more evident climate change

Increasing concern of consumers, changing behaviours and bigger pressure to act

Changing consumer behaviour

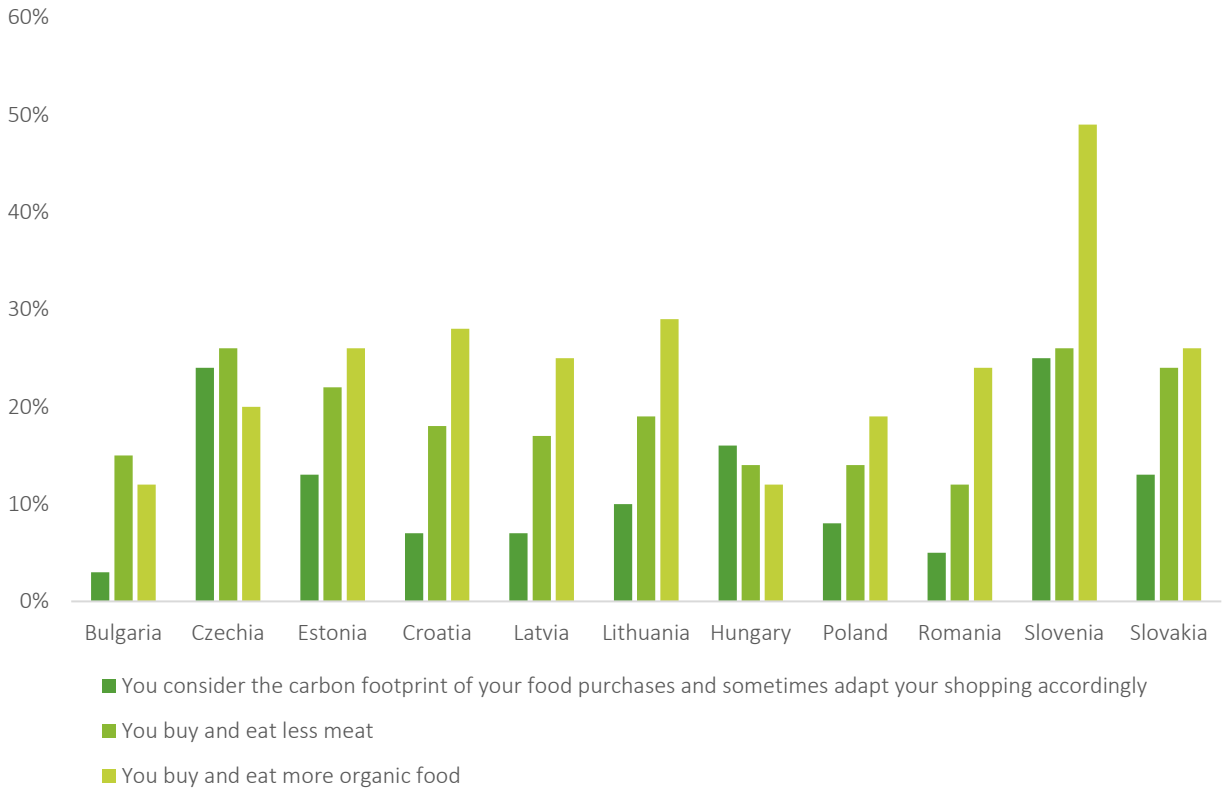
Citizens' pressure on new regulations



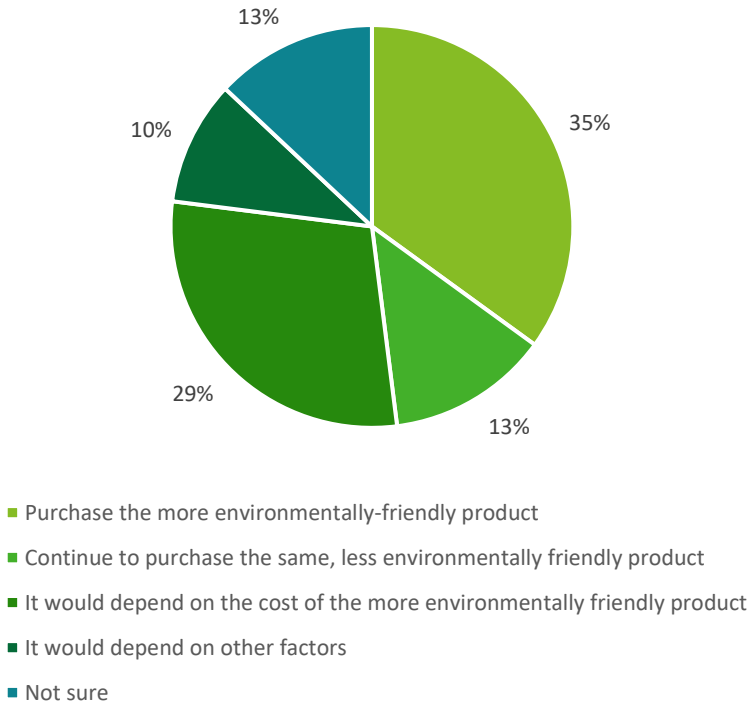
Climate concerns impact agrifood

Some of the consumers take climate friendly decisions also when making food purchases and dietary choices, choosing organic food and changing habits

Actions conducted by people from Central Europe to tackle climate changes regarding food choices



If you discovered that one of your favorite products was less environmentally-friendly than an alternative with the same taste, would you:



People require action and governments are responding to that

Warnings of scientists and consumers' concerns make public institution more active in the area of climate change. An example of such action is Farm to Fork Strategy.

Main objectives up to 2030 :

- a **reduction by 50%** in the use of **chemical and hazardous pesticides**;
- a **reduction of nutrient losses by at least 50%** while ensuring that there is no deterioration in **soil fertility**;
- a **reduction in the use of fertilizers** by **at least 20%**;
- a **reduction of overall EU sales of antimicrobials** for farmed animals and aquaculture **of 50%**;
- reaching **25% of agricultural land under organic farming**.

Digitalization – solution to reduce GHG emissions in agrifood

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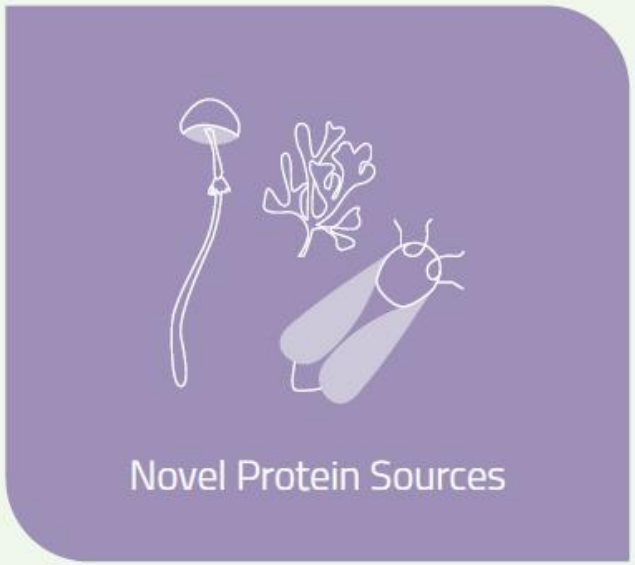
Digitalization – case studies

Companies such as Goodvalley and Frizonagra show that:

- Digitalization increases the efficiency of agriculture
- Sustainable agriculture translates into competitiveness
- Demand for sustainable products in on the rise
- Digitalization is a strategy of bigger farms
- Regulatory barriers exist

Protein diversification – solution to reduce GHG emissions in agrifood

Examples of protein diversification (Non-exhaustive)



Shift to high protein alternatives:

- Dried Mushrooms
- Insects

Feedstocks for protein extraction/synthesis:

- Rapeseed
- Fungi
- Mycelium
- Algae

Cultured Meat:

- Cellural agriculture: In Vitro cultivated meat
- 3D printed meat

Non-animal source:

- Mycoprotein
- Soy-based
- Seitan (Gluten)
- Plant-based (e.g. using pulses, vegetable fats and rice proteins etc.)

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Protein diversification – case studies

Companies such as EkoFungi, Napiferyn and Zabka show that:

- There is a potential in side streams from the food production
- Efficient cooperation between business and science
- Willingness of consumers to try out alternative protein
- Regulatory issues (long time to approve the product to be introduced on the market)
- Consumers may diversify protein sources, however will not fully resign from meat in the nearest future

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