

# What's cooking?

An assessment of the potential impacts of selected novel alternatives to conventional animal products

Key findings



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# Key findings

- **Globally, food systems are responsible for about 30 per cent of the current anthropogenic greenhouse gas emissions driving climate change.** Animal products—including animal emissions, feed, changes in land use and energy-intensive global supply chains—account for almost 60 per cent of food-related emissions, for a total of 14.5–20 per cent of global emissions.
- **Impacts of the growing demand for animal source foods (ASF) take place in a context of unsustainable farming methods and overconsumption, especially in middle and high-income countries.** Overall, production and consumption significantly contribute to climate change, air and water pollution, biodiversity loss, and soil degradation.
- **While ASF are an important source of nutrition, high intake of red and processed meat is associated with increased risk of non-communicable diseases.** ASF production has also been associated with public health risks such as zoonotic disease and antimicrobial resistance, and animal welfare concerns.
- **Novel plant-based meat, cultivated meat and fermentation-derived foods show potential for reduced environmental impacts compared to many conventional ASF.** They also show promise for reduced risk of zoonoses and antimicrobial resistance, and can significantly reduce animal welfare concerns associated with conventional animal agriculture.
- **Further research is needed to understand the potential socioeconomic and nutritional implications of novel ASF alternatives.** Policymakers could also help maximize beneficial outcomes by taking steps to safeguard food security, jobs, livelihoods, social and gender equity and culture.
- **The degree of uptake of these novel alternatives will likely depend on their cost, taste and social and cultural acceptability and on how they are regulated.**
- **Governments have numerous policy options to explore and support the potential of novel alternatives, including support for (open-access) research and commercialization and just transition policies.**
- **If supported by appropriate regulatory regimes and governance instruments, novel ASF alternatives can play an important role, likely with regional differences, in a shift towards food systems that are more sustainable, healthier and less harmful to animals.**

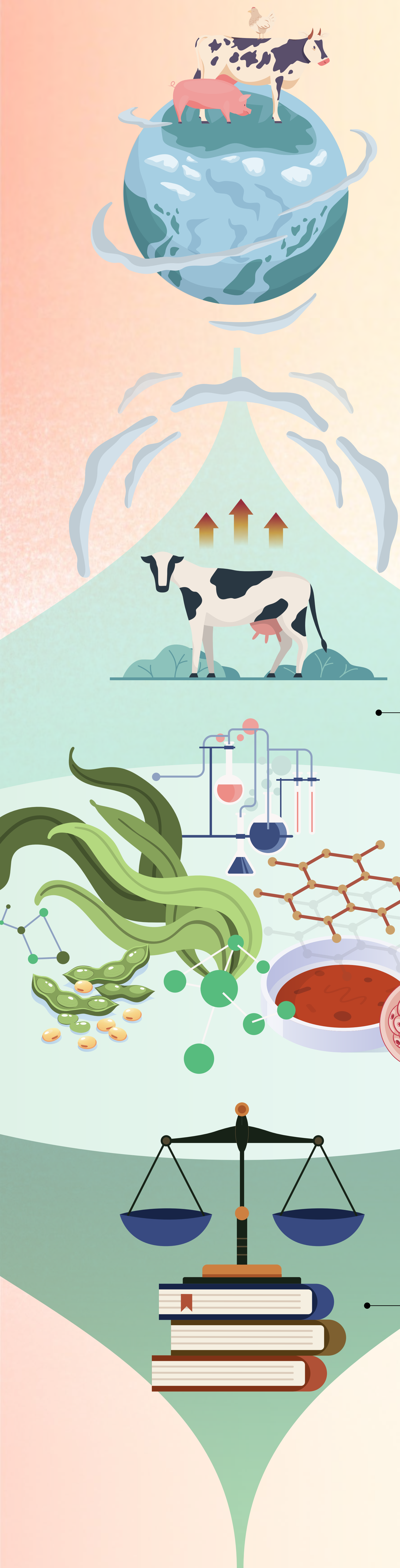


Figure 1. Scope of the report

## 1. Introduction

## 2. Animal source foods significantly impact the environment, human health, socioeconomic dynamics and animal welfare

## 3. New technological solutions are being developed to provide an alternative to animal source foods

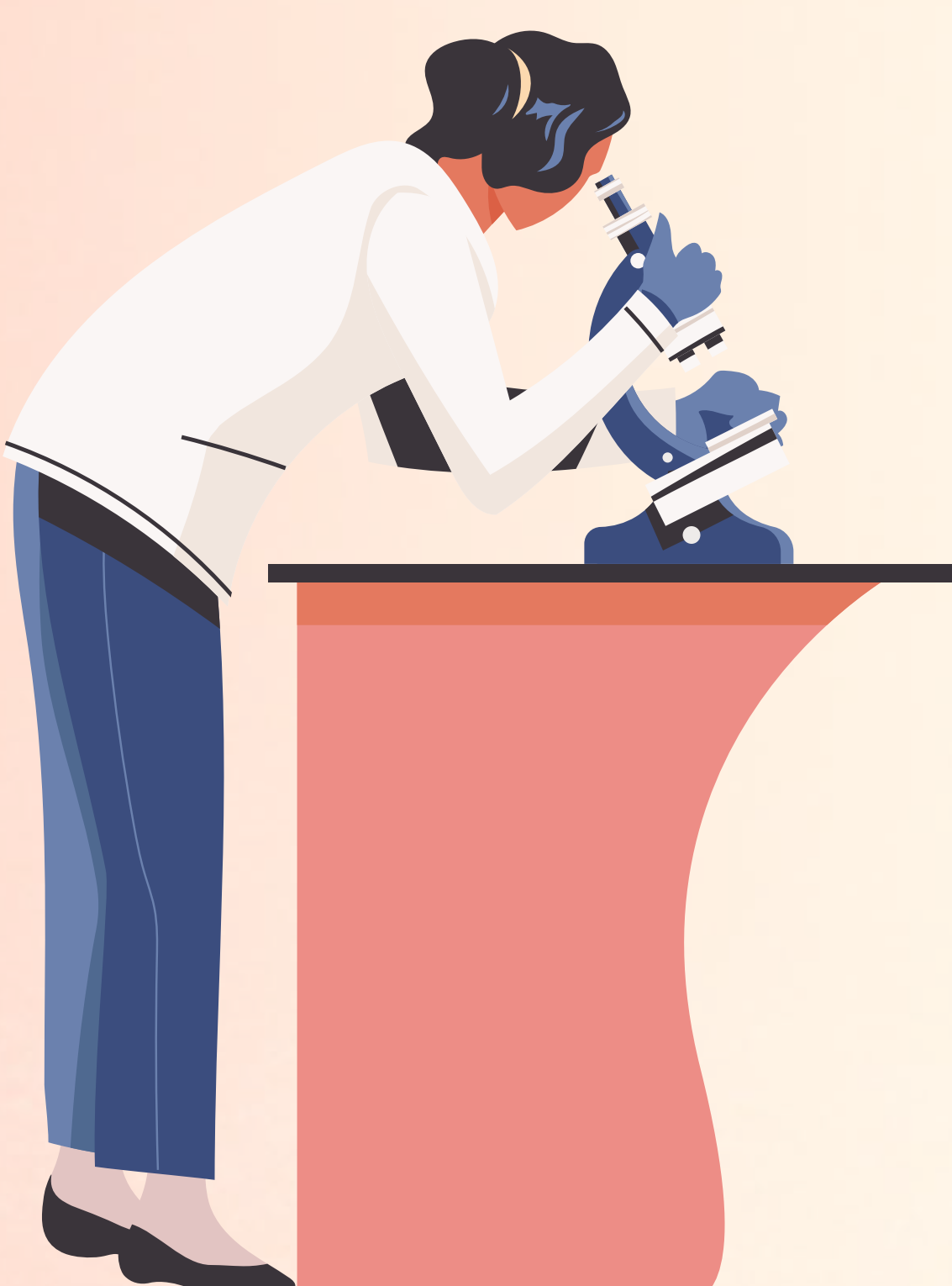
## 4. Policy and regulatory environments can significantly influence the future of alternatives

## 5. Conclusion

## About this report

This report focuses on the potential environmental, health, social and animal welfare implications of the uptake of novel meat and dairy alternatives, in particular novel plant-based, fermentation-derived and cultivated products. A team of interdisciplinary experts has assessed the available evidence on the impacts of these alternatives in comparison with their conventional counterparts, identifying pertinent considerations for policymakers involved in regulating, investing in or providing other support for novel meat and dairy products and highlighting research gaps.

The report does not explore in depth how developing and shifting to novel alternatives compares with other strategies for reducing the negative impacts of the current meat and dairy industry, such as substituting meat and dairy with more traditional vegetarian and vegan products (e.g. tofu, tempeh), developing insects as a source of human and animal feed, promoting extensive and regenerative animal agriculture, reducing meat and dairy demand through pricing (e.g. meat taxes) or direct interventions to reduce animal emissions (e.g. feed additives). Neither does the report address fish and other aquatic animals, or meat from (other) wild animals.





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