The challenge of transitioning to Alternative Halal Proteins in Southeast Asia

Islam, Gender, and Ecological Economies in Indonesia and Malaysia

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Thursday, 11 September 2025

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The development of halal and kosher meat markets in the UK

Over the last decade recognisable markets have emerged for halal and kosher meat in a number of European countries, notably in the UK. Growing segments of these markets are now channeled through product ranges in supermarkets, with the halal market in particular experiencing a rapid increase in demand. A number of factors underpin these developments, including an increase in the Muslim population, changes in consumer behaviour, identity reinforcement, and a general increase in meat consumption. Although the expansion of the kosher market is perceptibly smaller, and the Jewish population is more or less stable, the market is far from being extinct. Kosher products have an increasing presence in supermarkets and there are a growing number of kosher labels.

The expansion of these markets has been accompanied by a proliferation of certification bodies, each with their own standards and practices. These changes have occurred quickly and it is difficult to get a clear picture of the underlying trends; the markets are also fragmented and there is no official data or statistics. This fact sheet is an initial attempt to fill this gap. The data was collected through case studies of certification organisations and significant retailers in order to assess the relationships between religious authorities, market actors and consumers. We did not focus on the catering and restaurant industry - which are also experiencing a rapid increase in demand - but we did gather some data on these sectors.

The market for halal meat

The halal meat market in the UK is growing at a remarkable rate. In 2001 Mintel estimated that the market had an 11% share of all meat sales in the UK, despite the fact that Muslims accounted for less than 3% of the UK population. The Halal Food Authority (HFA)[1], one of the most influential and longstanding certification bodies, estimated a 30% growth of the market for halal food in 2006 alone, despite the fact that the Muslim population was growing at a rate of only 3%. The HFA now estimates that around 25% of the entire UK meat market is halal, of which 75% is certified by them.

Increasing demand has encouraged the segregation of halal production processes and over 100 food manufacturers and distributors (including 'mainstream' supermarkets like Tesco and Sainsbury) are now endorsed by the HFA. The HFA also licenses restaurants and fast food outlets; in 2009 they initiated a halal trial at eight Kentucky Fried Chicken outlets in areas where demand was high, which has since been extended to over 100 outlets.[2] However, despite the increase in halal product ranges in supermarkets, restaurants and fast food outlets - which are popular amongst younger generations - fresh meat is still mostly purchased from independent halal butchers. Significantly, while butcher's shops have been disappearing from the high street for some time, the number of halal butchers has continued to grow; for many they offer trust in the face of a growing concern about the authenticity of halal meat that has accompanied market growth. In 2002 Mintel referred to a Government estimate that around 70-80 % of halal meat was 'fake'.[3]

Such concerns have also facilitated the rise of new certifying bodies. The Halal Monitoring Committee (HMC)[4] came into being because of concerns over falsely labelled meat, with a stated remit is to assure *Muslims that they are eating genuine halal*. The major concerns of this organisation are with the misnaming of halal at all the stages of the production process for processed products, and with the existing certification of stunned and mechanically slaughtered meat as halal, which other organisations such as the HFA endorse. As these processes have advanced, non Muslim consumers have also become concerned about halal (and kosher) meat finding its way into the food chain.

There are no official statistics on religious slaughter, but in 2007 it was estimated that 114 million animals were slaughtered annually in the UK using halal methods.[5] According to Mintel, in 2001 there were 10 abattoirs licensed to supply halal meat (mainly poultry). The HFA claims that all the major poultry abattoirs are now under their control, yet the HMC claims a small but growing share of the halal market, including 5% of the poultry sector. The overall value of the halal market in the UK is estimated to be between £1bn and £2bn.

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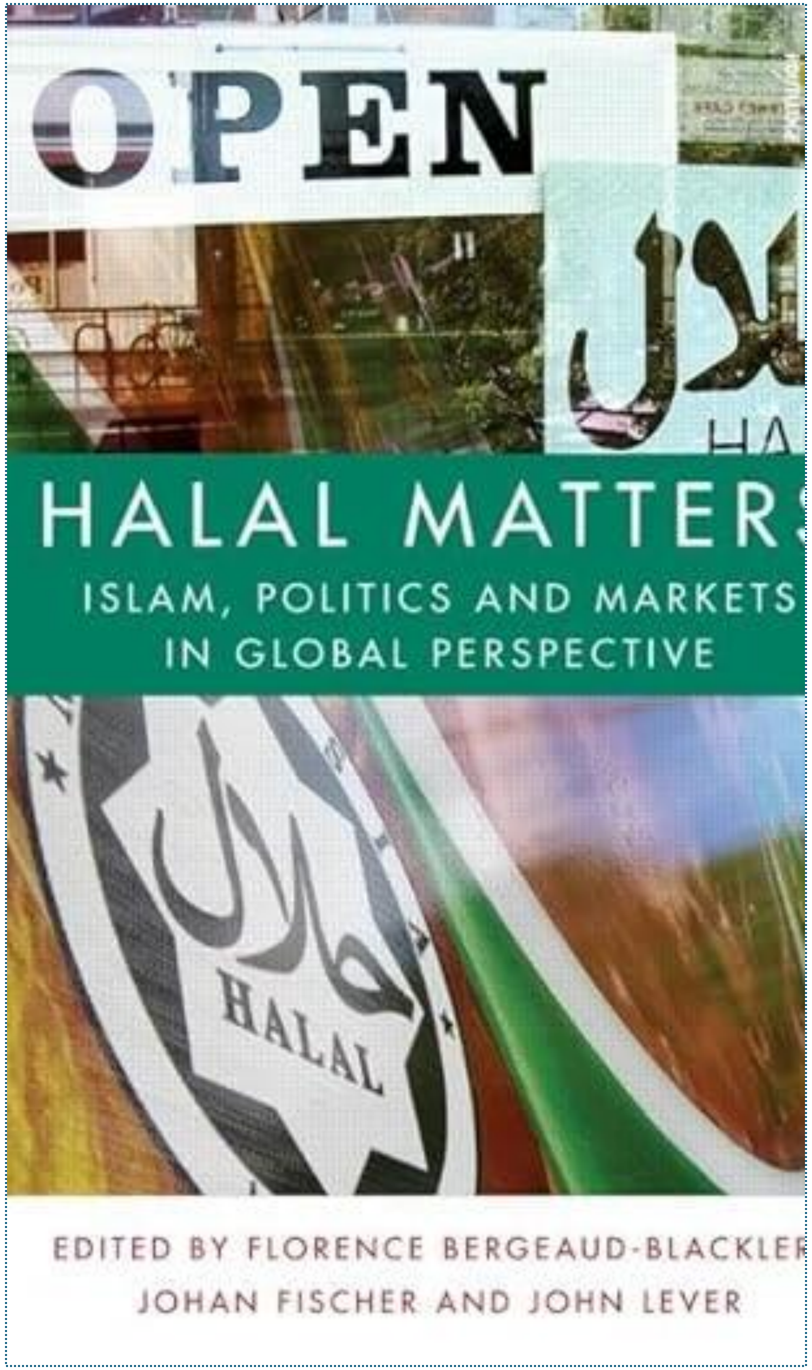
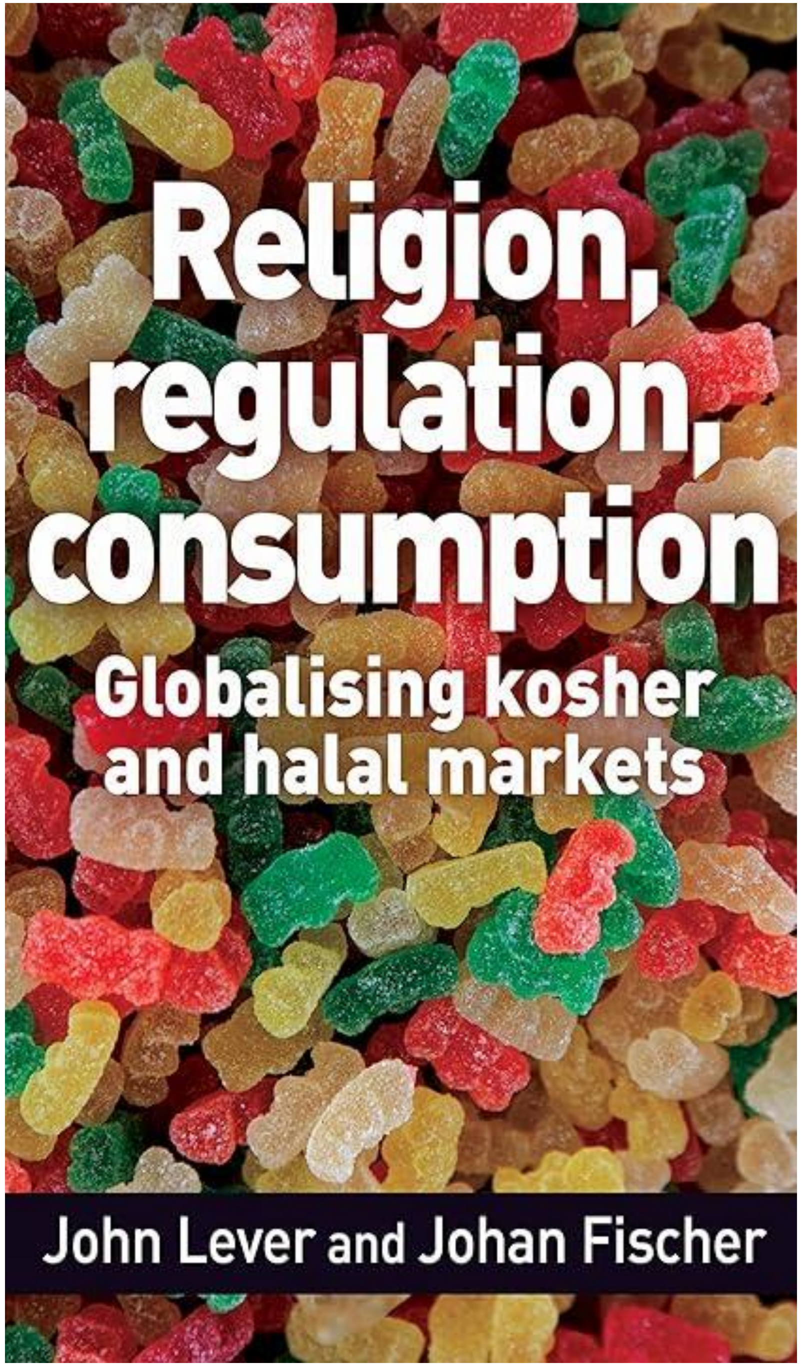




Alternative proteins in Southeast Asia…

- My talk today focuses on the **opportunities and challenges** posed by the transition to alternative proteins (APs) in **Malaysia** and **Indonesia**.

- Both are Muslim-majority countries where **halal is deeply** embedded in everyday life and consumption practices.

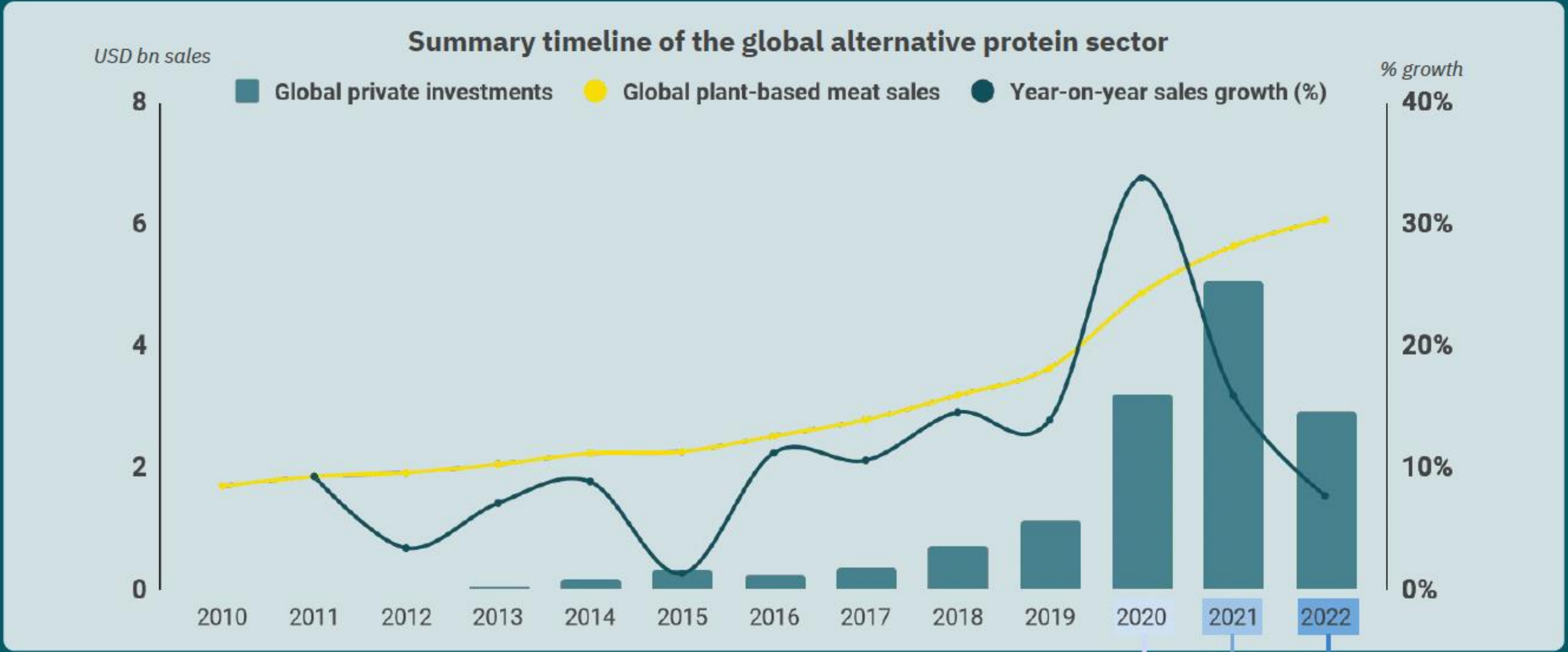
- In both countries, **food security concerns are shaping innovation around APs** in very distinctive ways, alongside debates in **governance**, halal **standards** and **certification**, and changing **consumer demands**.

- The urgency of developing **climate-resilient food systems** and **sustainable diets** is well established.

- The **Intergovernmental Panel on Climate Change** have repeatedly emphasised the need to drastically reduce meat and dairy consumption (IPCC, 2023).

- This has led to **plant-based ingredients**, **cultivated meats**, and **fermentation-derived processes** becoming the source of **viable** if **contested** APs, particularly among younger consumers (Hajat and Parkin 2023).

The global alternative protein sector has made huge progress

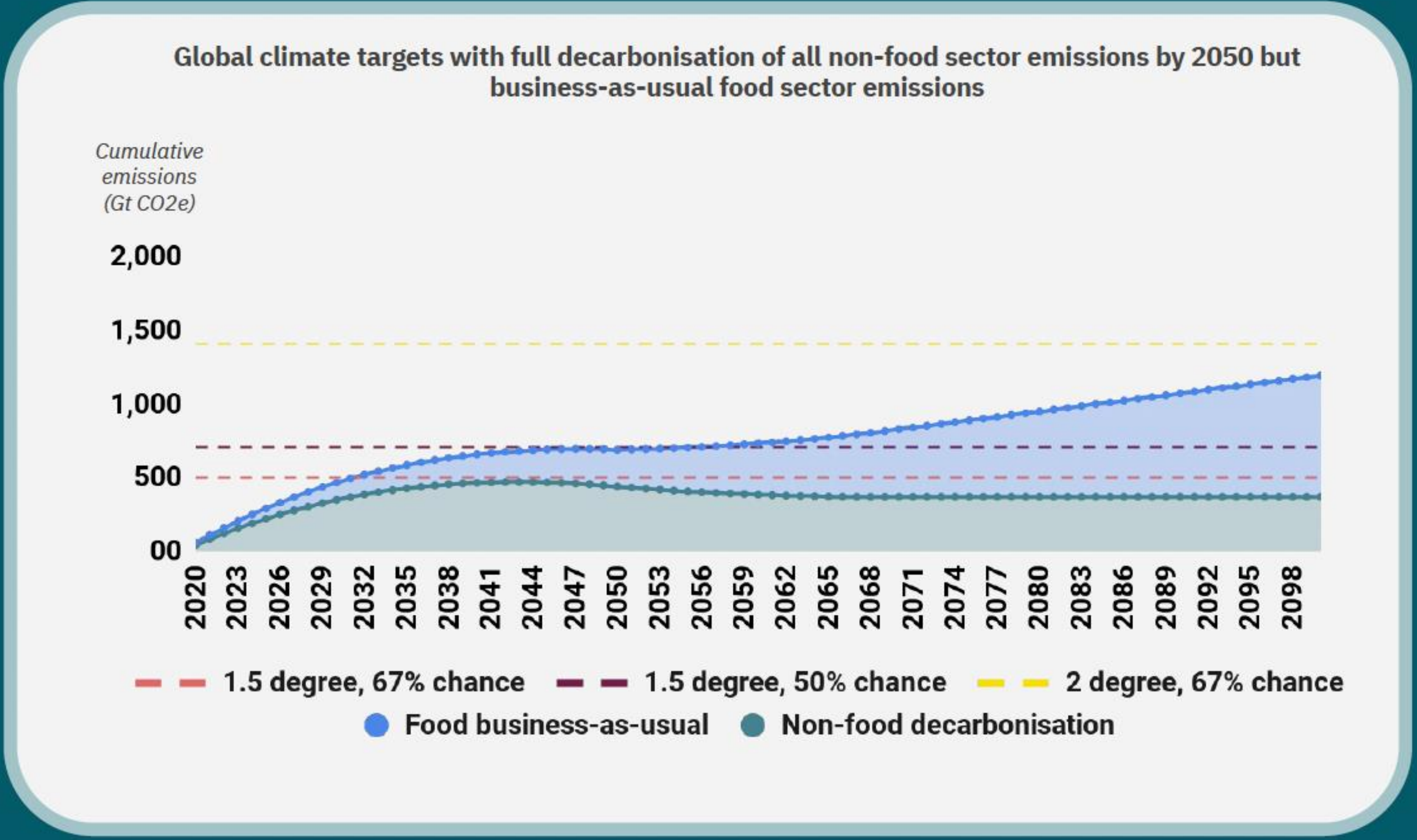


More private capital is invested in the year of 2020 than in the entire sector's history

Year-on-year sales rise by 16 percent in 2021 after record 34 percent growth in 2020

Private investment drops as capital markets wane, but governments triple y-o-y funding

The world cannot decarbonise without alternative proteins



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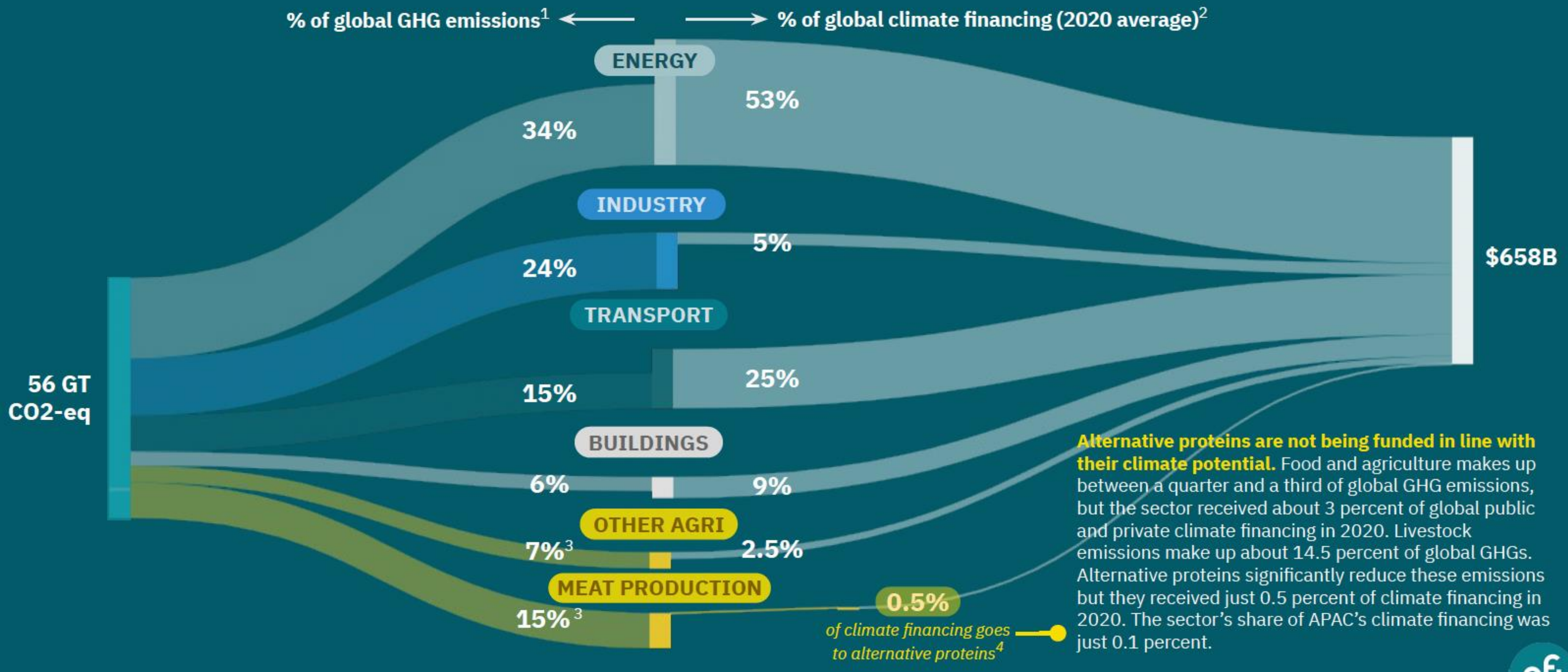
Even if fossil fuel emissions were immediately halted, current trends in global food systems would prevent the achievement of the 1.5°C target and, by the end of the century, threaten the achievement of the 2°C target. Meeting the 1.5°C target requires rapid and ambitious changes to food systems as well as to all non-food sectors.

Clark, M. A. et al. (2020)

Meat production contributes ~15 percent of global GHGs but alternative proteins account for less than 0.5 percent of global climate financing



Alternative proteins are not being funded in line with their climate potential. Food and agriculture makes up between a quarter and a third of global GHG emissions, but the sector received about 3 percent of global public and private climate financing in 2020. Livestock emissions make up about 14.5 percent of global GHGs. Alternative proteins significantly reduce these emissions but they received just 0.5 percent of climate financing in 2020. The sector's share of APAC's climate financing was just 0.1 percent.

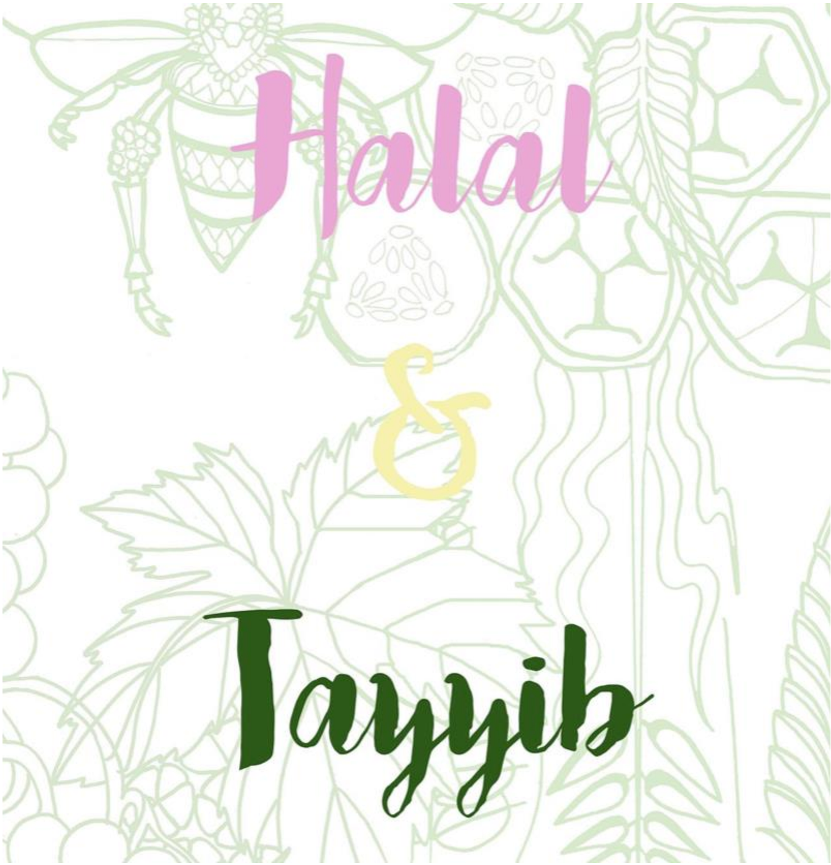
Source: [1] Based on IPCC for all sectors; meat production share from Poore and Nemecek (2021). [2] Based on most recent sector-specific datasets from Climate Policy Initiative. Financing for "other" and "unknown" categories are excluded. Waste-

The importance of APs in Muslim countries…

- Muslims are the world's youngest population, and they are expected to make up nearly 30% of the global population by 2050 (PRC, 2015) – so their consumption patterns matter a great deal!

- The ethical principle of *tayyib* which requires that food be both halal (permissible) and produced in ways that reflect environmental stewardship (*khalifa*) is also increasingly important among young people (Jameel, 2023; Attwood et al., 2023).

- As halal certification gains in importance amongst this group (Turaeva & Brose, 2020), demand for halal-certified, environmentally sustainable foods is expected to rise.



What's happening in Indonesia…

- Indonesia’s AP sector is in its **early stages, but** Indonesia is already a **regional leader** in localised **plant-based innovation**.

- According to a recent survey, nearly **70% of new plant-based meat launches in Indonesia** were in the form of **local** dishes (GFI, 2024) aligned with everyday cuisines rather than Western imitation meats.

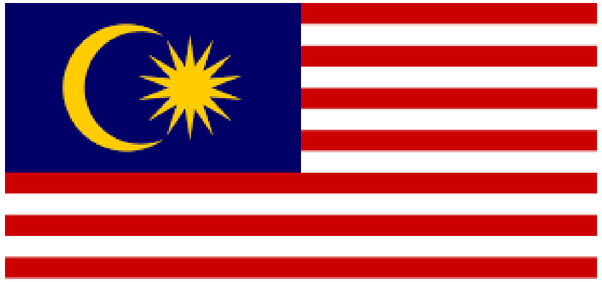
- **Young consumers** in Indonesia are also among the **most curious**, with a strong intention to **reduce red meat consumption** and explore alternatives.

- Traditional proteins like ***tempeh*** and ***tofu*** have a **long history** and **remain widely consumed.**

- Added complexity comes from Indonesia’s new **Halal Assurance Law,** which requires all circulating food products to **be halal-certified**.

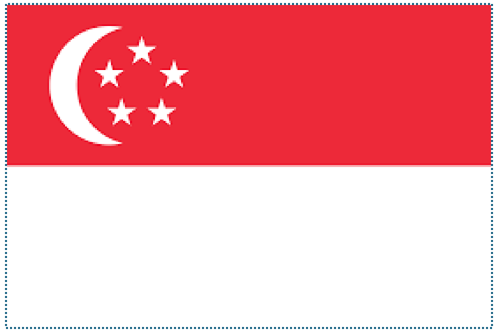
- The country is watching global debates about cultivated meats and other APs with interest, as scholars and regulators grapple with **key theological questions**.

What about Malaysia?



- ‘Malaysia's alternative protein market is in its early stages but growing rapidly, fuelled by the government’s focus on food security and economic development’ (GFI, 2024).
- Malaysia has now explicitly selected **cultivated meat as a ‘core strategic future technology’** under its National Biotechnology Policy 2.0 (2022–2030).
- This shows that the government is aligning biotech development with future protein strategies, even if regulatory pathways are still emerging.
- Malaysia also faces a **price sensitivity challenge and** analysis shows that the price for plant-based meats is sometimes **70–80% above conventional meat,** which directly impacts AP uptake (GFI, 2024).
- To encourage adoption, **innovators** are **localising** products and **franchise models** to reach consumers directly for products marketed at the same price as meat.
- Theological issues around cultivated meat and plant-based foods are also evident in debates about **JAKIM** certification and the **Malaysian Halal standard** (MS 1500/2019).

It’s worth mentioning Singapore…



- In **2020**, Singapore became the **first country in the world** to approve cultivated meat for sale to the public (Ho et al., 2023).
- Since then, it has authorised proteins from fermentation and **some cultivated media**.
- The government has invested more than **$230 million,** embedding APs as a **pillar of its strategic economic and security agenda.**
- This is crucial for a country that imports over 90 percent of its food, and Singapore is now positioned as an **innovation hub for APs.**
- The **Islamic Religious Council of Singapore (MUIS)** has ruled that **cultivated meat** is permissible **as halal** under certain conditions – for example, cells must be sourced from **halal-permissible animals.**

Cross-cutting dynamics and challenges…

1. Governance

- **Indonesia's** Halal Assurance Law centralises halal under the state, with strong religious oversight.
- **Malaysia** relies heavily on JAKIM, whose authority allows it to set halal standards not only domestically but also internationally.

2. Certification

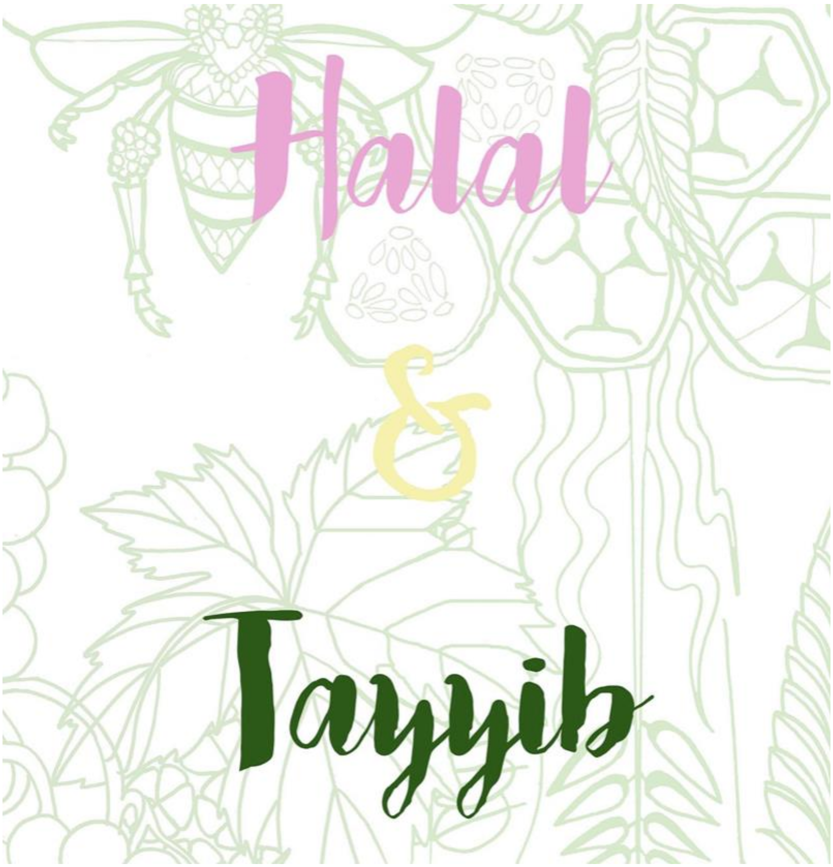
- Both countries position halal certification as essential, but certification is not just a technical stamp, it's tied to legitimacy and consumer trust.
- The integration of ***tayyib*** is crucial in the reframing of halal in terms of **health, safety, sustainability**, and global **ethical food trends** (Jamell, 2023).

3. Consumer dynamics

- In both countries, **younger consumers are more open** to APs, but they require assurance on halal integrity.
- Importantly, this openness is not simply about novelty, it's about aligning new proteins with deeply **embedded cultural and religious frameworks.**

Conclusions

- In **Indonesia**, halal is being extended through state law, while *tempeh* and new localised plant-based launches provide a cultural anchor for AP innovation.
- In **Malaysia**, JAKIM's authority positions the country as a global reference point, while cultivated meat has been elevated into a strategic biotech priority.
- At the same time, **consumer affordability** remains a challenge, particularly in **Malaysia.**
- **Across both countries**, the interplay of governance, certification, and consumer expectations is shaping how APs are legitimised.
- The key takeaway is that **halal integrity and food security are not barriers** but **drivers** that are actively shaping **the markets for halal certified APs.**
- For **Muslim consumers** in **Malaysia** and **Indonesia**, the future of food is likely be **halal, *tayyib***, and increasingly **innovative**.
- But there is much more to do if APs are to reach their potential and help the world to develop **climate-resilient food systems** and **sustainable diets.** We need much more varied research!



Thank you!

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