



Investing with Purpose and Impact

Food Systems Transformation: Risks, Opportunities, and the Role of Climate Finance



Part I: The Problem

Food systems account for 15% of all fossil fuel consumption and **a third of global GHG emissions.**

Risk Landscape: Food Systems Demand Urgent Attention



Over 16.5% of human-caused greenhouse gas emissions come from animal farming.

Risk Landscape: Food Systems Demand Urgent Attention



Factory farming accounts for 99% of livestock production in the U.S.

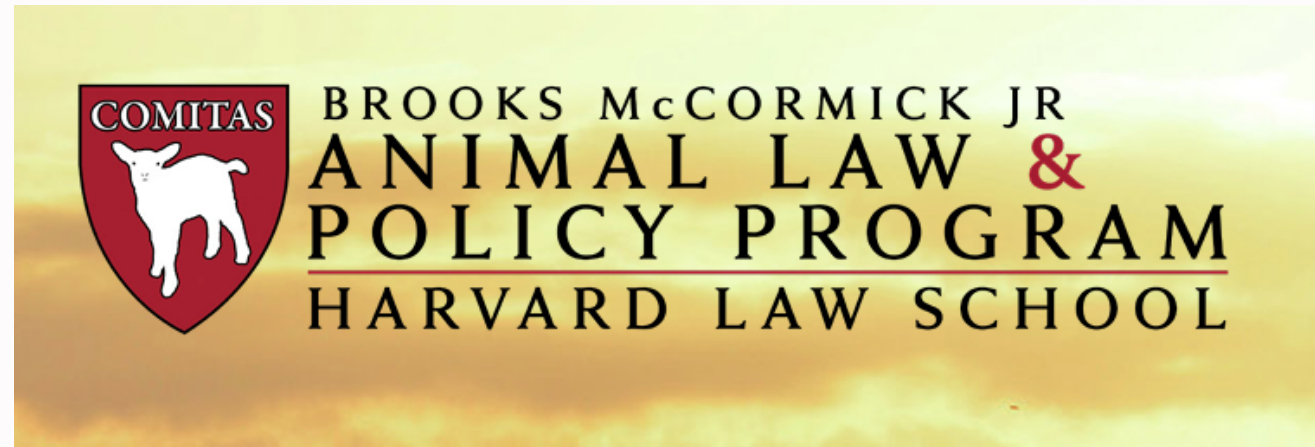
Globally, the figure is 75%.

Risk Landscape: Food Systems Demand Urgent Attention

Without reducing and cutting down on meat consumption and the associated high-intensity agriculture systems, we will not be able to keep global warming to 1.5 degrees.

-- Professor Hans Pörtner, scientist and IPCC co-chair, 2022

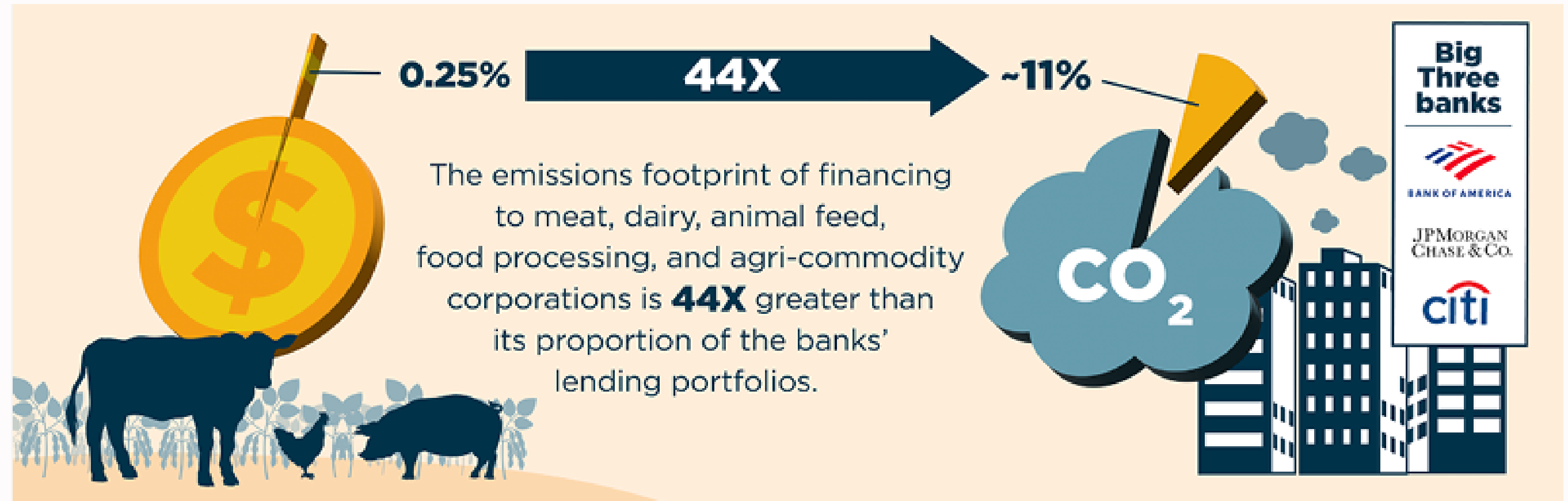
Risk Landscape: Food Systems Demand Urgent Attention



The narrative is clear:

To protect our planet, we need to transform the way we produce and consume food.

Risk Landscape: Implications for Investors



Risk Landscape: Implications for Investors

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Forbes

Big Meat And Dairy – Are Banks Financing The Next Emissions Timebomb?

Felicia Jackson Contributor
I write about innovation, finance, energy, climate and sustainability.

Apr 4, 2024, 06:00am EDT

The Guardian

INDUSTRY

Farmers, Financiers Urged to Seek Pastures New

By Emmy Hawker
4th April 2024

5 mins read

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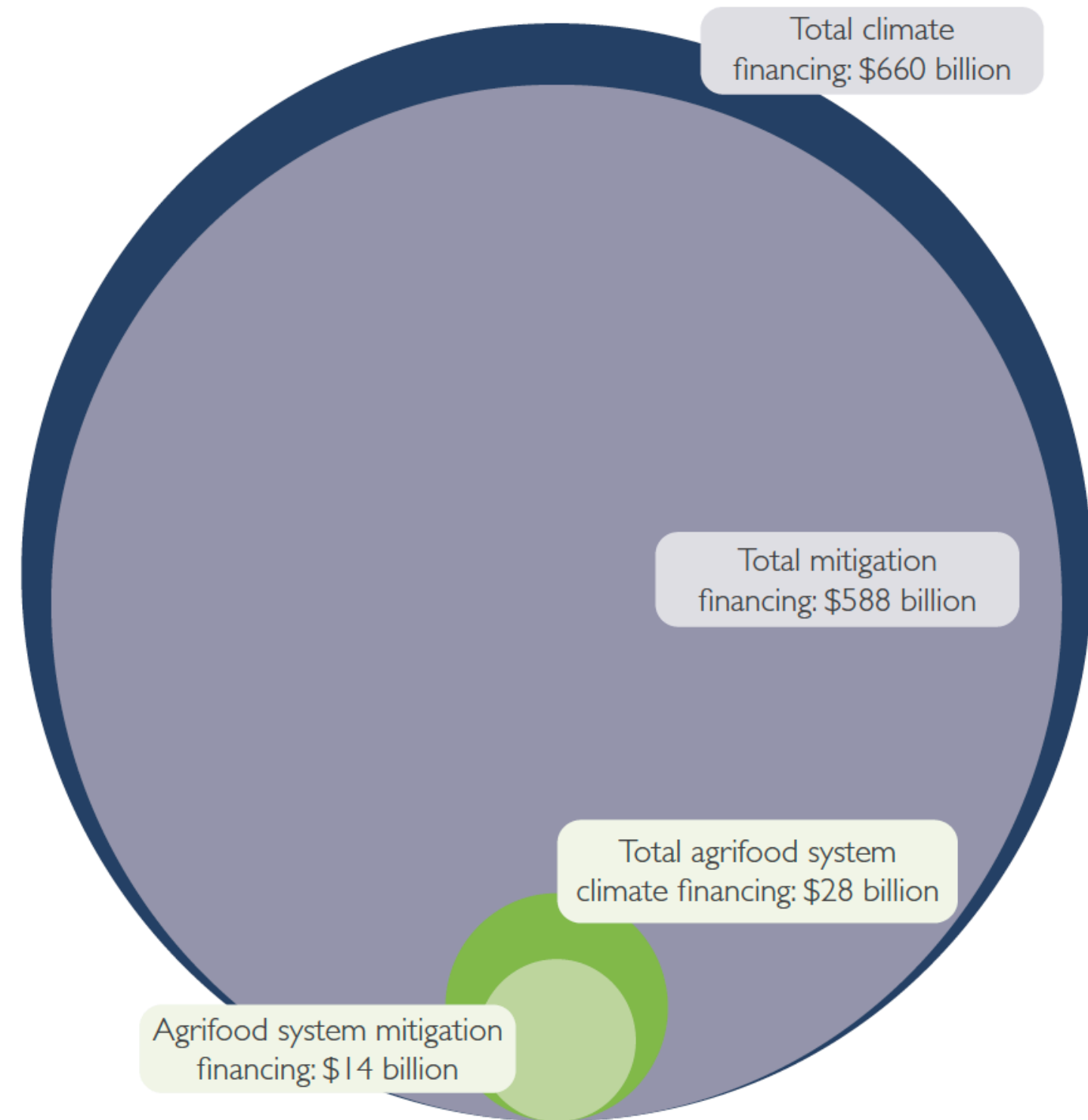
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Part II: The Opportunity

Opportunity: Climate investment demand

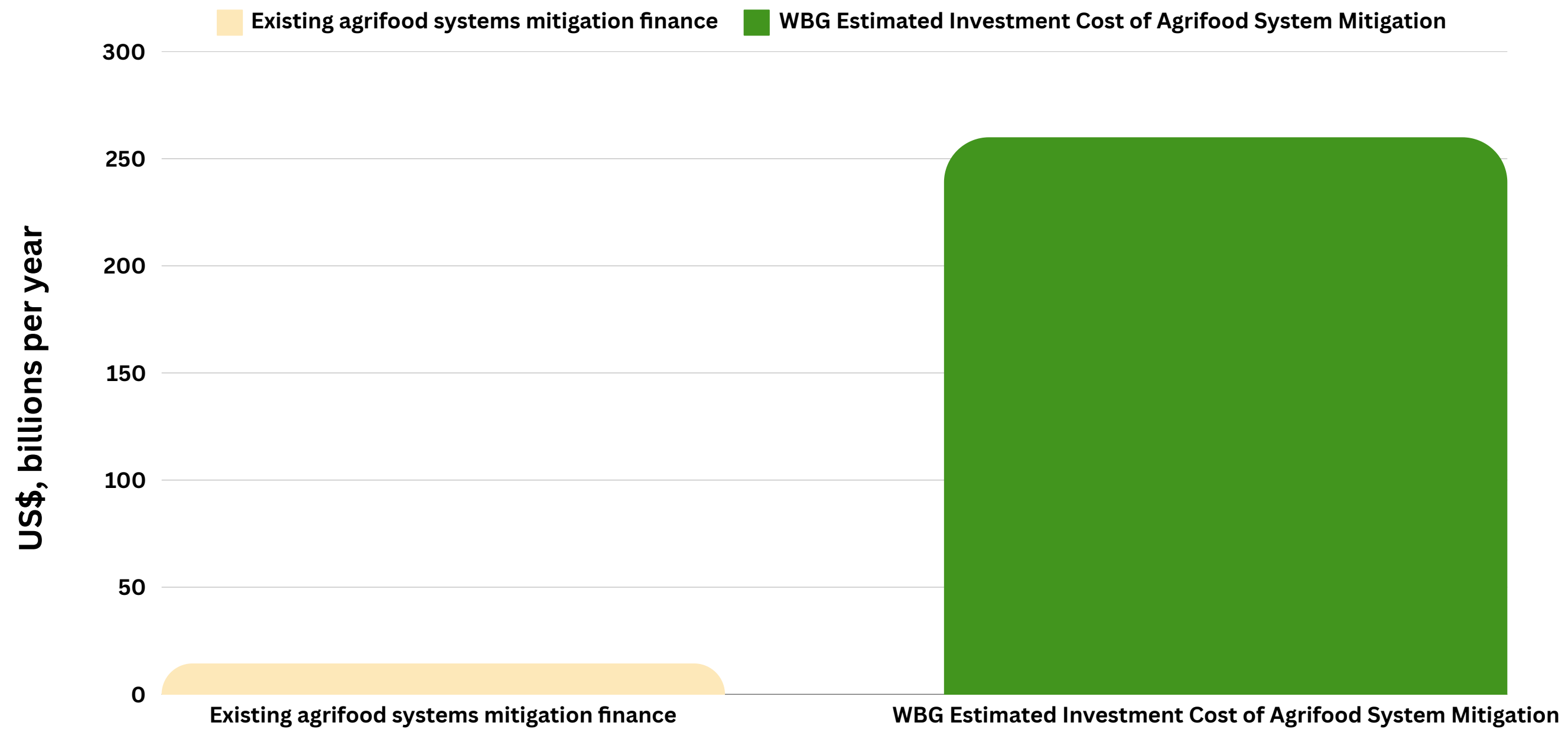
FIGURE 2.11 Finance for Mitigation in the Agrifood System Is Strikingly Low Relative to Its Importance



Source: World Bank based on data from Naran et al. (2022) and CPI (2023).

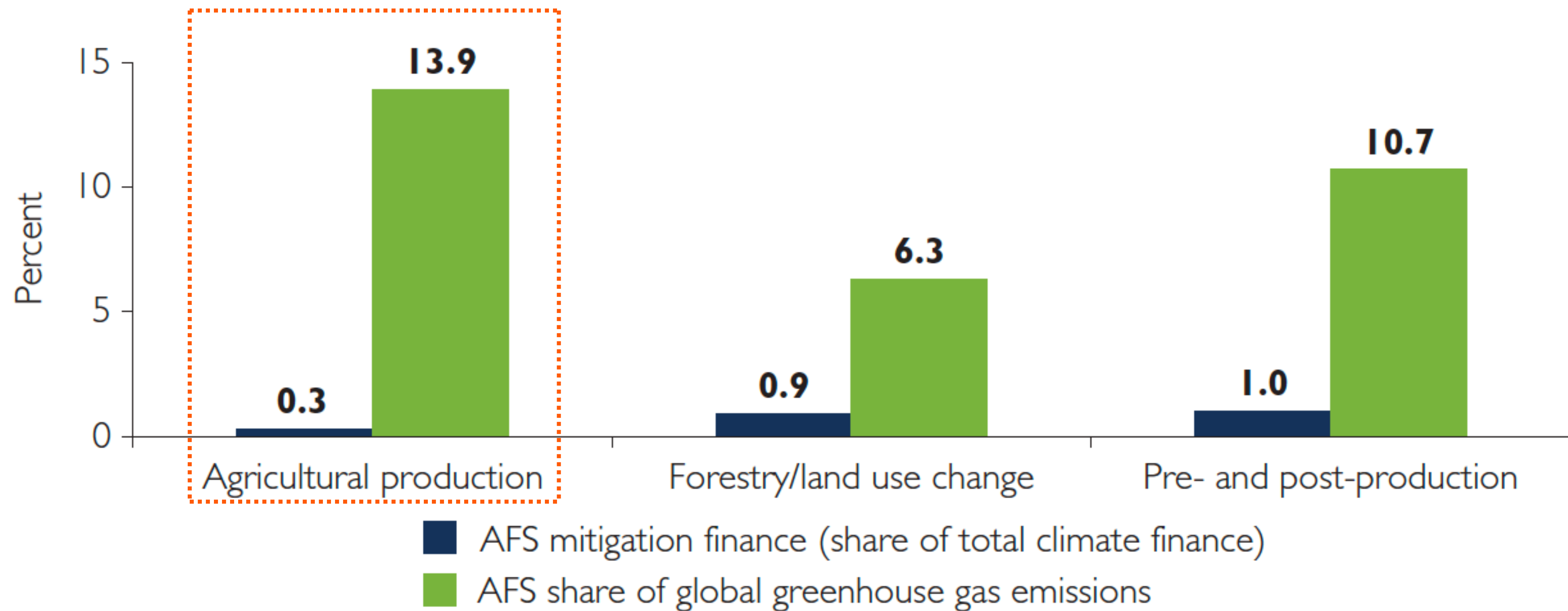
Note: Figure shows for 2019/20 global tracked project-level climate finance (\$, billions) for adaptation, mitigation, and dual-purpose action economywide and for the agrifood system.

Opportunity: Climate investment demand



Opportunity: Climate investment demand

FIGURE 2.13 Agrifood System Mitigation Finance by Subsector Is Not Commensurate with Emissions



Source: World Bank based on data and analysis from the Climate Policy Initiative.

Note: AFS = agrifood system.

Opportunity: Investment Landscape

System Enhancements

- Regenerative farming practices and land restoration
- Yield increases
- Irrigation efficiency
- Reduce reliance on synthetic pesticides
- Manure management practices and biogas conversion

System Shifts

- Agroecological systems and practices
- Avoided land conversion
- Forest restoration and management
- Elimination of synthetic inputs
- Focus on localization, decentralization

System Disruption

- Plant-based, fermented, cultivated technologies
- Meat, dairy, and seafood analogues, ingredients that improve the taste, texture, and consistency of non-animal-derived alternatives
- Blended solutions

Opportunity: Investment Landscape

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Opportunity: Investment Landscape

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Opportunity: Investment Landscape

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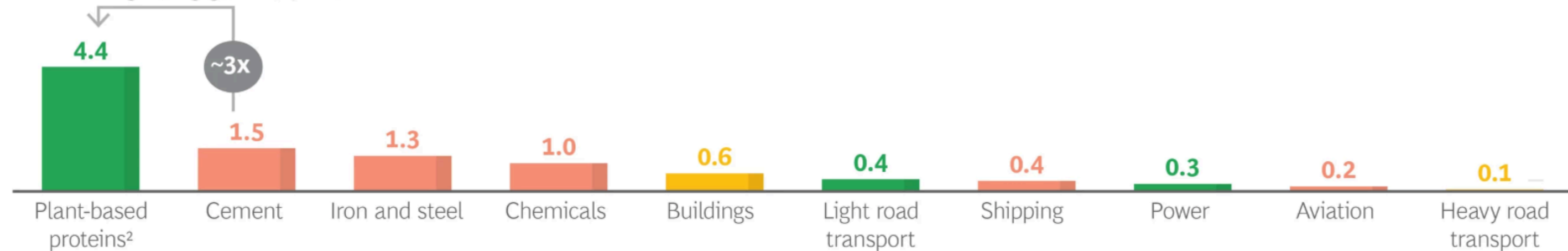
Spotlight: Alternative Proteins

Exhibit 1 - Plant-Based Proteins Have Greater Impact on Capital Employed¹ Than Other Decarbonization Levers in All Other Sectors

Impact on capital employed (\$billions per \$1 trillion invested)



CO₂e savings (in gigatons) per \$1 trillion invested



- **Mostly economic:** most investments in the sector, such as replacing animal-based proteins with alternative proteins at cost parity, are economically viable
- **Mixed:** some investments in the sector, such as building automation and roof insulation, are economically viable; others in the same sector, such as moving to heat pumps in older buildings, are not
- **Mostly uneconomic:** most investments in the sector, such as introducing carbon capture and storage in cement production plants (which adds costs, but no savings), are not economically viable

Sources: BCG/GFMA report, "Climate Finance Markets and the Real Economy"; BCG analysis.

¹Impact return on capital employed (which Blue Horizon has termed IoCE, or impact on capital employed) assumes a market value for avoided tons of CO₂e per dollar invested of \$50 to \$80 per ton.

²CO₂e savings from plant-based products only (red meat, pork, chicken, fish, and seafood).

Alternative Proteins: Investment Opportunities & Trends

Venture Capital and CVC



AgFunder



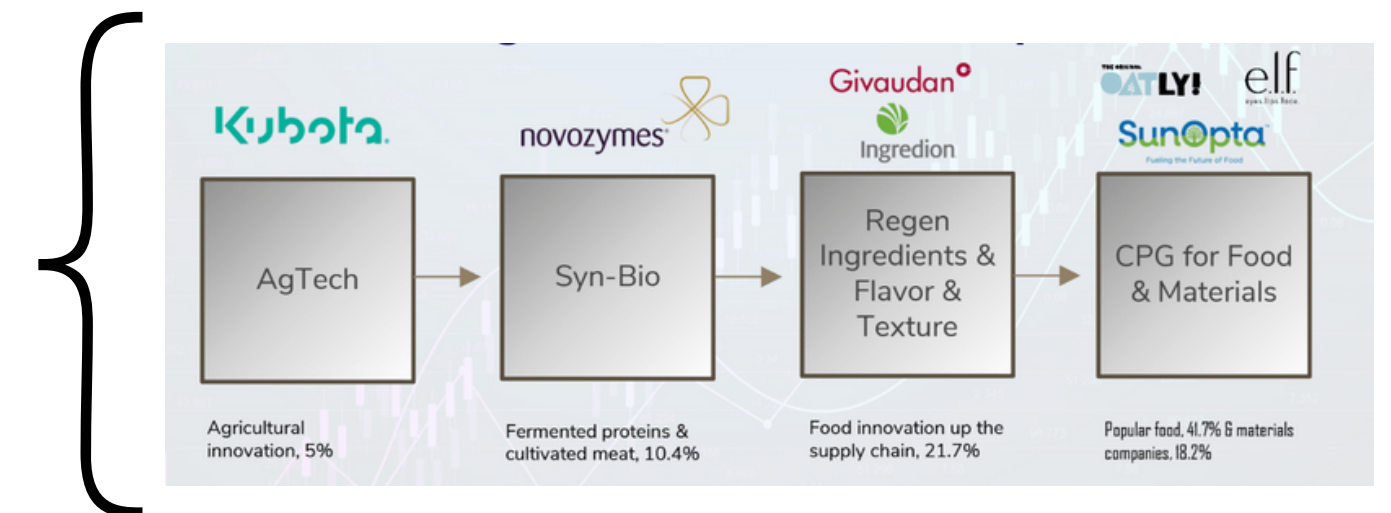
Catalytic Capital



U.S. Department of Defense



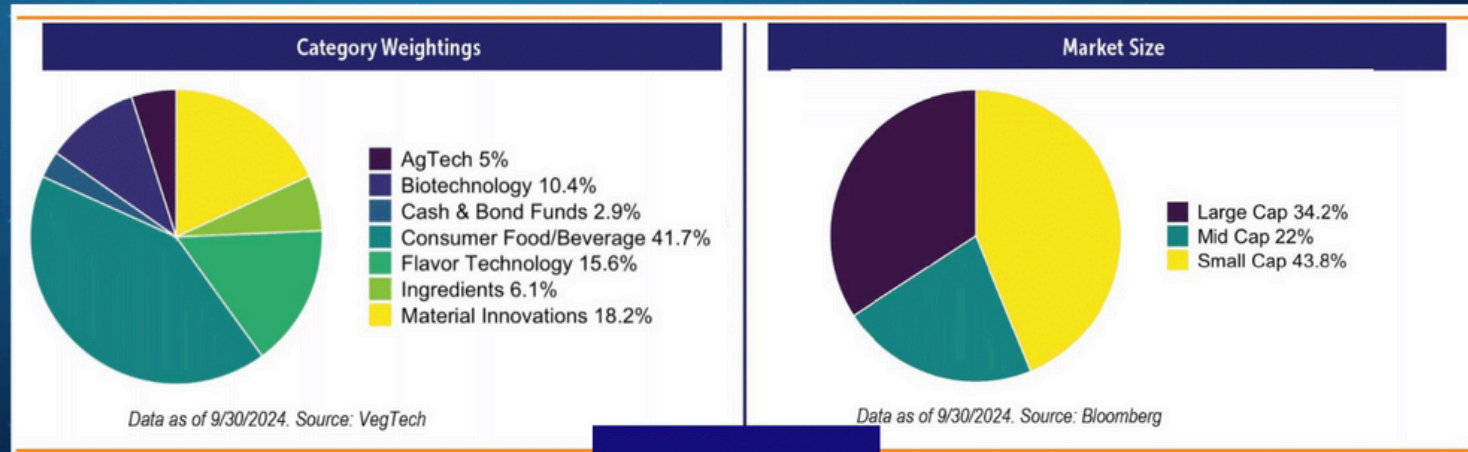
Public Equities



Alternative Proteins: Investment Opportunities & Trends



EATV Is A Blended Small-, Mid- and Large-Cap ETF



EATV Has Supply Chain and Global Diversification

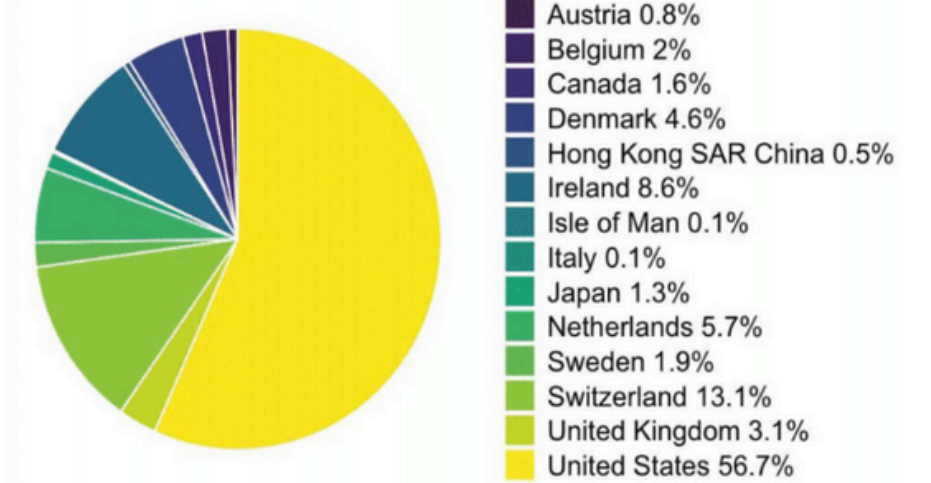
TopTen Holdings*

Name	Weight %
Dole PLC	8.55%
Givaudan SA	6.19%
Corbion NV	5.73%
Fresh Del Monte Produce Inc	5.48%
Ingredion Inc	4.89%
Mission Produce Inc	4.55%
Novonosis	4.55%
Crocs Inc	4.52%
On Holdings AG	4.46%
Limoneira Co	4.39%

Data as of 9/30/2024. Source: VegTech

**Holdings and sector allocations are subject to change*

Country Weightings*



Data as of 9/30/2024. Source: Bloomberg



Trends to Watch

- **Increased interest and awareness among all stakeholders**
- **No silver bullet solution**
- **Mitigation strategies differentiated among geographical regions**
- **Increased collaboration among traditional meat/dairy and alternative protein producers**
- **Blended finance opportunities in developed and emerging economies**



We are on the cusp of a huge and profitable investment wave into new forms of agriculture.

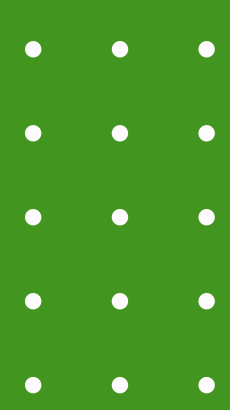
The greatest beneficiaries of this investment wave will be cultivated and plant-based foods.

- Jim Mellon, Moo's Law, 2020

Alternative proteins are the next battlefield.

- McKinsey, 2022

Thank you.



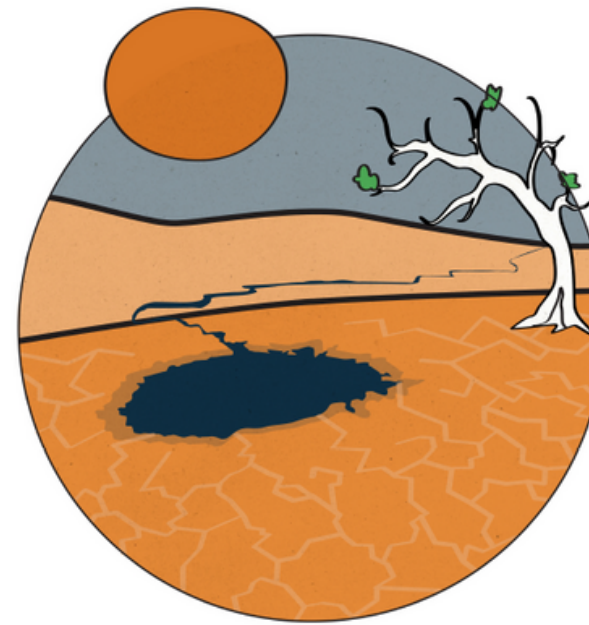
Part III: Annex

Risk Landscape: Concurrent Impacts & Systemic Risk

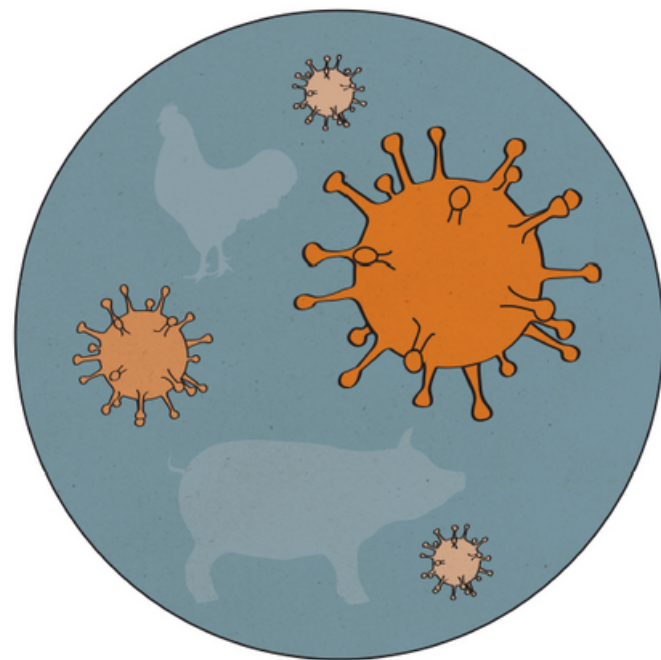
Deforestation & Biodiversity Loss



Freshwater Consumption and Pollution



Zoonotic Pandemics



Antimicrobial Resistance



Food Insecurity

