



ALT PROTEIN FOR GOOD

Plant-Based Alternative
Protein in the United States

Full Report

| Contents

Preface	3
Glossary of Terms	4
Executive Summary	5
Introduction	10
Background	10
Goals of This Report	11
Foundational Viewpoints	11
Methods and Approach	12
Limitations and Suggestions for Future Research	13
Benefits and Points of Tension with the Common Good	14
Agricultural Practices	16
Corporate Concentration and Consolidation	16
Social Justice Concerns	16
Visions of a Food System that Benefits the Common Good	18
Challenges and Decision Points	22
Alt Protein Exceptionalism Polarizes Discourse	22
Alt Proteins Are Caught between Being Food and Being Tech	24
Venture Capital's Impacts Are Mixed on Catalyzing Common-Good Benefits	26
Benefits to the Common Good Are Uncertain, Unmeasured, and Difficult to Assess	29
Price Parity Is a Contentious and Incomplete Goal	35
Meat Industry Investment and Acquisition Offer Benefits and Concerns	37
Alt Proteins' Health Profile Is a Point of Conflict within the Industry	39
Solutions: How Plant-Based Alt Protein Can Generate Co-benefits	41
Industry	41
Government	46
Investors	49
Advocates and Educational Institutions	53
Conclusion	54
Endnotes	56

| Preface

Stray Dog Institute is a private operating foundation cultivating a powerful, inclusive, and collaborative movement for farmed animal advocacy and food system transformation. We envision a thriving food system based on plants and alternative proteins that advances and prioritizes the well-being of people, animals, and the environment. We believe the alternative protein industry can play an important role in enabling inclusive food system transformation, but positive impacts are not necessarily assured by default. For this reason, we seek to contribute to improving alternative proteins' ability to contribute to the common good. We take a systems approach to our work and view alternative proteins as one of many important levers for ending industrial animal agriculture and moving toward a just and sustainable plant-forward food system.

Stray Dog Institute is part of the Stray Dog family of organizations, which also includes Stray Dog Capital, a venture capital fund investing in products that replace animals in the food, medical, and materials supply chains. The Stray Dog team is also closely connected to GlassWall Syndicate, a 501(c)(6) organization comprising individual, venture, and institutional investors united in their desire to support companies that are better for animals, people, and the planet.

From our position at the intersection of food system transformation advocacy, animal advocacy, and alternative protein investment, we at Stray Dog Institute saw ourselves in a unique role to explore and analyze the alt protein industry's potential role in holistic food system transformation.

We are grateful for the input and guidance that the Stray Dog Capital and GlassWall Syndicate teams provided on this project's design and execution. Their expertise was crucial in developing the framing and purpose of this report and in connecting us to leaders in the alternative protein industry ecosystem whose perspectives inform this report's findings.

This report combines and synthesizes viewpoints gathered from interviews representing a wide range of disparate viewpoints on the alternative protein industry. However, all editorial decisions, interview synthesis, and problem analysis presented here are the sole responsibility of Stray Dog Institute, including any errors or omissions. The ideas expressed may not reflect the individual viewpoints of all contributors.



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| Glossary of Terms

Alternative proteins

Stray Dog Institute uses the term alternative proteins to refer to foods that are “produced to provide the sensory experience and nutrition”¹ of animal meat, dairy, and eggs but are created using plants, fungi, fermentation, or cellular agriculture. For the purposes of this research, we exclude from our definition traditional high-protein foods of non-animal origin such as tofu, beans, and lentils. In this report, the terms alternative proteins, alt proteins, and plant-based alternative proteins interchangeably refer to plant-based alternative proteins and should not be construed to include the products of cellular agriculture or precision fermentation.

Food system transformation

We use the term food system transformation to refer to hypothetical large-scale food system change with the goal of correcting negative social, environmental, and animal welfare impacts created by the incumbent industrial food system and its focus on industrial animal agriculture. While organizational goals and approaches vary, we refer to civil society organizations and individuals engaged in advocacy for food system change as the food system transformation movement. In this report, food system transformation experts and movement experts refer to advocates interviewed for this research.

Inclusive Food System Transformation

We use inclusive food system transformation to signal a version of food system transformation that explicitly prioritizes equality, justice, and the provision of broad societal benefits for all entities impacted by food production.

The common good

We use the common good to refer to the combined interest and well-being of all food system interest groups and stakeholders, including—but not limited to—animals, workers, farmers, communities, and the environment.

Default benefits

We use the phrase default benefits to refer to the significant benefits that alternative proteins would provide by replacing the products of industrial animal agriculture, e.g. reducing farmed-animal suffering, greenhouse gas emissions, air and water pollution, pandemic risk, and antimicrobial resistance and generating consumer health benefits.

Co-benefits

We use the term co-benefits to describe additional societal benefits that alternative proteins can provide beyond their default benefits, e.g. better labor conditions and worker treatment in crop farming, environmental benefits of sustainably grown crops, and positive economic impacts on communities where processing facilities are located.

Food sovereignty

Food sovereignty, a concept first introduced by La Via Campesina at the 1996 World Food Summit and formalized in the 2007 Declaration of Nyéléni,² refers to “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.” We use food sovereignty in this report to refer to local and regional, nonindustrial food systems in which consumer communities can exercise control over food production.

| Executive Summary

Introduction

As replacements for the products of industrial animal agriculture, plant-based alternative proteins have the potential to contribute to a holistic transformation of the US food system to create a more just and sustainable food system for all. However, the alt protein industry and the broader food system transformation movement have not always communicated effectively regarding the potential role of alternative proteins in food system transformation. This report places the unfiltered viewpoints of thirty-two people representing various alt protein stakeholder groups into direct conversation to identify challenges limiting alt proteins' alignment with the goals of inclusive food systems transformation and to illuminate opportunities for enhancing common-good benefits and building greater allyship.

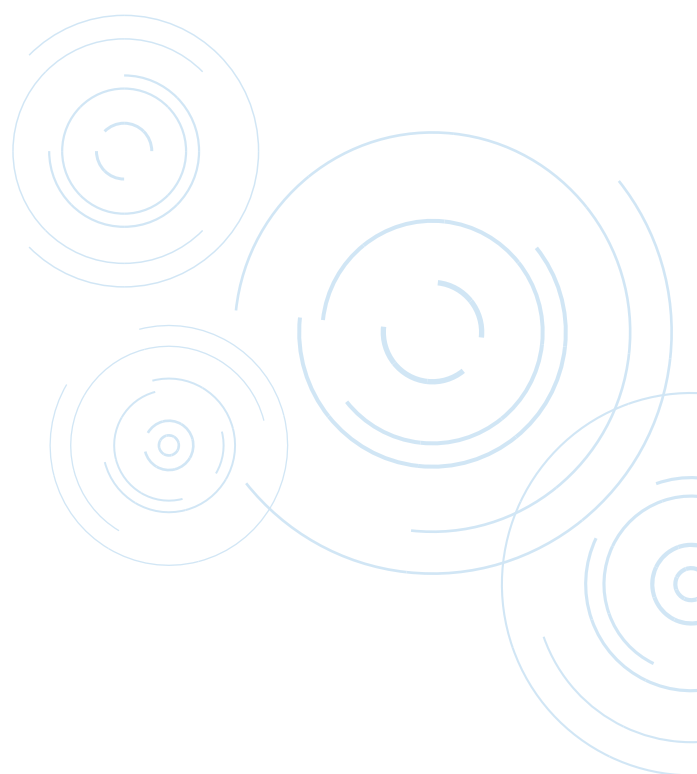
Benefits and Points of Tension with the Common Good

Substituting animal products with plant products offers default benefits, including improved public health and reduced farmed-animal suffering and food-related greenhouse gas production. If prioritized by future alt protein industry development, alt proteins may also generate co-benefits including improved well-being of food chain workers, economic benefits for farming communities, and reduced use of synthetic agrichemicals. Significant areas

of tension between alt proteins and the common good include reliance on extractive, input-intensive industrial agriculture, risk of deepening corporate concentration and consolidation in the food system, and potential continuation of historical injustices and inequities in food and agriculture.

Visions of a Food System that Benefits the Common Good

In initial interviews, food system transformation experts articulated their visions of a food system that benefits the common good. While individual responses varied, descriptions emphasized a plant-forward food system based on restorative rather than extractive agriculture, with a core focus on correcting injustice and inequity, and a unified approach to ensuring human, animal, and environmental well-being.



Challenges and Decision Points



Alt protein exceptionalism polarizes discourse

We observed a duality of highly positive and highly negative narratives regarding plant-based alternative proteins that ineffectively polarizes discourse about the industry, which we believe clouds understanding of alternative proteins' true benefits and areas for improvement.



Alt proteins are caught between being food and being tech

As products of a technology-driven industry, alternative proteins benefit from venture capital (VC) investment. However, as agri-food businesses, they raise additional cultural and economic considerations that fit less well with VC funding.



Venture capital's impacts are mixed on catalyzing common-good benefits

Despite the many opportunities and benefits of mission-driven VC, its funding expectations can limit the alt protein sector's realization of common-good benefits. Ownership of intellectual property presents a particularly nuanced challenge.



Benefits to the common good are uncertain, unmeasured, and difficult to assess

There is no practice norm for gathering impact data, and impact data are given less weight in VC diligence than standard indicators of start-up growth potential. Impact assessment is expensive and fraught with uncertainty. Social and economic impacts of alt proteins are less well understood than environmental and animal welfare impacts.



Price parity is a contentious and incomplete goal

The thesis that alternative proteins must first achieve price parity to realize positive impacts for stakeholder groups prioritizes economic competitiveness. However, the complex evidence basis of the familiar "taste, price, convenience" theory of change oversimplifies both the sociology of food and the distortions caused by public subsidization of industrial animal agriculture.



Meat industry investment and acquisition offers benefits and concerns

Most food system transformation movement experts regard meat industry investment in alt proteins as problematic due to the profit motives and exploitative practices of conventional meat companies. However, investors, entrepreneurs, and analysts highlight benefits from meat industry investment, including access to critical infrastructure, capital, and knowledge regarding processing, scaling, distribution, and more.



Alt proteins' health profile is a point of conflict within the industry

Some food system transformation proponents who support reducing meat production and consumption oppose alternative protein innovation due to perceived health shortcomings, holding plant-based alternatives to an unreasonably high standard.

Solutions: How Plant-Based Alt Protein Can Generate Co-benefits

Alt Protein Industry



Infrastructure: Ways of enhancing common-good benefits include prioritizing worker well-being through improved processing and manufacturing facilities and equipment; converting existing animal agriculture facilities for alt protein usage; siting facilities in rural areas; and creating multi-use and shared facilities.



Sourcing and supply chain coordination: Wherever possible, alt protein producers can increase benefits by sourcing from environmentally friendly and socially just forms of agriculture, reducing the length of supply chains, and favoring domestic and regional sourcing. Digital supply chain management tools could contribute to better food system resilience, lower waste, and greater product attribute transparency.



Business philosophy and growth: Companies and investors can build transformative values into their organizational ethos by ensuring accountability to producer and consumer communities. Alt protein companies can consider pursuing certifications that reflect commitments to social and environmental benefits. Companies can also seek investment partners that operate on longer growth timelines, are mission-aligned, and recognize the unique circumstances of agrifood businesses.



Communication: Alt protein companies can cultivate trust by being transparent in consumer messaging about ingredients, product additives, and nutrition and by communicating proactively with producer communities and workers. Companies may also have an impact by engaging in lobbying efforts related to alt protein production.



Community accountability and social impact: Many respondents called for the alt protein industry to allow for greater workforce unionization and to promote cooperative ownership models. Companies can also recruit from educational pipelines that currently serve the animal agriculture industry and support additional pipelines to broaden access to alt-protein-related career training.

Government



Supportive policy: Government policy could support alt protein production by strengthening land conservation incentives, realigning subsidies, and improving public support for improved value chain coordination.



Funding collaboration between alt protein and government: Expanded public-private partnerships and additional government-funded research and collective marketing efforts would enhance the alt protein industry's common-good benefits, as could government backing of impact assessment metrics and product standards. Government loan guarantee programs could enable and de-risk large investments in building or transitioning commercial facilities to alternative protein production.

Investors



Vision and leadership: A critical mass of investors asking companies common-good-related questions and assisting with the cost of impact assessment could improve and expedite impact data gathering across the industry. Investors can consider funding areas of plant-based supply chain inefficiency and empty spaces that prevent alternative supply chains from competing with conventional animal agriculture. Investors can use their position to encourage behaviors that support balancing profit with common-good impacts.



Collaboration and coordination: Investors can explore opportunities to invest through and alongside integrated capital models, extend funding timelines, and consider providing or connecting companies to nondilutive funding. Investors can engage with government policy regarding alternative proteins, particularly through trade associations, and consider influencing meat industry investment decisions. Crucially, during market contraction, investors could help rescue and preserve intellectual property held by companies facing insolvency.

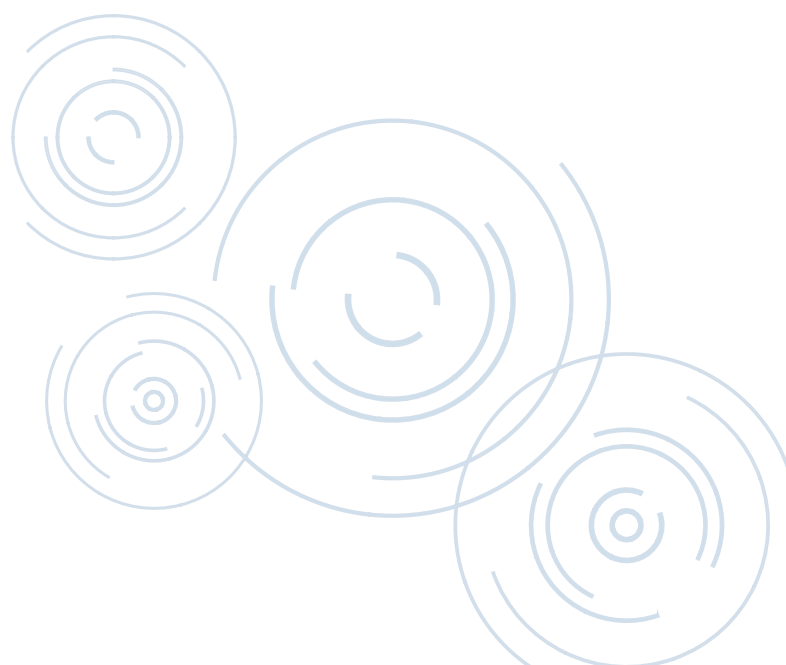
Advocates and Educational Institutions



Improving allyship to further the common good: Advocates can support deeper common-good awareness in the alt protein industry by showing strong food system awareness, recognizing alignment and allyship with the alt protein industry wherever possible, and present criticism without playing into the harmful narratives of the meat industry. Nonprofits can amplify positive impact by connecting with sustainability leads at food corporations that have acquired plant-based companies to help preserve values alignment and impact and to support educational institutions in building career opportunities connected to the alt protein industry. Educational institutions can contribute to expanding common good benefits by increasing offerings related to alt protein careers and focusing on inclusivity in educational settings.

Conclusion

Decentering animal agriculture in US food production is an enormous challenge with profound and extensive systemic implications; alternative proteins represent one of many paths to success. Assisting the alt protein industry to scale up its critical animal replacement potential while deepening and broadening its transformational benefits will require improved mutual understanding and complementary efforts by all stakeholders and interest groups. The plant-based alternative protein industry cannot be a singular solution for delivering food systems transformation, but it can bring us closer to a food system that drives broader and more inclusive benefits to the common good.



| Introduction

This is the first of two reports that Stray Dog Institute intends to publish on the topic of “Alt Protein for Good.” This report focuses solely on plant-based alternative proteins, whereas the second report will focus on cultivated and precision-fermented alternative proteins.

Background

Plant-based alternative proteins have the potential to replace industrial animal products, creating broad benefits for people, animals, and the environment. Over the past decade, the industry’s capacity for positive impact and its explosive growth have gained significant public recognition, especially within the context of rising societal demand for animal products.³ This increased visibility has garnered critiques—both from adversaries such as the conventional animal protein industry and from organizations with otherwise similar goals. In particular, we have noted a number of pointed critiques from players in the food system transformation movement, who raise concerns that the alternative protein industry is not addressing important issues such as food sovereignty and

corporate consolidation. At the same time, we hear from the industry that it is still young and currently experiencing a downturn in financial investment and positive press coverage—referred to by some as the “trough of disillusionment.”⁴ Further complicating matters, the conventional meat industry⁵ and some players in the food systems space^{6,7} have stoked distrust of, and in the case of the conventional industry, misinformation about, alternative proteins.

Stray Dog Institute believes that alternative proteins can contribute to a holistic transformation of the US food system. However, in the current climate, we have observed that players in the alt protein industry and in the broader food system transformation space, including many of our allies, seem to be ineffectively communicating with each other regarding the role of alternative proteins in food system transformation. We aim to help bridge this gap in a way that supports the plant-based alt protein industry to pursue its central goals while increasingly considering and hopefully integrating the broader priorities of the food system transformation movement.



Goals of This Report

This report is not intended as market research, nor as a roadmap for how the industry can embody common-good benefits, although it can serve as a building block for both. Rather, we designed this research to collect and synthesize illuminating insights from within the alt protein industry and the food system advocacy

community, two groups we often perceive as facing challenges in alignment despite their many potential shared objectives. With this report, we seek to identify how the alt protein industry's development can be strengthened and brought into closer alignment with the goals of the food system transformation movement.

Goals of This Report

- ✓ To identify barriers and tension points that currently limit the plant-based alternative protein industry's contribution to common-good benefits and co-benefits.
- ✓ To place the unfiltered viewpoints and values of diverse stakeholder groups into more direct conversation, improving mutual understanding and illuminating the potential for greater allyship.
- ✓ To identify opportunities and solutions that can maximize the alternative protein industry's contributions to food system transformation and the common good.

Foundational Viewpoints

Stray Dog Institute believes that in addition to replacing industrial animal products, alternative proteins can contribute to a holistic transformation to create a more just and sustainable US food system for all. However, we recognize that there are certain barriers or friction points that may limit the alt protein industry's potential contributions to inclusive food system transformation.

Plant-based alternative protein market entrants face an uphill battle to become established in the existing corporate industrial food landscape, secure necessary funding for growth, and generate returns for investors. Investors face

barriers in performing due diligence and may not measure or prioritize inclusive food system transformation. These market forces and pressures encourage the erosion of potential additional co-benefits from alternative proteins.

We believe that investors and other financiers of the plant-based alt protein industry have an opportunity to align capital investments with the goals of inclusive food system transition. Meanwhile, plant-based alternative protein companies can help build a better food system by aligning growth decisions and ingredient sourcing with positive systemic change for producers and consumers.

We brought the following foundational viewpoints to our research for this report:

1 Co-benefits from the alt protein industry are possible but not guaranteed

By its nature, a profit-driven food industry is not aligned by default with the provision of broad and inclusive co-benefits, even in the case of innovative sectors designed to disrupt more harmful food industries. While the generation of co-benefits is not an automatic or essential part of alt protein industry development, the mission alignment of this industry makes co-benefits a nearer goal than it is for the incumbent animal agriculture industry. Within this favorable but imperfect alignment, intentional commitment and better clarification of production impacts can increase the alt protein industry's future benefits to the common good. Our research explores friction points for the industry in maximizing co-benefits and how the industry can unlock broader positive impacts.

2 Alt proteins are not a singular solution for food system change

We recognize that alternative proteins are not—and should not be evaluated as—a complete and automatic solution for food system transformation, farmed animal welfare, environmental benefit, equity and justice for food system workers, or the protection and improvement of food system jobs. Instead, we view them as one of many levers to enable food system transformation. We also recognize that the alternative protein industry exists to sell food products, and it is unreasonable to expect any one industry within a profit-driven food system to provide or ensure benefits for all stakeholders and concerns.

Methods and Approach

For this study, we conducted in-depth interviews with thirty-two experts distributed across the alt-protein industry and investment community, the advocacy movements for food system transformation and farmed animal protection, and the research and analytical community. We began by identifying three interview categories (movement experts, alt protein entrepreneurs, and alt protein investors), composing an initial list of interview targets with the goal of achieving representative coverage within

each category (e.g., including as many major players in the investment space as possible, alt protein companies at various stages of start-up development, and movement experts from a diversity of organization sizes and approaches). We later added a fourth category (industry analysts / academics) through snowball sampling from our initial interviews, considering this group's unique perspective on the industry's challenges and opportunities. Interviews were conducted between November 2022 and July 2023.



38%

Movement
Experts



30%

Investors



16%

Analysts /
Academics



16%

Entrepreneurs
/ Trade
Association

We conducted our first interviews with movement experts from leading animal and food system advocacy organizations to construct as complete a picture as possible of inclusive food system transformation goals rooted in the common good. We also explored their advocacy critiques of the existing alt protein industry and their perspectives on how the industry could contribute to the food transformation visions that they articulated.

We asked interviewees from all categories to assess the alt protein industry's areas of greatest and least alignment with the goals of inclusive food system transformation. We synthesized their expert opinions on how to enhance common-good benefits, with specific attention to deepening benefits for farmers, food production and processing workers, consumers, farmed animals, and the environment. Discussions explored interviewees' perspectives on alt proteins' impacts and the political, economic, and functional factors shaping those impacts.

Exploring respondents' perspectives on positive and negative impacts allowed us to understand how groups within our sample were conceptualizing the differential value of various co-benefits. Interviews revealed particular challenges within the industry, such as factors limiting common-good benefits and areas of notable misalignment between groups in our sample. These discussions provided insights into data gaps or methodological shortcomings and how interviewees envisioned the industry's ideal role in supporting food system transition.

We also asked all interviewees for their proposed solutions for increasing and broadening benefits from alt proteins without intensifying burdens on early-stage alt protein companies. We gathered expert opinions on the biggest opportunities to better align the alt protein industry with the goals of food system transformation for the common

good as previously articulated by leaders in the food system and animal advocacy movements.

Using the input shared with us during interviews, we later identified cross-cutting themes and areas of important agreement or disagreement among our interview categories, constructing the synthesis narrative presented in this report.

Limitations and Suggestions for Future Research

The viewpoints synthesized in this report reflect the perspectives of our interviewees and may not be universally applicable across the alt protein industry, the investment community, and the body of academic scholars and industry analysts interested in alt proteins. Similarly, our sample of advocates and their viewpoints is not exhaustive.

Additionally, this report does not present or evaluate distinct pathways, scenarios, and possible tradeoffs in how the alt protein industry could increase its alignment with the goals of inclusive food systems transformation. Such a study would require wide coverage of stakeholders and perspectives at all steps of the food production process not centered by this research. Because of our specific focus on the alt protein industry and the food system transformation movement, we did not interview consumers or community groups, food production laborers or labor associations, food and beverage distributors, advertisers, or policymakers. Additional research could include additional voices and present robust social and economic analyses of industry development pathways that further align alternative proteins and the many interest groups represented within the food system transformation movement.

Benefits and Points of Tension with the Common Good

The alternative protein industry and its product offer certain default benefits for the common good and additional possible co-benefits depending on the industry's future development. However, the industry also faces particular points of tension that influence public messaging about the benefits of alt proteins and the potential for building broader allyship within the food system transformation movement.

Benefits of Alt Proteins

The goal of promoting plant-based alternative proteins is to disrupt the production and consumption of animal-based foods. Substituting animal products with plant products brings certain default benefits of broad societal value (see Table 1). These include reducing or eliminating farmed-animal suffering, reducing food-production-related generation of the greenhouse gases that drive global climate change⁸, and reducing the resource intensity of food production⁹. Although plant-based diets also present potential nutritional gaps that require active management, plant-based and plant-centric diets are also associated with a lower societal burden of some diet-related chronic diseases, indicating that shifts toward higher plant-based food intake and lower consumption of animal-based foods may provide a public health benefit.^{10,11}

The default benefits of plant-based protein replacement would already significantly enhance public well-being in the US and beyond. However, full realization of default benefits depends on successful replacement of animal agriculture and its products, and the details of these default benefits may vary based on local ecological and social aspects of animal agriculture. Ultimately,



the industry's degree of alignment with a US food system transformation for the common good will depend on alternative proteins' growth trajectory and production practices.

In addition to these default benefits, positive co-benefits from alt proteins are possible but are not ensured by default development of the alt protein industry. These potential co-benefits include—but are not limited to—improved well-being of food chain workers, reduced production-related public health challenges in agricultural communities, enhanced viability of local farming economies, improved rural employment opportunities, greater community control over food and farming systems, and solutions for food access disparities related to historical patterns of race- and class-based social exclusion.

In the context of the many default benefits and possible co-benefits alt proteins can provide, we see three key points of tension between the alt protein industry and inclusive food system transformation for the benefit of the common good. These include the use of unsustainable agricultural practices, potential impacts of corporate concentration and consolidation, and possible continuation of injustices and social inequities in food and farming.

	Default Benefits of Alt Proteins	Potential Co-Benefits of Alt Proteins
Ethical and Well-being Benefits	<ul style="list-style-type: none"> • Alleviate the suffering of farmed animals • Biodiversity conservation • Less emotionally harmful food chain work 	<ul style="list-style-type: none"> • Improved livelihoods for farmers • Safer, less physically harmful food chain work • Increased equity for food production workers • Enhanced community food sovereignty • Improved food access and affordability
Environmental Benefits	<ul style="list-style-type: none"> • Significantly reduced greenhouse gas emissions, including methane and nitrous oxide • Decreased land use and land conversion for food production • Decreased freshwater use • Decreased water pollution 	<ul style="list-style-type: none"> • Reduced pesticide and herbicide use and runoff • Reduced agricultural soil erosion and degradation • Increased agroecosystem resilience
Economic Benefits	<ul style="list-style-type: none"> • Improved resource efficiency in food production • Creation of new markets and opportunities • Decreased public health costs 	<ul style="list-style-type: none"> • Creation of new food system jobs • Improved job quality for food processing workers • Decreased corporate concentration and consolidation in food and agriculture • Increased food system resilience to shocks • Policy and regulatory changes that prioritize sustainability and public health
Health Benefits	<ul style="list-style-type: none"> • Reduction in dietary intake of saturated fats and cholesterol • Reduced risk of serious foodborne illnesses, including E. coli and Salmonella • Lowered rates of chronic diseases, including heart disease, diabetes, and certain cancers • Reduced cancer risk from consumption of red and processed meats • Reduced emergence of novel zoonotic diseases • Reduced development and spread of antimicrobial-resistant infections 	<ul style="list-style-type: none"> • Increased consumption of essential nutrients, fiber, and antioxidants • Reduced exposure to agrichemical residues

Points of Tension

Agricultural Practices

Industrial food production applies a factory-like approach to agriculture, maximizing profit efficiency for financiers by increasing the yield of standardized food products while minimizing the costs of production. While alternative or non-industrial crop production can entail certain challenges for farmers including somewhat lower crop yields¹² and increased need for physical farm labor¹³ industrial agriculture's production efficiencies come at the cost of many significant negative human and environmental externalities that can be present even in the production of plant crops for alternative proteins.

Increasingly robust evidence shows that, in general, plant agriculture can provide equivalent dietary protein using less water and land than animal agriculture while generating fewer greenhouse gas emissions and less air and water pollution.^{14,15,16} Despite these benefits, alternative proteins may or may not utilize ingredients produced via forms of nonindustrial or alternative agriculture designed to minimize negative environmental or social impacts. Crops grown for plant-based alternative proteins may still contribute more than necessary to social exploitation and ecological damage if their ingredients are grown using conventional extractive industrial agricultural practices with higher social and ecological impacts.

Corporate Concentration and Consolidation

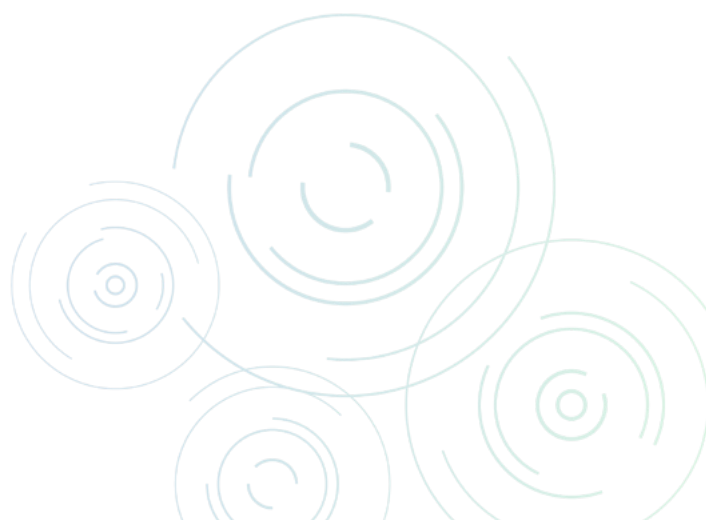
The US industrial food system is dominated by large, vertically and horizontally integrated corporations that wield immense market and political power. Alternative proteins are alternative because of the common ingredients they exclude, not necessarily because of the

brand names they bear or the corporate structures that underlie their production. Where the structures and practices of an extractive, industrial food system underlie the production of alternative proteins, co-benefits for the common good may be sharply reduced.

Social Justice Concerns

Alternative proteins may provide overall societal benefits, but certain segments of the agrifood workforce and groups within the US consumer public have historically experienced significant injustices and inequitable outcomes in the current industrial food system. Comparison evidence from the alternative agriculture movement indicates that without specific effort to ensure workforce justice and well-being during transformation to an alternative protein food system, alt proteins could deliver environmental and animal welfare benefits while preserving labor exploitation and injustice.¹⁷

Understanding existing structural challenges and historical patterns of exploitation that have shaped and continue to shape the US food system within which alt proteins now operate will help the plant-based alternative protein industry maximize benefits to additional stakeholder groups and contribute optimally to the common good.



Alt proteins exist within a legacy of global food system inequity

Especially beyond the US, plant-based alt protein innovation is—fairly or unfairly—conceptually connected to globalization and its negative social and socio-environmental effects, including land grabs, environmental damage, and opposition between communities and corporations.

Reliance on conventional industrial farming and patented food and agriculture technologies in alt protein development may deepen this conceptual connection to the extractive legacy of transnational agrifood corporations in ways that undermine efforts to replace industrial animal agriculture, presenting a challenge for both optics and impact.

Social and economic benefits from alt proteins may not be uniform

While the long-term effects of animal agriculture replacement may bring health and well-being benefits to the social groups that currently form the workforce of conventional meat and feed production, the near-term impacts of disruption and replacement are likely to be more mixed and less inclusive. Transformation may create different kinds of new jobs than the old jobs it replaces, and the local impacts of displacement as well as the growth of new opportunities may be spatially heterogeneous and disjointed.¹⁸ Additionally, the plant-based alt protein industry has so far created the clearest benefits (increased product choice, higher nutritional quality, improvements to taste and texture, etc.) for consumers with sufficient means and privilege to access alternative protein products. Thus far, these consumer benefits eclipse the scale and extent of benefits created for people working within the alt protein value chain (farming, harvest, processing, packaging, distribution, retail, food service).



Visions of a Food System that Benefits the Common Good

In initial interviews conducted for this report, Stray Dog Institute asked food system transformation experts to articulate their vision of a food system that benefits the common good. While individual responses varied, descriptions emphasized a combined and holistic approach to human health, animal well-being, environmental sustainability, and social equity.

The primary themes referenced variously by movement experts included recognizing the rights and well-being of nonhuman animals, promoting a cultural shift toward compassionate farming practices, and ensuring that alternative protein companies aim for genuine positive impact beyond mere profitability. Additionally, movement experts agreed that for a food system to truly serve the common good, it must also prioritize individual and community health and workplace safety and fight against societal injustices, including persistent racial and economic disparities in food and farming. Interviewees described this transformed food system as one that would prioritize a balance between benefits for people, for the environment, and for animals, reflecting the interconnection of the natural world. They emphasized that creating and maintaining such a balance would require careful consideration for crucial structural change to ensure that solutions in one domain would not inadvertently harm another.

There was strong agreement among movement experts in our sample that a common-good food system would value transparency and accountability, expecting producers and corporations to operate with respect for communities, the planet, and all living beings. Such a food system would reject extractive agricultural and economic models, promoting instead restorative models that emphasize equity and inclusion for historically marginalized communities and restoration for overexploited natural environments. Central to this vision is the idea that the common-good food system should support every food system participant, at every stage from seed to plate, to not only benefit but also thrive. It would require enhancing food and nutritional security for communities that currently struggle with food access and suitability, drastically reducing the number of animals farmed and significantly improving the welfare of those that remain, fostering rewarding livelihoods for food system workers at all stages, and conserving the ecosystems that fuel food production. Finally, to move beyond the exploitative norms of the current food system, a food system transformed for the benefit of the common good must address and rectify past and present injustices and contribute to food sovereignty.

For the food system to support the common good means giving everyone (including animals) opportunities to thrive. Thriving includes personal health, the health of the environment and community, and a safe and protected workplace. The common good also has to mean continuing to fight racial and economic injustices.

Alexandra Bookis, Senior Manager of U.S. Government Affairs, Farm Sanctuary

The common good is to provide healthy, safe, nutritional food for the folks in our neighborhoods through a system that has respect for those who produce or deliver that food. Respect means there is an appreciation for each of the links of the supply chain and no link in the system is considered lesser than another link. It's not an extractive model but a restorative model.

Joe Maxwell, President, Farm Action Fund

Food system transformation movement leaders we interviewed articulated the following vision for a transformed food system:

Synthesis: A Vision of a Food System that Supports the Common Good

✓ For the benefit of animals

Few (if any) animals raised for food, and no animals raised industrially. Remaining animals raised with highest possible animal welfare standards.

✓ For the benefit of people

Jobs that are dignified, safe, and provide a living wage at all stages of food system work. Safe, nutritious, affordable food widely accessible. Wage gaps between CEOs and farmers, farm owners, and farmworkers closed.

✓ For the benefit of the environment

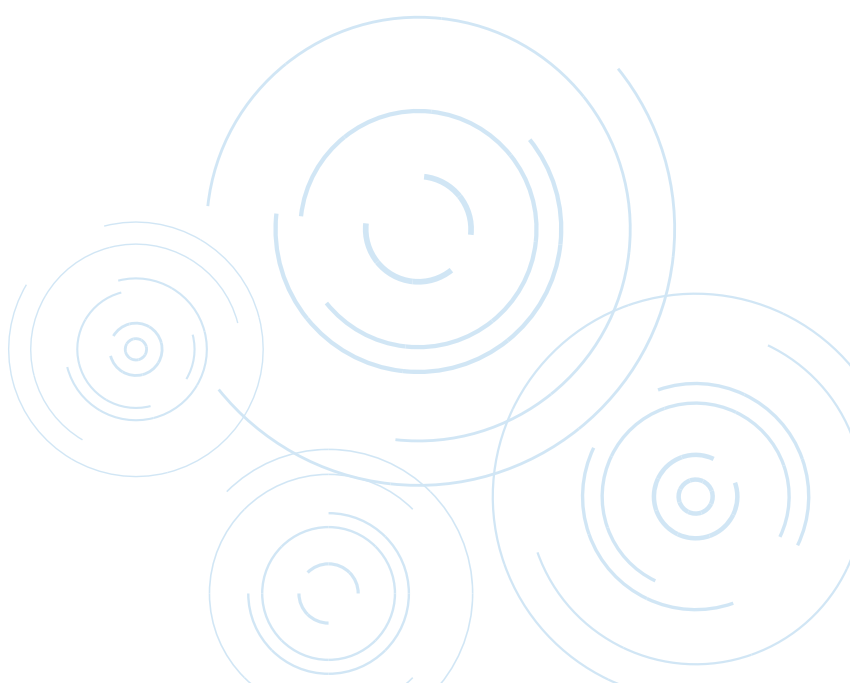
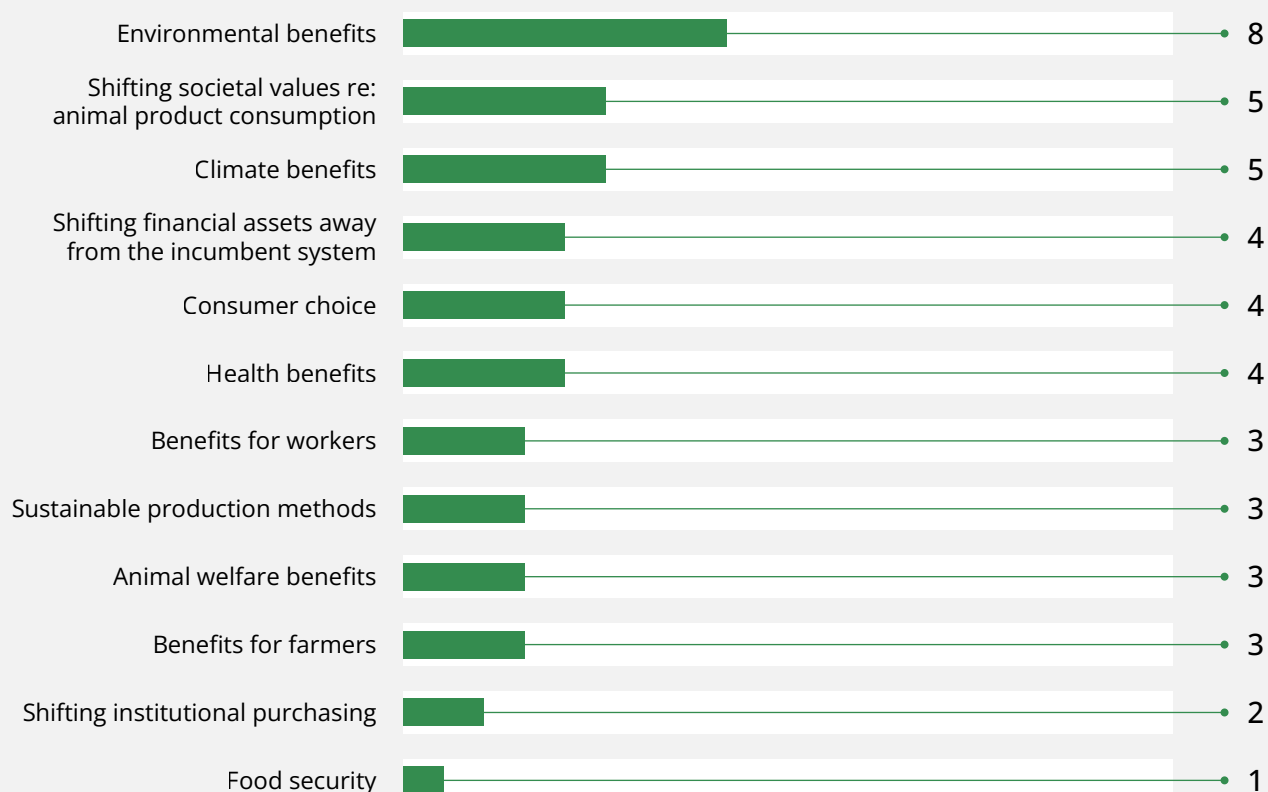
Crops raised primarily to feed people rather than animals. Input-heavy monocultures deemphasized to favor carbon-negative food production with ecologically protective and restorative agricultural methods and transportation.

Stray Dog Institute supports and shares this synthesis vision created from the viewpoints of movement experts in our sample. However, we recognize that some aspects of this synthesis vision stand in opposition to the financial priorities that underlie the current US agrifood economy and food tech VC.

We recognize that many food system benefits to the common good could be maximized by fully decommodifying food. However, we also believe that the alt protein industry can contribute to many worthwhile and meaningful co-benefits while working within the current profit-based food system.

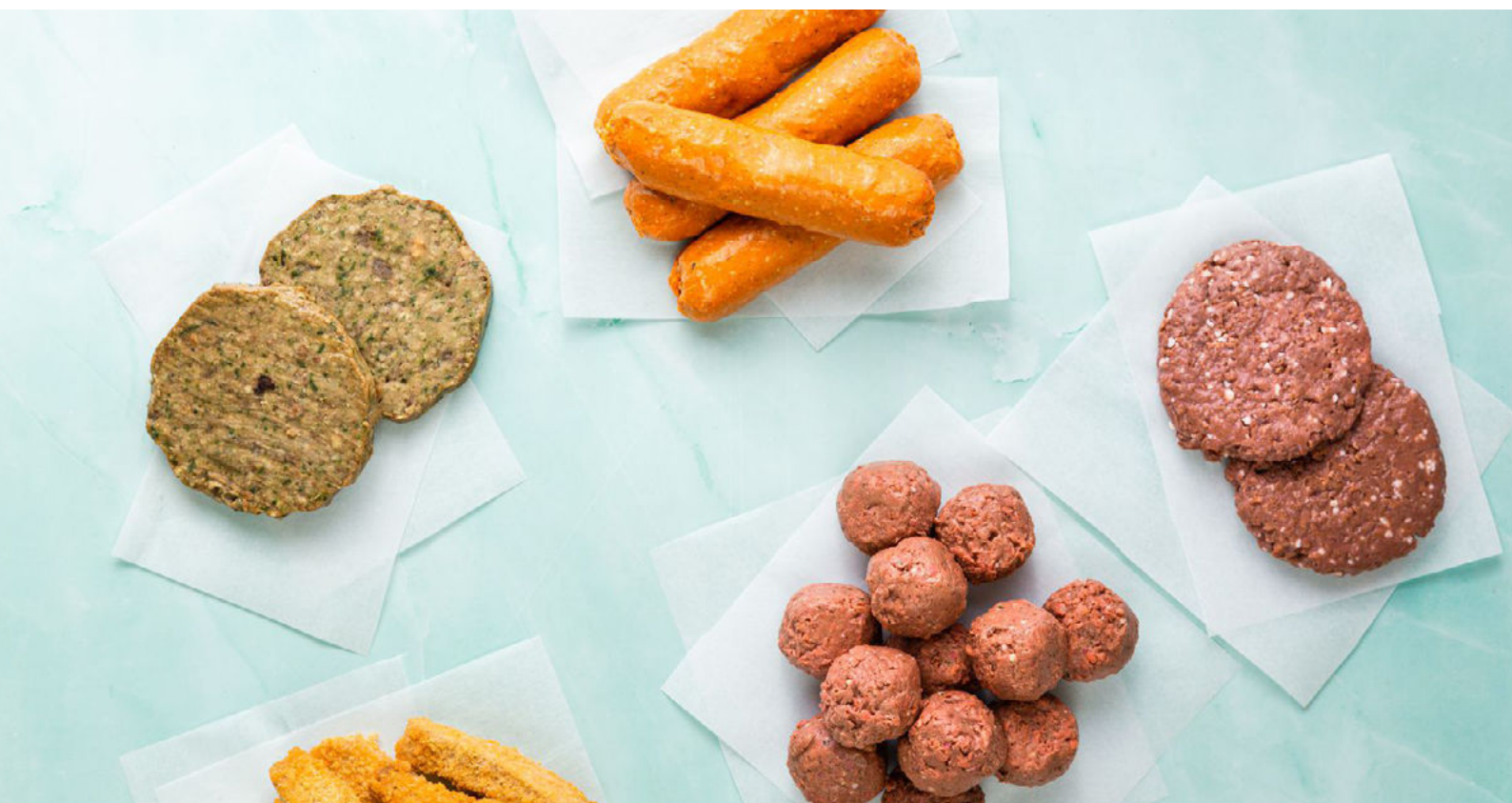
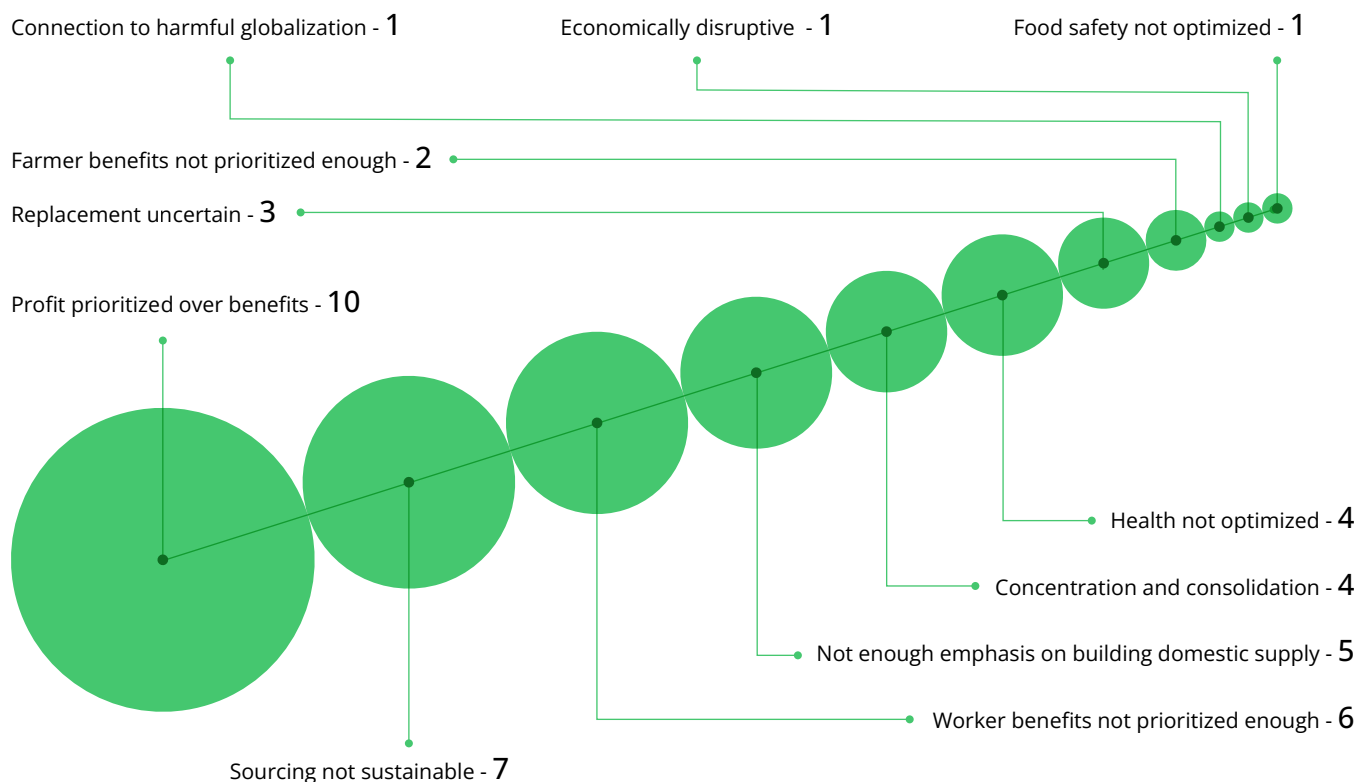
When asked how the alt protein industry is most and least aligned with the goals of inclusive food system transformation for the common good, movement experts and analysts within our sample agreed that alt proteins were most clearly aligned with the production of general environmental benefits, climate benefits, and shifting overall societal values related to the consumption of animal products.

The alt protein industry is most aligned with the common good on these attributes (N = 19)



However, when asked in what ways the alt protein industry is least aligned with the goals of inclusive food system transformation for the common good, movement experts and analysts within our sample most often highlighted apparent prioritization of profit over benefits, unsustainable ingredient sourcing, and lack of emphasis on creation of benefits for workers.

The alt protein industry is least well aligned with the common good on these attributes (N = 19)



Challenges and Decision Points

Alt Protein Exceptionalism Polarizes Discourse

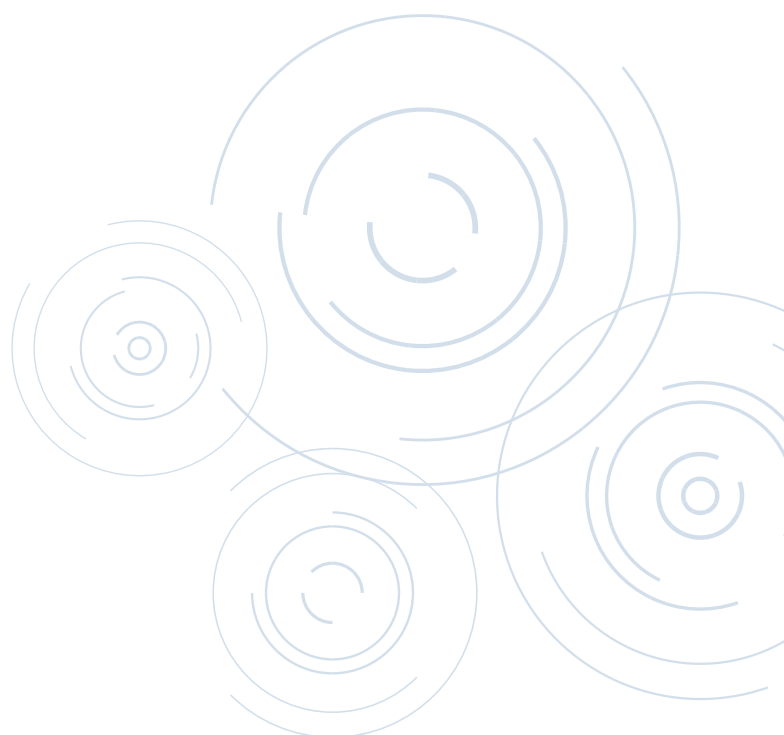
Against the backdrop of prevailing discourses within food system change advocacy, we noted through our interviews two opposing extremes in depictions of the alt protein industry. We believe this duality creates polarization that limits the effectiveness and constructiveness of efforts to improve the industry's contribution to the common good.

While interviewees from all groups in our sample explicitly recognized that alternative proteins should not be seen as a complete solution for all problems in the global agri-food system, interviewees frequently expressed—or referenced—expansively positive claims about the benefits of plant-based alternative proteins, casting alt proteins as a supremely beneficial category about which criticism is unnecessary or unhelpful. Alternative proteins are positioned by leading brands—and occasionally, by parts of the advocacy movement—as humanity's best chance at hitting a quadruple home run: saving farmed animals from suffering, limiting climate change, improving human health, and reducing agriculture's impacts on the environment. For some, these lofty hopes and the significance of their goals support a simplified judgment of alternative proteins as inherently positive and filled with promise.¹⁹

However, others in our sample countered these positive depictions with critiques. Critical assessments from our interviewees and in broader societal discourse about alternative proteins cite a range of priorities that their authors believe alternative proteins currently do

not or cannot provide, including ideal nutritional profiles, strong worker protections, a core commitment to ecological agriculture, and a production basis in decentralized anti-industrial agriculture strengthening universal food sovereignty.²⁰ In the food system transformation advocacy community as well as in the broader field of global food system study, a range of evidence-based critiques of innovative alternative proteins based on complex sociological, historical, and structural food system analysis highlight uncertainties and shortcomings within current alt protein production.^{21,22} Such critiques are warranted and can play an important role in improving both the provision of potential co-benefits from alt proteins and the overall equity and sustainability of the food systems in which alternative proteins exist.

Although most interviewees across all categories agreed that alt proteins can contribute to inclusive food system transformation, some movement experts remained strongly opposed.



Are alt proteins part of the solution for inclusive food system transformation?

■ Yes

■ No



Analysts / Academic (N = 5)



Investor (N = 10)



Entrepreneurs / Trade Association (N = 5)



Movement Expert (N = 12)

Our interviews underscore that some alt protein opposition seems unnecessarily closed to the potential for allyship. Some critics appear to believe that alternative proteins' lack of full, default alignment with the priorities of inclusive food system transformation is a core attribute of being innovative products situated within the current industrial food system and is therefore impossible to meaningfully improve by proactive industry reform.²³ These critiques often especially condemn the perceived shortcomings of alternative proteins,²⁴ at times even adopting the critical language and narratives used by the incumbent animal protein industries to attack the alt protein industry.²⁵ Furthermore, our research among advocates suggests that the strength and conviction of these especially negative critiques may be heightened specifically because alternative protein products tend to be marketed as unassailably virtuous.

The duality of extremely opposed opinions that we witnessed in our interviews creates an ineffectively polarized discourse about the industry in which moderate, substantive critiques risk being drowned out. Through our interviews, we have seen that highly virtuous depictions can entrench critique and invite refutation, while intensely negative critiques rise to the level of persistent ideological opposition. We believe this duality of extremes clouds understanding of alternative proteins' true benefits and areas for improvement. Polarization limits the potential for increasing alt protein's benefits to the common good by increasing opposition between food system advocates and the alt protein industry despite their shared desire to end industrial animal agriculture and transition to a food system free of exploitation.

Alt Proteins Are Caught between Being Food and Being Tech

Many investors and entrepreneurs whom we interviewed depicted alternative protein companies as an investment class that strains under the expectations of the standard VC investment model. In this model, investment funds typically follow a ten-year life cycle during which the fund enters and exits its investments in companies.²⁶ VC funds seek at least three times return on investment across their full portfolio. However, not every investment in a fund will generate a return (e.g., some companies fail). Thus, VC investors typically seek to receive ten times return on their investment over a five-year period,²⁷ and hope that a fraction of their fund's overall investments can generate exceptionally high returns on investment, thus ensuring the fund's overall profitability.

This investment model has worked well for industries in which companies can quickly scale large returns on investment with comparatively low up-front costs. Companies in the technology sector, like Google, Microsoft, and Amazon, are some of the most notable examples of this model's success.²⁸

Alternative proteins, however, sit at the intersection of two industries: technology and food. As products of a technology-driven industry, they appear well positioned to benefit from VC investment. However, as food companies, they raise additional cultural considerations, and as agri-food businesses, they take longer to scale up and can require dramatically higher up-front capital expenditures.

Alternative Proteins Are Food

For many technology products, consumer adoption may be assumed if a product fills a demand and competes economically. However, alternative proteins are not simply technology but food, which carries powerful social and cultural attachments.²⁹ To complicate matters, alternative proteins are designed to replace animal products, which carry particularly strong attachments.³⁰ As a result, the market success of alternative proteins depends on significant culture change and not solely on economic conditions. This may mean longer and more costly timelines for alt proteins' economic success than in other VC-funded sectors. This reality can stand at odds with the short-term timeline expectations of the VC model.

I still hear people say, "Once taste, price, and convenience are there, the game is over." I just think that that's completely missing out on understanding the anthropology and sociology of food. These attachments matter; food is not just like any other industry. It's quite unique because of the social and cultural attachments that people have to food.

Garrett Broad, Rowan University Professor and
Plant Based Foods Institute Board Chair

Agri-Food Value Chains Require Time and Investment

Supply chain experts whom we interviewed noted that alternative proteins require higher up-front investments and longer timelines to create new value chains, from transitioning farm fields to building processing facilities, which are not a natural fit with VC funding timelines. Sourcing alternative protein crop inputs sustainably and, in many cases, domestically (US) necessitates the creation of new value chains. Doing so requires financing models that account for the unique challenges of agri-food businesses, such as the seasonality of agriculture and longer profitability timelines.

Quarterly growth means inherently short-term thinking, which harms the industry. For example, moving processing centers to the US would shorten supply chains, making things cheaper for plant-based companies. We can grow almost anything you want in the US, and farm transitions can help make that possible. We have the ability to produce a lot of these goods domestically. But if you take a quarter-to-quarter view, it's a loss to build up your domestic supply chain rather than importing from abroad.

Tyler Whitley, Director of Transformation Project, Mercy For Animals



Venture Capital's Impacts Are Mixed on Catalyzing Common-Good Benefits

Benefits of Mission-Driven Venture Capital

The presence of mission-driven VC in the alt protein space has had an immensely positive impact both on the number and success of emerging companies and on their ability to think broadly and deeply about positive impacts on the common good. Mission-driven entrepreneurs

committed to social and environmental benefits shared that securing capital from mission-aligned investment funds with similar priorities allows greater understanding and trust and significantly less friction with their financiers. The presence of mission-driven VC funding has also encouraged the founding of additional alternative protein companies, advancing the entire sector.

What do mission-driven alt protein investors look for in potential investments?



Animal replacement potential



IP or Trade secrets



Environmental benefit potential



Diversity of team



Health benefit potential



Cost structure



Scalability



Growth potential



Strength of founding team



A unique and exceptional solution

Many mission-aligned venture capitalists invest in the early stages of companies, which provides both opportunities and challenges for creating common-good benefits. When investors prioritize both mission impact and financial returns in a company's earliest stages, it can set a foundation for the company to build on as it grows rather than requiring later incorporation of impact priorities and metrics. However, early, mission-

driven investors' impact on values can lessen over time as start-ups raise subsequent rounds of funding. Additionally, many common-good values, such as sustainable ingredient sourcing and fair labor practices, are necessarily abstract for founding teams at very early stages and only become concretely relevant once companies begin establishing production and building a work force.

Limitations of Venture Capital

Despite the many opportunities and benefits that VC—in particular, from mission-driven venture capitalists—brings, our interviews indicate how the model's funding expectations can limit the alt protein sector's realization of common-good benefits. This report does not seek to discredit or minimize VC's role in facilitating the growth of the alternative protein industry as the sector's primary method of funding thus far. Instead, we seek to recognize the limits of VC to demonstrate why diverse funding sources and public support are needed for alternative proteins to succeed financially and as catalysts for broader food system transformation. Many of our interviewees noted that because VC is a short-term profit maximizer, it fundamentally prioritizes financial success over common-good benefits.

Many interviewees also noted that VC is largely responsible for funding the alt protein space not because it is best equipped to ensure common-good benefits but due to a “vacuum” of alternative funding sources, such as government subsidies, grants, and other forms of nondilutive or longer-term funding. These types of funding hold different priorities than those of VC and provide financing options to businesses not well suited to VC investment. One respondent noted that reliance on VC funding often requires start-up founders to raise consecutive rounds of funding, which dilutes their personal financial benefit from an exit and may demotivate growth.

Venture capital comes with certain expectations related to growth, scale, profitability, and more. In order to continue to raise venture rounds, start-ups need to prioritize certain metrics that are rewarded by venture funds. Those metrics are—unsurprisingly—about 'business fundamentals' as opposed to any common good.

Max Elder, former Founder and CEO of Nowadays

Historically, VC is looking for relatively quick returns. When they make their investment, they're already designing their exit strategy. That's not really appropriate for creating sustainable, viable food systems. Food systems take time to develop and then require loving care to maintain. Oftentimes, that isn't so congruent with the strategy of VC, particularly the private equity side of VC.

Carl Jorgensen, Agriculture Consultant, The Plant Based Foods Institute

Intellectual Property

One of the most cited limitations of VC is regarding intellectual property (IP), which food system transformation movement leaders and analysts almost unanimously view as a negative factor in making alt protein work for the common good, yet which they recognize as a core part of diligence for investors and a critical form of protection and impact guarantee for entrepreneurs. The quotes below illustrate the tension between stakeholders in the alt protein space regarding IP.



Investor perspective: We look for innovations that are differentiated from those in the market already, and where there's a white space. The protectability element needs to be there. There needs to be some sort of IP moat around it, whether it's patent, trade secrets, etc.—some way that the company can protect that differentiated angle.

Rosie Wardle, Co-founder and Partner, Synthesis Capital



Analyst perspective: Tight control of IP is conducive to VC investment and market valuation but contributes to slower growth of the industry as a whole compared to open sharing of innovations, for example, Volvo with seatbelts [open-source technology]. The benefits of alt proteins are such that this industry should consider following the seatbelt model.

Chris Bryant, Director, Bryant Research



Entrepreneur perspective: It's very easy to talk about open source with one simple idea [like seatbelts]. But when you're talking about alternative proteins developed over many years with ten to twenty patents, you're talking about incredibly complex ideas and incredibly complex processing information. If that information is not owned by a company, guaranteeing them the opportunity to exclusively develop it, you end up with an inequity problem that muzzles innovation. Without patents, we could easily be scooped by another company who decided they wanted to do this, even if they don't execute on the idea. They just have to say they're doing it better than us, and that suddenly pushes away funding for smaller, more nimble start-ups. Patents protect the people who are willing to do the hard work. If somebody else takes our IP for fundraising and then doesn't do anything with it to make an impact, then we lose out, our investors lose out, and nobody actually benefits from that technology. Even animals don't win.

Christie Lagally, Founder and CEO, Rebellious Foods



Food system transformation expert perspective: Anything that takes the IP and access to technology to produce food further away from people and keeps it behind walls of intellectual rights is concerning. That's true across sectors too. This relates to the "right to repair" conflicts [with some agricultural equipment manufacturers], for example. People should have the right to have access to the means to feed themselves and their communities, and when that's copyrighted and controlled, I do see that as breaking a natural cycle.

Pete Huff, Co-Director, Wallace Center at Winrock International

Benefits to the Common Good Are Uncertain, Unmeasured, and Difficult to Assess

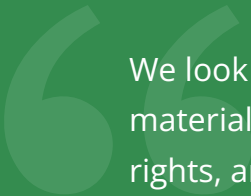
Entrepreneurs and investors in our sample highlighted several challenges related to measuring and understanding the impacts that alternative proteins have—and could have—on the common good.

Venture Capitalists Inconsistently Value Common-Good Impact Assessment

Social and environmental impact data collection by VC investors in our sample differed widely from firm to firm. In many cases, although several investors voiced a desire for greater standardization, impact data collection and use also differed from one investment prospect to the next at the same firm. Inconsistency in data gathering and use is an unintended consequence of the customized diligence process that some leading investors bring to each alt protein deal, in which relevant impact metrics are identified

based on each start-up's unique product or entry point. Data collection and use are then further shaped by what impact data metrics companies already track, what data they have gathered, and what additional external information can be readily found, rather than being defined systematically as requirements in initial VC diligence checklists.

While the perceived importance of positive environmental or social impact varied somewhat among the investors we spoke with, all agreed that positive impacts to the common good were valuable and closely connected to their overall investment thesis as mission-driven investors. Nevertheless, common-good impacts were not given the same weight in diligence as standard indicators of growth potential, such as strength of founding team or valuable IP. Proof of common-good benefits, in the form of robust and specific impact data, was not considered necessary for any VC deal to move forward.



We look at KPIs [key performance indicators] across ESG that cover the relevant material impacts – environment (including emissions, land use, water use), workers' rights, and broader community impact. These KPIs often start off fairly basic because of the early stage of the companies, but at least it gets these priorities on companies' agendas, and into governance as well. It's foundation-setting for the company. Often, during the due diligence process, we find potential pressure points in the supply chain. For example, reliance on a particular ingredient that has sourcing issues (e.g., palm oil). Those are issues to think about as the company scales so that we know where to engage as the company grows. We've got to adapt that for every single company. In every case, we take a tailored approach.

Rosie Wardle, Co-founder and Partner, Synthesis Capital

The most important factor will be whether other investors are prioritizing these questions. There's a nonzero cost associated with tracking these metrics, and there's a relationship being built in each diligence process. Even when we ask for demographic info, we don't always get it. We have to be flexible about how hard we push for some of this information. The more investors ask for it, the better. We generally start to do some of these things as others also start to do it. The questions for us are what's a practice norm for VC, what constitutes a sufficient answer to each question, and how to ask?

Investor

Related to inconsistencies, several investors we spoke with also agreed that there is a catch-22 inherent in including common-good impact measurement in diligence: Until investors ask consistently for impact data and make impact a key part of investment decisions, companies will not prioritize gathering impact data. But until companies gather impact data and can readily provide them, investors cannot systematically request these data and include impact metrics in investment decisions.

High-Quality, Specific Impact Data Are Expensive

According to our interviews, the investment diligence process in its current form is often time-consuming and ungainly for both investors and early-stage companies. Impact data can be difficult and expensive for companies to gather, as well as onerous for investment teams to review and understand with limited time. Thus, many investors and entrepreneurs in our sample felt that including requirements for broader social and environmental impact data would be a particularly heavy lift despite its potential value.

Data about common-good impacts for a particular ingredient stream or product are often unavailable or, if available, are generalized rather than specific. The more specific and reliable the data, the more expensive they generally are to obtain, placing a particular burden on early-stage teams seeking funding for growth. Additionally, it is challenging to benchmark impact data even if they can be reliably obtained. Even when data are available, comparing and prioritizing impact data measurements in a way that pragmatically assists entrepreneurs and investors is less than straightforward. It can be complicated to compare or prioritize metrics within one field of impact. For example, is a small water footprint more important or less important than use of soil-friendly agricultural practices for understanding overall environmental impact? Moreover, as many of the investors and entrepreneurs in our sample noted, comparing or prioritizing disparate impact measurements relating to wholly different aspects of the common good is highly subjective and unclear (e.g., greenhouse gas emissions vs. economic impacts on farmers).

Environmental benefits of plant-based alternatives are very clear when measured against e.g. beef. However, the benefits are often smaller when compared to lower-impact animal foods like fish and chicken. Moreover, there can be environmental tradeoffs where a plant-based alternative generally has lower impacts, but may have a higher impact in one or more categories like land use, as could occur for fish alternatives, for example.

Dan Blaustein-Rejto, Director of Food and Agriculture, The Breakthrough Institute

The daunting challenge of impact measurement is exacerbated by the lack of a solid practice norm related to valuing common-good impact assessment. Lack of consistent, established prioritization of impact data by investors and of established pathways for entrepreneurs to gather relevant data means that companies conducting impact assessment must start from zero when deciding what to measure and how. This makes impact assessment more difficult and expensive for companies that do decide to measure the impacts of their production process. Without established norms and prioritization of the most important metrics sector-wide, companies that seek impact assessment cannot benefit from wide availability of shared tools and approaches.

Entrepreneurs in our sample felt that, at present, engaging in more robust common-good impact assessment might be a waste of resources because potential investors do not always fully understand the data or prioritize having the results. Investors worried that requiring broad social and environmental impact analysis in their

early diligence would currently place undue expense and pressure on early-stage founder teams already facing a steep climb to proof of concept and financial viability. Additionally, investors felt that analyzing complex impact data of multiple types within small investment teams would be too cumbersome to be feasible.

Investor perspective: We set out to use [Impact data provider] to make sure our investments were generally doing something positive in terms of the UN SDGs [United Nations Sustainable Development Goals]. We then work with portfolio companies to capture core impact data and ensure its validity. When we shared [Impact data provider]'s reports with our portfolio of companies, we got responses saying, "This is wrong. How are you getting X data?" We started working with the companies to dig into it, and we found that the assumptions that [Impact data provider] makes may not always be accurate for each company. We talked about working with the companies to go through all the data and make sure it's very accurate, but that would be a huge lift. I don't know how we would keep up with that. And it's such a big process to get that information directly from companies. It would not be feasible for us to get fully detailed information for every supply chain. It would be too time-consuming to analyze it for all investment possibilities even if it were available. **Investor**

Entrepreneur perspective: Start-ups experience an existential crisis between every round of funding. Startups live or die based on the set of milestones they prioritize which, after hitting, will enable additional capital to come into the business. In other words, startups prioritize what investors establish as 'investable' milestones. If we want companies to prioritize the common good, the question is: how do venture funds start to think about milestones related to the common good as investable and therefore worth prioritizing?

Max Elder, former Founder and CEO of Nowadays

Difficulties of Definition, Prioritization, and Benchmarking Persist

Underlying other challenges identified here, one of the largest and thorniest barriers to robust assessment of alternative proteins' contributions to the common good is the difficulty of defining how benefits to the common good should be measured and prioritized in the first place.

Deciding what potential impact parameters to measure or value can be inherently subjective.³¹ Investors and entrepreneurs in our sample agreed that they are often uncertain which impacts need to be measured for a specific product or ingredient, how best to measure, and how to interpret the data. It is no easy task to define key parameters for a given impact area and the ideal numbers within each parameter. For example, is it more meaningful to express the social or environmental impacts of alt protein products by comparing those of an equivalent animal product, or those of an equivalent plant-based alternative protein?

Additionally, previous explorations of alt protein impact assessment have noted that social and economic impacts are less well understood than environmental benefits.^{32,33} Effects of this disparity emerged within our sample. Compared to environmental metrics, social impact metrics

seemed particularly undefined for the investors and entrepreneurs we spoke with. Interviewees shared a variety of social impact uncertainties that could complicate the task of using social impact data to assess an investment prospect.

To further understand impact standardization and prioritization challenges, we spoke with the FAIRR Initiative about the Alt Protein Environmental and Social Governance (ESG) risk reporting frameworks they developed in partnership with the Good Food Institute (GFI).³⁴ Risk assessment and impact assessment are distinct, but the challenges inherent in creating a risk assessment framework indicate the challenges in standardizing a robust social and environmental impact assessment related to the common good. Producing FAIRR and GFI's ESG risk assessment framework took a dedicated team more than a year in close collaboration with investors and the food industry, and challenges remain. Companies are unsure of the feasibility of providing certain data within the framework, but investors remain very keen to see and use impact data.



We conducted materiality assessments and stakeholder consultations to assess the metrics and themes that were material to the industry. Alongside a literature review, we spoke with companies about how feasible reporting was, including what information they have access to. We needed a comprehensive framework to assess environmental risk, having found that LCAs aren't enough for our purposes, as they are too product specific. Investors also wanted to know about the sustainability of the business, and to assess the potential sustainability of companies that haven't had a product come to market yet.

The feedback we got from stakeholder conversations was that we're not close to being able to benchmark the companies yet, as companies are lacking the data and aren't quite ready to be reporting. Quite a few of them said, "We just don't collect data on this." More progressive companies said they could answer at least 60 percent of the metrics. Companies are hesitant to report unless they're sure they have accurate data that they're willing to receive pushback on. The reception has been very positive from investors, though. They really want to have access to these data.

Abby Herd, Senior ESG Analyst, FAIRR Initiative

Impact Assessment Is a Priority Area for Industry Development

The alt protein industry is young and rapidly evolving, having grown 44 percent from 2019 to 2022.³⁵ Despite recent innovation and attention, the industry is still building out critical infrastructure and supply chains and establishing new practice norms. Progress is being made, but some measurement and assessment goals will not be immediately achievable at the industry's early stage. For instance, robust impact assessment depends on widely accepted metrics and replicable results that take time to develop and improve. In an industry so new, there simply are not yet enough production cases or years of impact data to conduct deeper impact assessments. A useful degree of consensus or certainty on the more difficult and subjective

angles of common-good impacts—particularly social and economic impacts—may be years out.

This relatively young and disruptive industry faces an uphill battle to accurately represent the benefits of introducing and increasing production of alt proteins to achieve significant rates of replacement of animal products. In this context, the attention given to impact assessment and the scrutiny of impacts can be particularly—and unduly—intense. Faced with both high pressure to prove benefits and the serious challenges inherent in broad, robust, and specific impact assessment shared by our interviewees, entrepreneurs, and investors in our sample took a highly pragmatic approach to understanding and expressing the impacts of alt proteins.

Interviewees expressed the clear and unquestionable benefit that production of plant-based alt proteins represents for farmed animals, whose suffering forms the basis of the conventional animal agriculture industry. Additional common-good benefits of plant-based alt proteins, particularly environmental benefits, are substantially proven through robust and well-established measurement protocols. For instance, with some variations for specific products and production methods, life cycle assessments have repeatedly shown that plant-based products result in the production of fewer—often dramatically fewer—greenhouse gas emissions, land use, water use, and pollution as well as lower agrichemical use than animal products.^{36,37} Research has also established public health benefits through the reduction of zoonoses and contributions to diet-related chronic disease.^{38,39} Extrapolating from these measurements and comparisons between the production of animal proteins and the production of certain plant-based proteins indicates areas of likely common-good benefit from a societal switch to alternative proteins.

This promising set of potential benefits validates summary statements like those that we heard from many interviewees across all segments of our sample, to the effect that “plant-based products are inherently better for animals, people, and the environment.” The fact that social and environmental impacts of alt proteins are not yet well studied or understood should not preclude assessment of positive potential for many other aspects of the common good. External context also matters; it is both unfair and illogical to demand that the alt protein industry self-assess and prove ideal positive impacts while the harmful incumbent animal agriculture industry and its products enjoy public support and cultural normalization.

Nevertheless, if the alt protein industry's future development does not include an emphasis on investing in better tools and norms for understanding—and then working to improve—alt proteins' full social and environmental impacts, any gaps will represent missed opportunities for upholding the common good and improving allyship with adjacent advocacy movements.

What role can traditional investors like VCs and angels play in moving the industry toward greater common good?

- ✓ Shift financial assets away from incumbent animal products
- ✓ Normalize for companies the practice of requesting impact data
- ✓ Normalize within VC community a higher prioritization of common-good benefits
- ✓ Demand performance on an increasing number of benefits
- ✓ Encourage beneficial competition on impact

Price Parity Is a Contentious and Incomplete Goal

Many alt protein investors and entrepreneurs we interviewed viewed achieving price parity of alternative proteins with the animal products they seek to replace as key to alt proteins' success. The hypothesis of "taste, price, convenience,"⁴⁰ often promoted, posits that meeting these three criteria would allow alternative proteins to compete effectively with conventional animal-based counterparts,⁴¹ thus allowing for displacement of the products of industrial animal agriculture and benefiting people, animals, and the environment. While widespread, this hypothesis is not universally agreed upon. Alternate viewpoints question the primary importance of price parity by citing additional sociocultural attachments and behavioral choice determinants⁴² that may complicate animal product replacement even if taste, price, and convenience equivalent to animal products are achieved.

Many movement experts and analysts additionally challenged the importance of price parity by pointing out that the artificially low prices of industrial animal products distort the issue and create unrealistic expectations for plant-based protein companies. Industrial animal agriculture in the United States benefits financially from direct public subsidies, including insurance payouts and indirect subsidies, including low-cost animal feed crops. The industry also benefits from a favorable regulatory environment that allows for many significant costs—from compliance with the same animal cruelty laws that apply to non-agricultural animals, to water pollution avoidance and remediation—to be externalized.^{43,44} In addition to these subsidies, the animal product

industry has also built significant production efficiencies and economies of scale that plant-based products cannot yet match. Expecting early-stage plant-based products to compete price-wise with a vertically integrated and highly subsidized industrial animal agriculture system may incentivize alt protein companies to trade public benefits for cost efficiency, running directly counter to the idea of increasing common good benefits from the sector.

The issue of price parity highlights the government's critical role in building and shaping markets. It's not something that can be accomplished purely endogenously, whether through firm-level or technological innovation.

Aaron Rimmner-Cohen, Senior Director of Advocacy, Farm Sanctuary

Given the massive public subsidization of meat production, targeting price parity with subsidized meat is a problematic goal that leads to the continuation of large-scale industrial farming. Rather than race them to the bottom, let's focus on leveling the playing field and constructing supply chains that bring benefits.

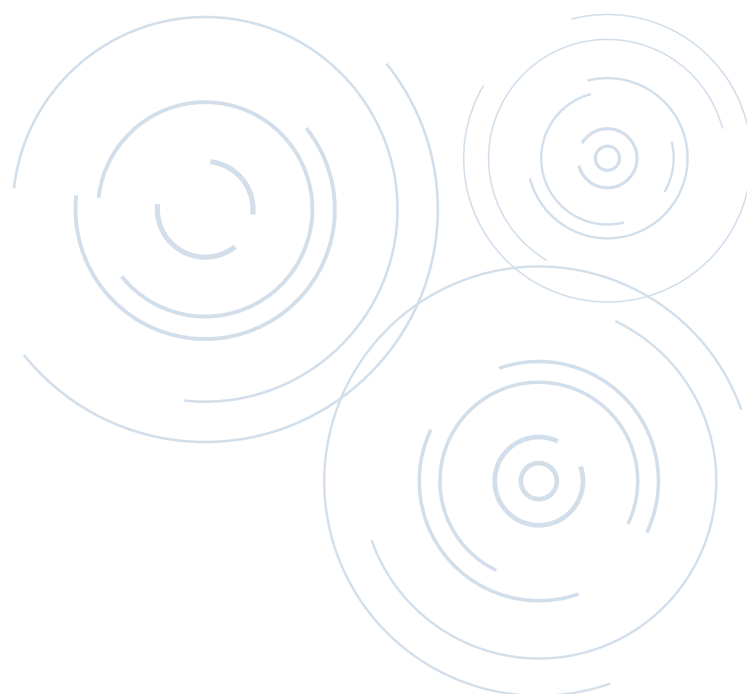
Jessica Culpepper, Co-founder and Executive Director, FarmSTAND

We observe that the thesis that alternative proteins must first achieve price parity to realize true positive impacts prioritizes economic competitiveness for alt protein investors and entrepreneurs and demotes other potential positive impacts to the common good as “nice-to-haves.” Achieving many common-good benefits (e.g., worker welfare certifications, sustainable packaging, ingredient sourcing) often comes at a higher price, further cementing this dynamic.

Investors in our sample in some ways regard potential common-good co-benefits that go beyond the default benefits of alternative proteins (e.g., beyond the impacts of replacement) as competing with the pathway to success for individual businesses and, more broadly, with the viability of the entire sector at a crucial time when replacement must ramp up for the sector to create benefits. For this reason, many investors advise companies to focus on their business fundamentals and bringing a product to market before prioritizing “extras.” Several investors we interviewed felt that improvements to common-good benefits such as worker well-being and sustainable sourcing were worthy goals, but less relevant and less important to prioritize at early stages of business development. However, according to entrepreneurs we spoke with who see their brand as fundamentally a force for good, deepening potential benefits early and consistently feels very much like the core of their business, not an extra.

Plant-based food companies are under such tremendous pressure to reach price parity or at least reduce that price gap between plant-based products and their animal-based counterparts. The prices of animal products are already artificially low. If plant-based food companies get on a shelf, they have to meet a certain velocity to stay on the shelf. Even a few cents of additional cost per item make it that much more difficult to compete. I have definitely seen companies who want to do it the right way, but it poses additional challenges for their business, and there are very real pricing and economic considerations at play.

Rachel Dreskin, CEO, Plant Based Foods
Association and Plant Based Foods Institute



Meat Industry Investment and Acquisition Offer Benefits and Concerns

In our interviews, nearly all food system transformation experts regarded meat industry investment in and acquisition of plant-based alt protein companies as very problematic. Their concerns centered around the profit motives of conventional meat companies, specifically that meat brands would likely sacrifice common-good co-benefits of alternative proteins (e.g., worker well-being, sustainable ingredient sourcing, etc.) for greater profits whenever possible. Respondents also expressed strong cynicism that meat companies' uptake of plant-based brands would result in any replacement or reduction of industrial animal production due to companies' interest in maximizing profits and maintaining dominance. Food system transformation experts highlighted that such acquisitions would bolster

the already intense consolidation of the meat industry, furthering power imbalances and what scholars have called "the fragility of food systems."^{45,46} Some interviewees even speculated that conventional meat companies might acquire alt protein businesses with the intention of running them into the ground.

Most investors, as well as many industry experts and academics, saw more nuance and more potential benefits in meat industry investment. In many cases, they viewed investment and acquisition by meat companies as somewhat inevitable, leading some to express an "If you can't beat 'em, join 'em" mentality. Nevertheless, nearly all those who voiced accepting or positive opinions granted the possibility that such acquisition could erode the ethical and environmental commitments of a plant-based company.

Is investment by the meat industry in alt proteins positive, mixed, or negative?

■ Positive ■ Mixed ■ Negative



Analysts / Academic (N = 5)



Investors (N = 10)



Entrepreneurs / Trade Association (N = 5)

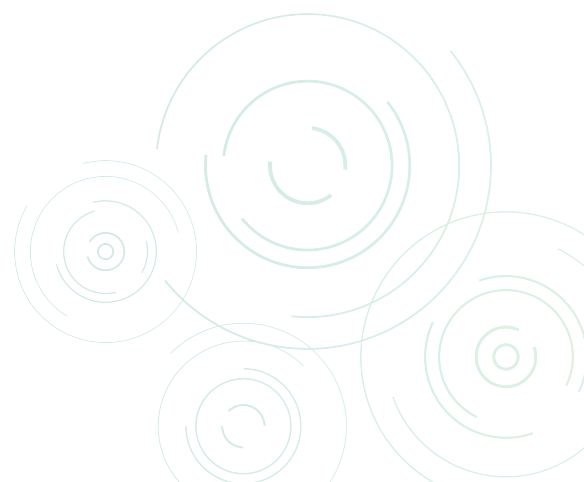


Movement Experts (N = 12)

On one hand, no one's distribution networks or supply chain capabilities compare to the big meat companies. On the other hand, there is the risk that the culture of the meat company is pushed onto the alt protein company after acquisition and the buyer turns it to a pure profitability focus. There are not very many examples to point to in the space right now, but at this stage of the plant-based industry, I think the benefits outweigh the costs. It provides investors another example of an acquisition via exit, provides unmatched distribution and supply chain knowledge, and shows that the traditional protein companies find value in the plant-based space.

Steve Molino, Principal, Clear Current Capital

Investors, entrepreneurs, and analysts whom we interviewed noted several benefits of meat industry investment. Importantly, the conventional meat industry has critical infrastructure, capital, and knowledge regarding processing, scaling, distribution, and more, which could help alternative proteins build out supply chains much more quickly and efficiently. Entrepreneurs pointed out the importance of investment capital in a funding landscape of scarcity and the beneficial possibility of shifting the priorities of meat companies. Investors also felt that meat industry investment sends a message about alt proteins' profit potential to other investors. Further, financial buy-in by the conventional meat industry provides animal ag companies with an incentive to lobby for more supportive policies and regulations for alt proteins.



Alt Proteins' Health Profile Is a Point of Conflict within the Industry

The healthfulness of plant-based meat analogs is a topic on which alternative protein critics—even advocates who work tirelessly to create plant-forward dietary change and food production shifts away from industrial animal agriculture—often find fault with the industry. At times these critiques even replicate the incumbent meat industry's own language or narratives. In our sample, health-based concerns were raised or referred to by all categories of interviewees. Real and perceived health shortcomings of plant-based alt proteins represent one example of what we have referred to in this report as “alt protein exceptionalism”—the tendency of alternative proteins to face both exceptionally positive and exceptionally negative attitudes. In the resulting bifurcation, health has become a particular fulcrum on which moderate allyship can turn to outright opposition.

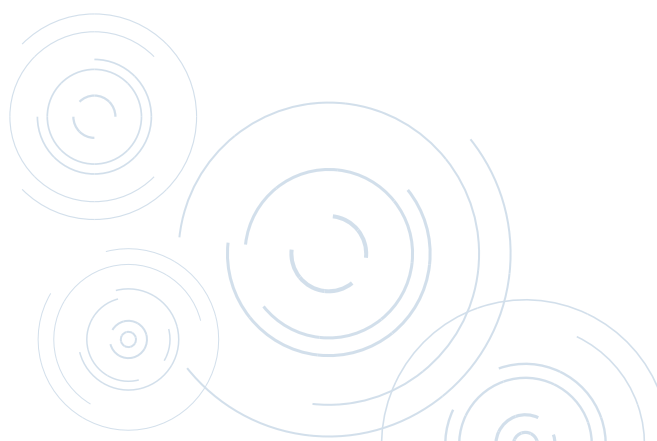
Food system transformation proponents who otherwise strongly align with the overall values of reducing meat production and consumption, sparing animals from suffering, and decreasing the environmental footprint of food may oppose alternative protein innovation due to what they perceive as the imperfect health profiles or long ingredient stacks of animal protein analogs. Given similar but often more significant evidence-backed health concerns relating to the

chemistry and processing of animal meats,^{47,48} and the impacts of meat production on society,⁴⁹ the higher standard that plant-based alternatives are often held to is extreme. This high standard sows division between the alternative protein industry and food system transformation advocates despite many areas of potential vision alignment.

Respondents in our sample also felt that the race to market in the wake of Beyond Meat and Impossible Foods' early success has resulted in the appearance of less healthful products in an effort to achieve better taste and convenience

As much as there is concern and consideration for animal welfare and environmental welfare, a lot of consumers at least initially are eating plant-based for nutritional purposes. When you have a seventeen-ingredient stack compared to a one-ingredient stack on the animal-based side, and not a lot of difference in the macros, you're essentially asking more money for something that isn't necessarily as good, or as good for you.

Investor



The current state of innovation and the rush to establish the industry has led some to use less-than-healthy ingredients. The result has been well-justified bad press directed at certain plant-based companies because of unhealthy ingredients, and that has cast a shadow over the entire industry. Swaps for these problematic ingredients are not always readily available or present in sufficient volume from ethical supply chains with high environmental standards.

Entrepreneur

Start-ups, by their nature, are trying to use as little capital as possible to create as much value as possible. Running a startup that isn't yet profitable is a grand balancing act between risk and reward. You want to go as fast as you can without tripping over yourself; you want to cut as many corners as possible without cutting the wrong corners. So one can imagine the plethora of hard tradeoffs that emerge throughout this process of scaling.

Max Elder, former Founder and CEO of Nowadays



Solutions: How Plant-Based Alt Protein Can Generate Co-benefits

Our research started with a foundational recognition of the supreme importance of reducing US industrial animal agriculture and supporting overall dietary shifts from heavily animal-based to more plant-based diets, as well as the crucial role that alternative proteins can play in supporting these transformations. Conducted from this allied and constructive perspective, the expert interviews that form the basis of this report identified many ways that the alt protein industry could improve its benefits to the common good. In this section, we present the most salient suggestions gathered from interviews, collected into roles that could be played by industry, investors, government, and advocates.

This section should be read neither as a prescription nor as an exhaustive list of levers for change. The ideas presented here, like those in other sections of this report, represent the viewpoints of individuals within our sample at this moment in time. We share these suggestions in the spirit of supporting the alt protein industry as a growing player in food system change for the benefit of all.

Industry

Infrastructure

Our interviews of food system transformation experts, alt protein industry analysts, entrepreneurs, and investors highlighted ways that the alt protein industry can create broader co-benefits through a thoughtful approach to infrastructure creation. Respondents underscored the central importance of

prioritizing worker well-being in alt protein processing and manufacturing through continued innovation and uptake of improved manufacturing equipment. Recognizing that alt protein production will entail different amounts and types of labor than the incumbent animal protein industry, respondents in our sample highlighted the importance of converting existing animal agriculture facilities and—wherever possible—siting new alt protein processing facilities in rural locations where existing employment opportunities center around the meat and feed industries. Lastly, food system transformation experts emphasized the transformative potential of investing in the creation of multi-use and shared facilities that can support co-benefits for other local value-added food processing.

Sourcing

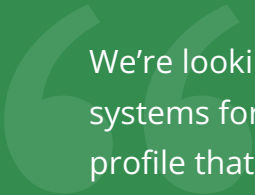
Both investors and food system transformation experts in our sample particularly prioritized the additional potential co-benefits that could come from embedding environmental and social benefit into evolving ingredient-sourcing norms in alternative proteins. Investors sought environmentally and socially responsible sourcing for perceived consumer interest and reduction of future supply chain and reputational risks. Movement experts saw the potential to align alt protein creation with ecological agricultural practices that benefit soil health, water quality, and clean air and to better align with social benefits by strengthening the rights of agricultural and food chain workers, supporting BIPOC* farmers, and building supply

*Stray Dog Institute uses the term BIPOC to recognize the lived histories of oppression and resistance experienced by Black, Indigenous, and People of Color. This term is not universally embraced, particularly because it can erase the experiences of individual groups by lumping them together. Additionally, the language of this term reflects the specific historical social context of the United States and may not accurately reflect current or past racial and ethnic descriptions elsewhere. We recognize these drawbacks and use the term BIPOC only when a statement is truly applicable to Black, Indigenous, Latinx, Middle Eastern, North African, East Asian, South Asian, Southeast Asian, and Pacific Islander communities in the US.

chain articulation with food hubs and production cooperatives. For example, alt protein production could provide stacked co-benefits to achieve environmental, social, and resilience goals by increasingly designing sourcing to aggregate ingredients from domestic, smaller-scale alternative agricultural production rather than relying on a single industrial supplier.

Entrepreneurs and industry analysts acknowledged the importance of aligning alt protein sourcing with environmental and social co-benefits as much as possible but noted important structural barriers, including the shortage of appropriate and affordable inputs from environmentally and socially responsible production, challenges in verifying common-good benefits, and roadblocks such as the requirement to use (largely conventional) US commodity crops in the creation of food products destined for the National School Lunch Program. These and other barriers indicate areas of potential political advocacy and the need for alignment and innovation in common-good impact assessment.

Wherever possible, alt protein producers can increase the creation of common-good co-benefits and the potential for closer allyship with the food transformation advocacy community by sourcing from environmentally friendly and socially just forms of agriculture. Where no viable options yet exist, the industry and its investors could increase co-benefits by investigating what is necessary to develop such a supply chain. Alt protein producers can also create important positive signaling and transition support within the supply chains for key inputs by committing to longer-term purchase contracts for farmers transitioning away from producing farmed animals or their feed crops. Additional ways to maximize alt proteins' co-benefit potential through sourcing and to better align the industry's future path with food system transformation levers include focusing on ingredient streams that would otherwise support the conventional meat industry and considering alternatives to genetically modified alt protein ingredients where other viable options exist.



We're looking at how to shift from high-tillage, high-input, limited-rotation cropping systems for commodity corn and soy toward a more dynamic and diverse agricultural profile that promotes continuous living cover and perennialization. To the degree that producing inputs for alt protein can promote a more diverse cropping system that can protect the soil and reduce fertilizer/pesticide inputs, that would serve our common goal of breaking the cycle of commodity feed crops.

Pete Huff, Co-director, Wallace Center at Winrock International

Supply Chain Coordination

Our interviews with industry analysts and food system transformation experts revealed the co-benefit potential of increasing supply chain coordination and management. Alt protein brands and their investors could increase environmental and social co-benefits by investigating possibilities for reducing the length of supply chains and favoring domestic—and even regional—sourcing rather than international sourcing where possible. Adopting digital supply chain management tools could enhance co-benefit potential by contributing to better food system resilience, lower waste, and greater product attribute transparency within supply chains. Digital supply chain tools are sorely needed to manage negative effects within product supply chains, such as price hikes and weather shocks, and can also facilitate improved data gathering for environmental and social impact assessment. Development of enhanced data retention and supply chain coordination can set the stage for common-good enhancement by making visible where alternative proteins are failing to have impacts distinctly better than those of the incumbent animal protein system and where growth at one stage of the supply chain may be built on exploitation or contraction in another stage. Improved supply chain articulation and management can be a critical tool for establishing the alternative protein industry as a restorative value chain rather than an extractive supply chain.



A diverse sourcing plan contributes meaningfully to small farm economic benefits, broadens opportunities for BIPOC farmer participation, keeps money in local economies, improves articulation with sustainable agriculture, and increases supply chain resilience.

Emma Sirois, National Director of Healthy Food in Health Care, Health Care Without Harm

Value chain coordination could offer transparency around product attributes—where was it grown, how was it grown, what kinds of certifications or claims? The more information the value chain can retain, the better, and the more able institutional purchasers are to categorize those products and purchases. Blockchain tech is really exciting

Emma Sirois, National Director of Healthy Food in Health Care, Health Care Without Harm

Reducing the length of supply chains is probably one of the most effective changes that can be made right now. Reducing reliance on imported ingredients wherever possible will shrink the carbon footprint of plant-based products even more.

Carl Jorgensen, Agriculture Consultant, The Plant Based Foods Institute

Business Philosophy and Growth

Food system movement experts in our sample encouraged a shift toward viewing the gathering of material inputs for alternative proteins as a value chain rather than simply as a supply chain. While subtle, this shift could open the possibility of increased co-benefits by allowing alt protein companies to see opportunities to create value for social and environmental goals as well as for their brand. Value chains without vertical integration involve contracts, rights, and obligations within each link, which contributes to shared risk and shared wealth by leaving money at every link instead of filtering the profits entirely to the top. Transformative recommendations included looking for ways to build broader common-good priorities into value creation, for example, by regionalizing and localizing supply chains and staying accountable to producer and consumer communities. Whenever possible, plant-based alt protein companies and their

investors can maximize their contributions to the common good by thinking, “What does a transformational company look like, and what would it do?” They could more deeply embed social and environmental benefit into company priorities by acquiring certifications that reflect the brand’s core commitment to broader societal benefits.

Where possible, alt protein producers could improve common-good benefits by seeking investments that operate on a longer growth timeline than typical VC and are fully mission-aligned. Companies may consider funding outside of the VC realm if the VC timetable (10 years or less) is too restrictive to support the long-term changes needed to structure a new supply chain with full common-good benefits. Sources of such financing specifically recommended by one respondent include specific agri-food financing institutions that understand the unique challenges of early-stage

and seasonal sales, such as Mad Capital, Walden Mutual Bank, Rabo AgriFinance, and Compeer Financial. These institutions have created unique financing programs that recognize the special risks that agri-food businesses face and allow longer-term payments that recognize early and seasonal cash-flow challenges.

Communication

Many interviewees across the different groups in our sample underscored the importance of promoting the common good through the communication practices normalized within the alt protein industry. The common good is served both by transparency in consumer messaging about ingredients, product additives, and nutrition and by more proactive communication with input producers and processing factory workers. Authentically forging more open communication with these parties, as some industry pioneers have done,⁵⁰ can illuminate ways of better aligning alt protein production with benefits to workers and rural communities. For maximum common-good benefit, plant-based companies could—with the help of food system advocates—conduct good-faith outreach to workers and suppliers in the conventional meat and feed supply chains to ask how they would want to be involved in the alternative plant-based supply chain and what the transition could look like.

Respondents in many groups of our sample agreed that the plant-based alt protein industry could also deepen its benefits to the common good by engaging more with lobbying efforts related to alt protein production. Small businesses can be highly impactful constituents in efforts to secure local congressional support.

Lobbying efforts would benefit quite a lot if companies would more actively support our shared goals. Small businesses can do a lot to influence local congresspeople if they can find the right arguments and tell an effective story about what they are doing and why they are doing it.

Bruce Friedrich, President and Founder,
Good Food Institute



Companies can donate and fund projects, give back to groups that are trying to improve the health of communities. It's not ok to exploit or use [social] issues as marketing. When some companies reach out to Black and Brown communities, it feels fake. I want to see companies that will allow their employees to unionize, pay them living wages from bottom to top of supply chain.

lauren Ornelas, Founder and Senior Programs Director, Food Empowerment Project

Community Accountability and Social Impact

Many food system movement experts in our interviews called for the alt protein industry to allow for greater unionization by its workforce, citing the benefits of higher unionization and even the promotion of cooperative ownership models. Increasing the plant-based industry's commitment to worker well-being can reduce potential opposition by ensuring that alt proteins exceed the standards of the incumbent industry. To further maximize community co-benefits from alt proteins, companies can recruit from educational pipelines that currently serve the animal agriculture industry and build additional pipelines broadening access to alt protein career training. In both educational settings and recruitment, it would benefit the common good if alt protein companies strongly support diversity and act in genuine allyship with BIPOC populations that traditionally face greater barriers to involvement.

Government

Food system transformation advocates and alt protein industry analysts in our sample were in broad agreement that that policymakers and legislation could—and should—better support the alt protein industry to increase its positive impacts on the common good, building on a long legacy of government support for private sector innovation and improvement.⁵¹ While research and development represents one key public good government could support, there are opportunities for beneficial public investment throughout the alt protein value chain.⁵² Potentially impactful government actions mentioned by our interviewees included supportive policy shifts and additional cooperative action and investment.

Increasing public support for value chain coordination is critical for supporting farmers transitioning to new crops and new markets. We currently rely on farmers being very entrepreneurial to find markets. We could support that better through government programs.

Pete Huff, Co-Director, Wallace Center at Winrock International

Supportive Policy

Policy changes that interviewees suggested to expand the public benefits of alt protein production included strengthening land conservation incentives, realigning product subsidies, and improving public support for improved value chain coordination. Expanding and strengthening conservation programs could provide transition incentives for farmers and bolster domestic plant-based input production. Adding subsidies for crop production with fewer negative environmental and social externalities and reducing public support for farmed animal and feed crop industries would go a long way to leveling the subsidy playing field that currently disadvantages plant-based alternatives—and the common good—in a price-parity race to the bottom. Lastly, experts noted that public support for improved tools and management of value chains could have co-benefits for a broad range of farmers and rural communities, especially those interested in transitioning to new crops and new markets.

Funding Collaboration between Alt Protein and Government

Interviewees across all categories of our sample shared insights related to increasing government coordination and cooperation with the needs of the growing alt protein industry. First among these suggestions was the value

of expanding public-private partnerships to help plant-based companies provide greater co-benefits at all stages of production. Many entrepreneurs, industry analysts, and food system transformation experts agreed that the alternative protein industry's profit motive does not position it well to prioritize expanding common-good benefits without government-led research, standard-setting, and financial assistance.

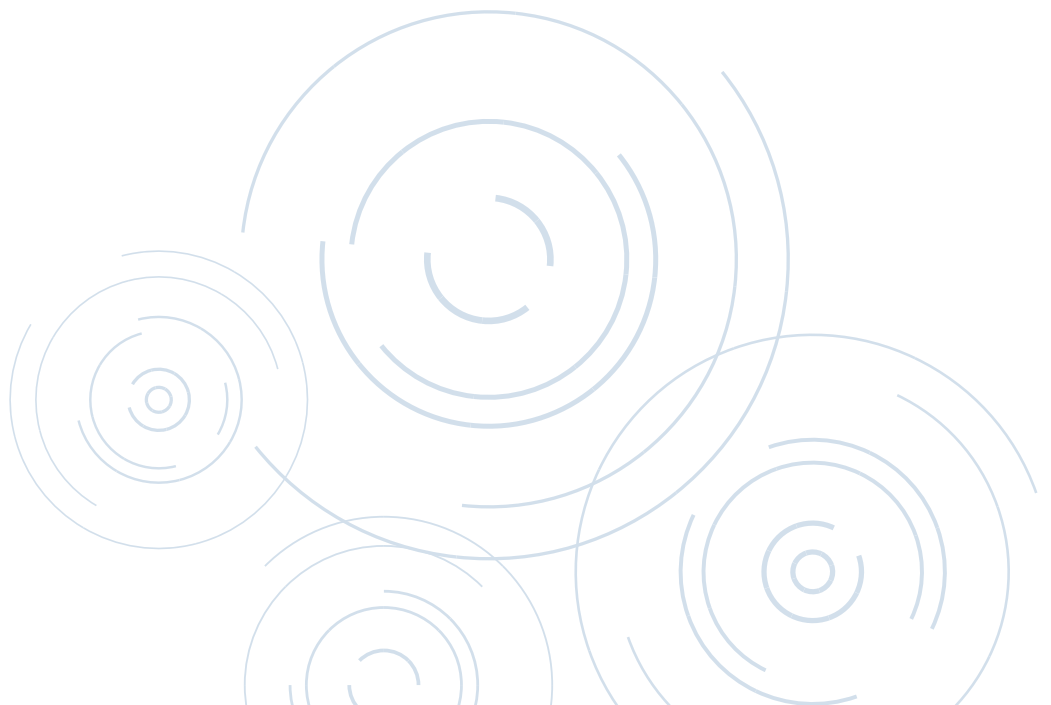
Many interviewees mentioned the potential benefit of government-funded research and development and government-facilitated collective marketing efforts for alt proteins—perhaps similar to checkoff programs—for advancing entire sectors of the alternative protein industry. Additionally, analysts highlighted the potential for government backing to bolster impact assessment and product standards, contributing to more effective benchmarking and more robust compliance. Others emphasized the importance of expanding government-supported loan guarantee programs to enable and de-risk large investments in building or transitioning commercial plants and facilities. Investors were nearly unanimous in observing that government investment could provide critical support for capital expenditures early in alternative protein companies' growth, an area where VC is especially hesitant to invest.

Externalized public funding would be especially helpful for financing capital expenses related to hard infrastructure and processes, where VC hesitates to invest. This would be one opportunity for ensuring enhanced common good benefits can be meaningfully baked into the industry from the beginning.

Lisa Feria, Managing Partner and CEO, Stray Dog Capital

On the CapEx side, that's where we need government to provide the infrastructure for companies to grow. In the US, we are definitely seeing signs of that in federal- and state-level funding for facility buildout and state incentive programs. We need much more of that if we're going to meaningfully impact this industry. I also think that governments need to think about this investment in a more joined-up way; it's about national security, climate change, net zero, food security, biosecurity. There's some joining of the dots between these issues of national priority in the US with biomanufacturing. We need more of that thinking instead of siloing food as its own thing not considered relevant to the rest.

Rosie Wardle, Co-founder and Partner, Synthesis Capital



Investors

Vision and Leadership



Ask about Impact: The entrepreneurs and investors in our sample highlighted the meaningful role that investors can play in supporting alt proteins' contributions to the common good simply by putting the issue on the table with companies. Entrepreneurs shared that when investors ask about products' impacts on the common good during due diligence or even after investment, it raises those issues' priority with start-ups and normalizes the ask. Investors and entrepreneurs remarked that if enough investors asked about common-good benefits and metrics—particularly if questions and metrics were standardized across investors—it could improve and expedite data-gathering for the entire industry. In the near term, investors noted that simply asking companies about common-good benefits, regardless of whether companies can provide answers, is worthwhile, as doing so raises the profile of common-good benefits with companies and demonstrates investors' interest.



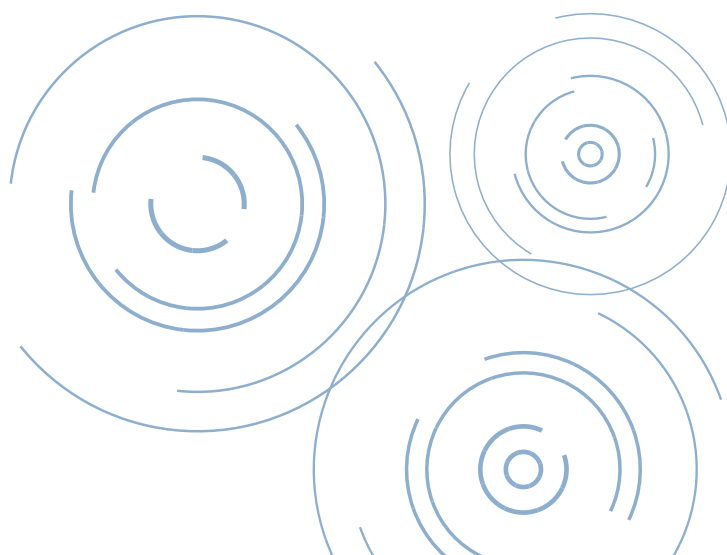
Support Impact Measurement: While early-stage investors in our sample expressed that it is often difficult for small or early-stage companies to provide metrics on common-good benefits due to resource constraints, they highlighted the unique opportunity for investors to help start-ups lay foundations for best practices early on. Things like solid HR systems or diversity, equity, and inclusion policies might fall off companies' priority lists during their early years, but when early-stage investors prioritize these practices and provide support to make them possible, it can set companies up to effect positive impact as they grow. Some investors in our sample fund the use of impact assessment tools on behalf of start-ups in their portfolios. This benefits companies by making impact measurement financially accessible and, when done across multiple companies in the same space, benefits the entire sector by spurring companies to compete in creating common-good benefits. Investor support for impact assessment also contributes to the long-term improvement of data gathering and may gradually make co-benefits into a baseline expectation for alt protein companies.



Invest in Underfunded but Crucial Areas: Plant-based alt protein industry leaders and analysts that we interviewed urged investors to consider investments in areas of plant-based supply chain inefficiency and empty spaces that prevent plant-based alternative protein supply chains from being able to compete with conventional animal agriculture. For example, respondents cited a lack of domestic (US) processing infrastructure, organic-certified processing plants and processing plants generally, and grain elevators. While these areas are outside of the typical VC realm, investments in them would greatly support the success of the industry as a whole.



Embrace Aspirational Goals: On a more aspirational level, investors we spoke with expressed a desire to broaden common-good benefits in their diligence, including metrics that are typically left out of standard impact measurement, such as soil health and farming practices used by ingredient suppliers. While the current feasibility of impact measurement for additional elements of the common good may be limited, expanding the breadth of impact measurements available could be a goal for more investors. Entrepreneurs we spoke with also expressed a desire to see more enthusiasm and support from investors for companies to commit to common-good benefits, such as certifications like B corp. Investors can make an impact by encouraging companies to pursue common-good-related benefits and certifications rather than regarding such activities as secondary or less important to other areas of the business. Ultimately, investors can support plant-based alternative proteins' impact on common-good benefits by investing in companies that seek to be truly transformational and are actively building transparency, accessibility, and accountability in the food system.



Collaboration and Coordination



Consider Flexible and Integrated Funding Structures: One of the most concrete ways investors can support plant-based alt proteins' benefits to the common good is by investigating opportunities to invest through and alongside models of integrated capital. RSF Social Finance defines integrated capital as "the coordinated use of different forms of financial capital and non-financial resources to support an enterprise that's working to solve complex social and environmental problems."⁵³ As we discussed above, the limitations of the VC model create an opportunity for other forms of investment to fill unmet needs. For example, low- to no-interest loans could help farmers transition to the production of alt protein input crops or build processing facilities, and grant funding could support publicly available alternative protein research. Few investors we spoke to had investigated or tried this, although some have affiliated philanthropic sides of their organizations. Investors could learn from integrated capital practitioners about how to mobilize integrated capital effectively to maximize alternative proteins' benefits to the common good.⁵⁴

As we discussed, improved access to nondilutive and longer-term funding sources remains one of the greatest pathways for alt proteins to realize broad co-benefits. To address this need, investors could consider extending investment timelines to provide companies with longer development runways. They may also consider whether they could provide or connect companies to forms of nondilutive funding. Their ability to do this may depend on where a company is located; for example, US-based companies in our sample reported rarely accessing nondilutive funding, whereas investors reported that most of their EU-based portfolio companies received government grant funding. In addition to supporting alternative proteins' benefits to the common good, nondilutive funding benefits investors by removing some investment risk, decreasing the dilution of their dollars, and perhaps allowing them to spread their funds across more investment opportunities.

Greater availability of sources of non-dilutive funding could be very helpful for freeing companies to pursue greater benefits to the common good. Existing non-dilutive funding sources (e.g., research grants, the X Prize) are difficult to access, taking significant time and resources to obtain as well as requiring rigorous documentation and reporting processes.

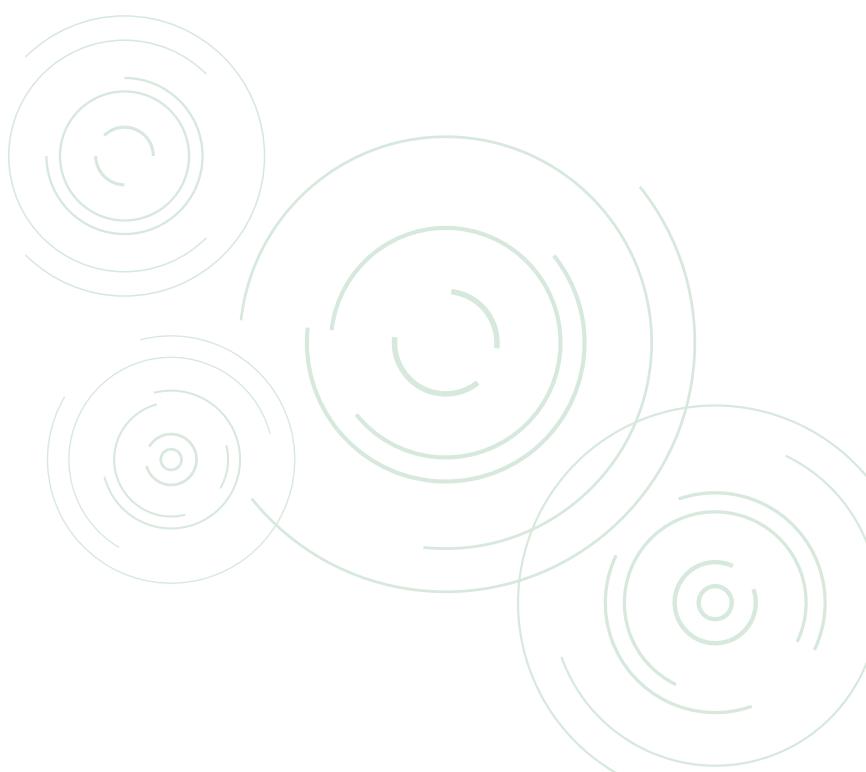
Christie Fleming, CEO, The ISH Food Company



Engage with Government Policy: When possible, industry academics and analysts whom we interviewed recommended that investors engage with government policy regarding alternative proteins. This may be most easily done through collaboratives such as trade associations, where investors do not need to engage with policymakers directly but have their interests represented collectively. The long-term benefit of such engagement would hopefully be more government grants and subsidization of the alternative protein industry, which are currently orders of magnitude smaller than those awarded to the conventional animal agriculture industry.⁵⁵



Rescue and Preserve Intellectual Property: The alternative protein industry is currently experiencing a scarcity of funding, which has resulted in several companies having to shut down. Respondents noted that as this has happened, much of the IP from these companies was sold to trading companies for “pennies on the dollar” and risks being lost to the industry. Investors could play a role in rescuing and preserving the IP developed by companies that have recently fallen or will soon fall to the alt protein market slump. While doing so would not save individual companies from failure, it would preserve the IP for the benefit of the industry as a whole and for potential future use.



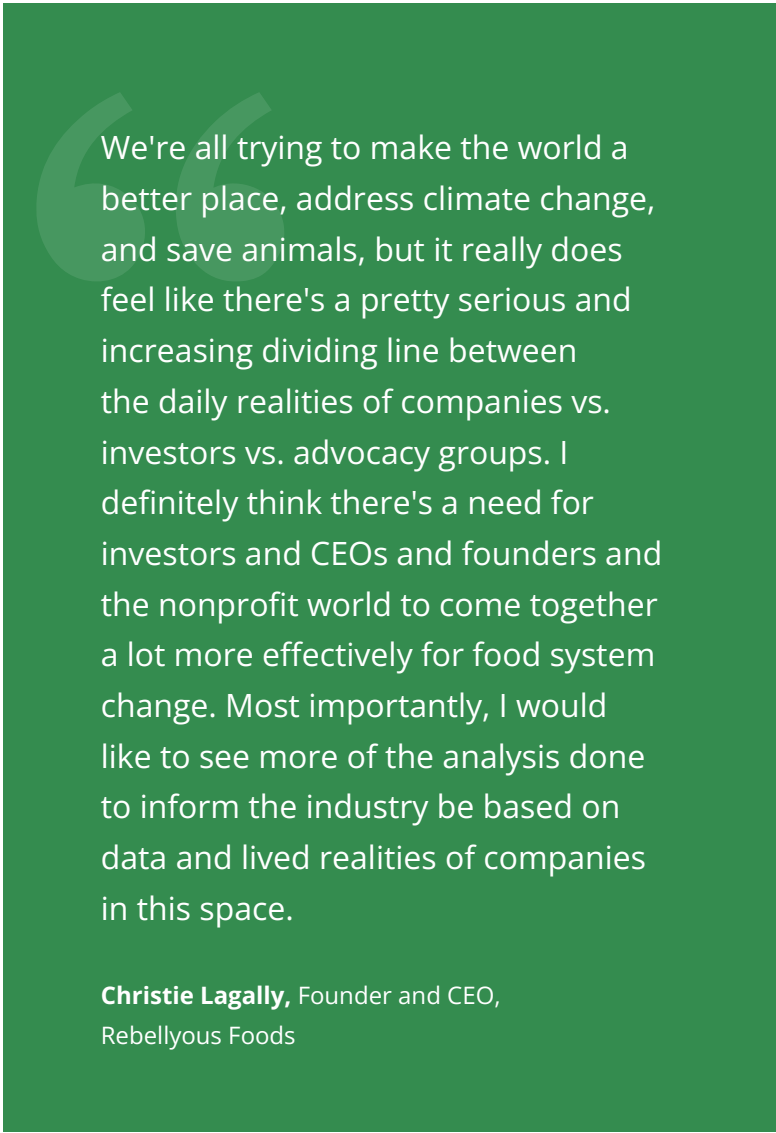
Advocates and Educational Institutions

Overall, advocates in our sample urged their peers to take a food system transformation lens to their work rather than just focusing on one specific issue area. They also highlighted the importance of aligning the many sides of the food system transformation movement and of circumventing the playbook and narratives of the meat industry. These views were echoed by other segments of our sample.

Advocates also emphasized the importance of maintaining the belief that transformational change of the food system is possible and of working toward a food system that empowers this systemic change for people and animals. Finally, on a more concrete level, advocate respondents mentioned the important watchdog role of nonprofit organizations in keeping corporate standards legitimate and beneficial.

In terms of engaging with the corporate sector, some advocates recommended that nonprofits connect with sustainability leads or employees in similar positions at food and meat corporations that have purchased plant-based start-ups. While a large company's general business model may not fully align with the goals of nonprofit advocates' organizations, respondents noted that employees in these roles often have deep personal commitments to aligned causes and can act from the inside to keep values in place at acquired plant-based companies. On the consumer-facing side, nonprofit industry experts reaffirmed the importance of communicating the benefits of plant-based products to consumers so that the success of the sector is not reliant solely on the "taste, price, convenience" model for consumer uptake.

Respondents also noted the important role of educational institutions in building plant-based alt proteins' contributions to the common good. Industry experts highlighted the need for more educational programs that can feed into alt protein workforces, such as internships, career fairs, scholarships, and other entry points. Interviews highlighted the need for a greater commitment to diversity in education relevant to alt proteins.



We're all trying to make the world a better place, address climate change, and save animals, but it really does feel like there's a pretty serious and increasing dividing line between the daily realities of companies vs. investors vs. advocacy groups. I definitely think there's a need for investors and CEOs and founders and the nonprofit world to come together a lot more effectively for food system change. Most importantly, I would like to see more of the analysis done to inform the industry be based on data and lived realities of companies in this space.

Christie Lagally, Founder and CEO,
Rebellyous Foods

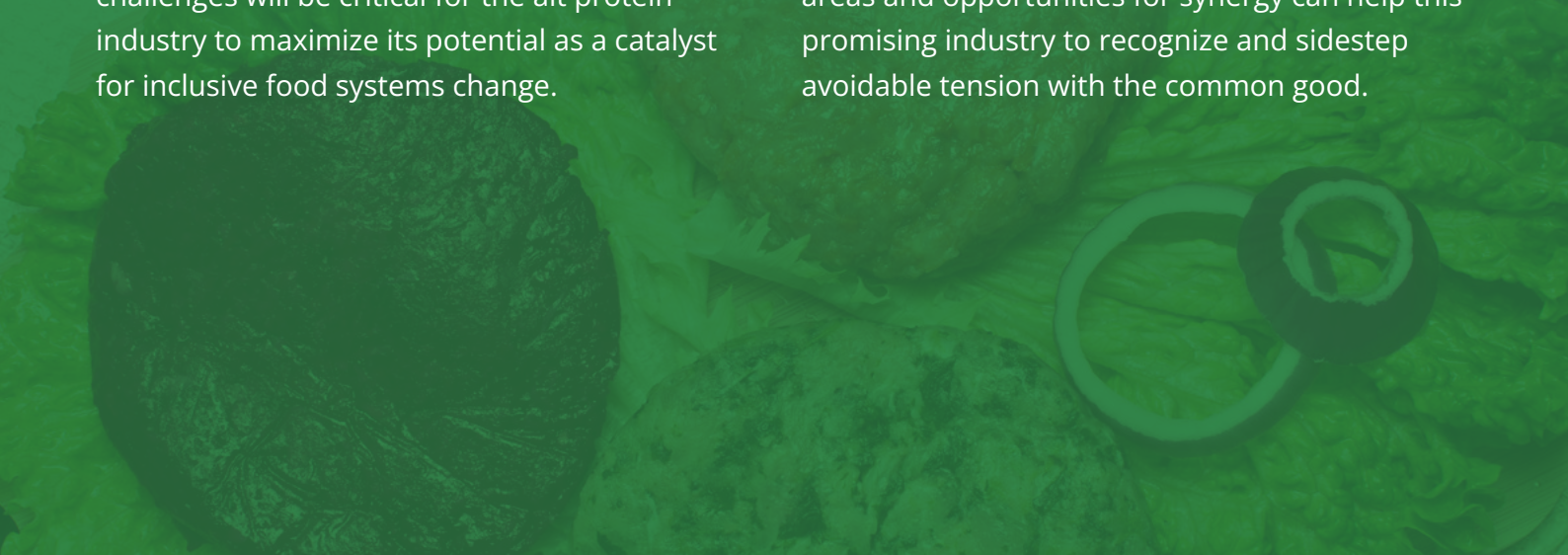
Conclusion

The plant-based alt protein industry remains relatively young, with much important development still ahead. Whether gradual or accelerated, eventual replacement of US industrial animal agriculture with plant-based production would profoundly transform social, environmental, economic, and historical aspects of the existing US food system—with significant impacts to global food production.

The newness of the alt protein industry, combined with the magnitude of the beneficial disruption it intends, presents a long list of key challenges for investors, companies, industry analysts, and adjacent food system advocacy movements. Challenges we identified from interviews in this report include counterproductive communication polarization related to alt protein exceptionalism; inadequate funding pathways to support and deepen alt protein companies' commitments to the common good; challenges inherent in effective impact measurement; potential benefit-contracting consequences of the prevailing focus on price parity; risks and potential benefits of meat industry investment; and extreme sensitivity and polarization surrounding issues related to dietary health messaging. Engaging effectively with these challenges will be critical for the alt protein industry to maximize its potential as a catalyst for inclusive food systems change.

This research also gathered a wide range of suggestions for enhancing the plant-based alternative protein industry's impacts on the common good. Suggestions highlighted how alt protein companies might increase co-benefits through heightened food system impact awareness in infrastructure development and supply chain coordination, adjust entrepreneurial philosophy and growth, and embed food system transformation values into the industry's communication efforts. Suggestions also highlighted the potential positive role of investors through enhanced vision and leadership and greater collaboration and coordination with both policymakers and advocates.

Alt protein companies and their investors are nearest to many of the challenges identified in this report and are thus the most logical actor groups to implement many of the most beneficial steps that could enhance common-good benefits. However, we recognize that ensuring enhanced well-being for people, animals, and the environment lies outside the core priorities and capabilities of an innovative for-profit industry. We do not expect the alternative protein industry to sacrifice success for the realization of maximum common-good benefits. However, we hope that increased awareness of key risk areas and opportunities for synergy can help this promising industry to recognize and sidestep avoidable tension with the common good.



As leaders of this research, we believe that all food system stakeholders and interest groups have roles to play in improving the plant-based alternative protein industry's alignment with the goals of inclusive food system transformation.

Government has a particularly significant role to play in funding, furthering, and incentivizing alt protein innovation, establishing standards, and ensuring societal well-being through increased common good benefits from the food system.

Advocates play an important part in shaping public opinion about animal protein alternatives and highlighting the importance of food system transformation. Especially now, while the alt protein industry is still forming new norms, understanding the extent of its impacts, and building government support, the potential positive impact of constructive critique and proactive engagement from advocates is too important to ignore.

Decentering animal agriculture in US food production is an enormous challenge with many possible pathways to success, and alt protein represents one such pathway. We believe that the common good stands to benefit from complementary effort by all stakeholders and interest groups to assist the alt protein industry to scale up its critical animal replacement potential while optimally deepening and broadening its transformational benefits.

It is our hope that this research can encourage in all groups a greater willingness to find areas of common ground for improved mutual understanding and coordinated action.

While the plant-based alternative protein industry cannot be a singular solution for delivering food system transformation, we believe it can bring us closer to a future food system that drives broad and inclusive benefits to the common good.



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