



Initial Outcome Paper for Discussion

SCIENCE TO SOLUTIONS DIALOGUE 1

Putting Food in Food

The EAT Foundation and the World Business Council for Sustainable Development (WBCSD) through FReSH (Food Reform for Sustainability and Health) convened to put together Science to Solutions Dialogues. This first dialogue brought together business scientists, academic scientists and civil society to dialogue about three challenges within the food system: how to improve the nutritional content and environmental sustainability of processed foods; how can processing and packaging avoid food waste and loss; and how do we bring the consumer along. The following paper sets out the emerging solutions space for business to provoke discussion and feedback.

Food systems – all the processes involved in feeding the global population – are key to supporting good health and well-being and are a critical part of the biosphere underpinning prosperous societies and economies.¹ Yet current food systems are not providing for people or the planet. Despite progress on improving nutrition, the burden of malnutrition remains stubbornly high: 815 million people are hungry,² 2 billion are deficient in critical micronutrients,³ and 2.1 billion adults are overweight or obese,⁴ contributing to the upsurge in diet-related diseases.

Beyond nutritional outcomes, food systems are also a main contributor to environmental damage, responsible for 19-29% of greenhouse gas emissions⁵ and agriculture being responsible for 70% of available global freshwater use^{6, 7} and driving deforestation, biodiversity loss and land degradation.

Businesses are a crucial element of food systems as nearly all food consumed around the world is produced, processed or supplied by them: be it large agribusinesses, smallholders, or small and medium enterprises. This puts large and small businesses at the heart of the potential for food system transformations.

FReSH is a joint program between EAT and the WBCSD that provides a platform for businesses to tackle the greatest health, environmental and social challenges stemming from food systems.

FReSH members will test the solutions developed against the outcomes of the report from the EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems. The EAT-Lancet Commission has brought together more than 30 international experts in nutrition, environmental sciences, food systems and policy to produce scientific targets that define the safe operating space for global diets and sustainable food production. FReSH members will work to translate these scientific targets into science-based targets for business that guide FReSH's transformational goals, shared ambition and Science to Solutions Dialogues (SSD).

The Dialogue context

FReSH members connected with leading health, sustainability and food system scientists via six science webinars in 2017. In 2018, the discussions then progressed into deeper, action-oriented dialogues through a series of SSDs that took place over three days in a face-to-face setting allowing FReSH members, scientists and civil society to discuss some of the most challenging food system issues. Each SSD was preceded by a three-week Delphi discussion (a forecasting method relying on an expert panel) in order to inform future discussions.

Participants shared knowledge, expertise and experience to co-develop ways forward that offer significant opportunities to overcome challenges and accelerate the building of solution spaces to transform food systems. The ultimate aim of these dialogues is to inform the solution spaces for businesses and science, secure high-level CEO endorsement for the FReSH transformational goals, promote CEO understanding of the underlying science and secure recognition and support from civil society for the business solution spaces developed.

Figure 1. Timeline of SSD1 Putting Food in Food



SSD1: Putting Food in Food – ambition

The first FReSH SSD created a forum for dialogue on Putting Food in Food. Food processing is a core activity that can be used to provide affordable, safe, enjoyable and high-quality foods to all. Yet there are challenges to overcome – in terms of both perceived and real impacts of processed and packaged foods on health, nutrition, food loss and waste and environmental stressors – if net positive health, environmental, business and social impacts are to be secured.

This dialogue aimed to share scientific thinking on healthy diets from sustainable food systems, scope out the specific business solution spaces that FReSH members can support and direct new areas of relevant scientific research. Importantly, the solution spaces created over the three days were stress-tested by experts. Three overarching messages emerged:

1. Business represents a collective influence and capacity that is sufficient to set the changes required in motion;
2. Business, science and society must persevere so that these actions become mainstream within the next two years – a critical timeframe to demonstrate traction;
3. The level of ambition must match the urgency for transformation.

Participants explored pathways to increase the net positive impacts of processed food on people and the planet using a common understanding of challenges, the evidence base, barriers and levers (Figure 1). They explored three complementary solution spaces: the nutritional content and sustainability of processed food; consumer power to embrace and drive change; and food losses and waste reduction along the processed food chain.

Solution spaces

Food processing can play a pivotal role in addressing under- and over-nutrition and environmental sustainability by **mainstreaming procurement standards** that promote healthy, sustainably-sourced ingredients processed in a way that delivers high-quality food.

To harness the power of individuals to drive change, businesses can develop **behavior change programs** that account for the main drivers of individual choice and capitalize on “teachable moments”.

By reframing the narrative to **emphasize the value of food and the valorization of food that is wasted**, there are many entry points for processed and packaged foods to contribute to reducing food losses and waste.

Figure 2. Critical path for solution development

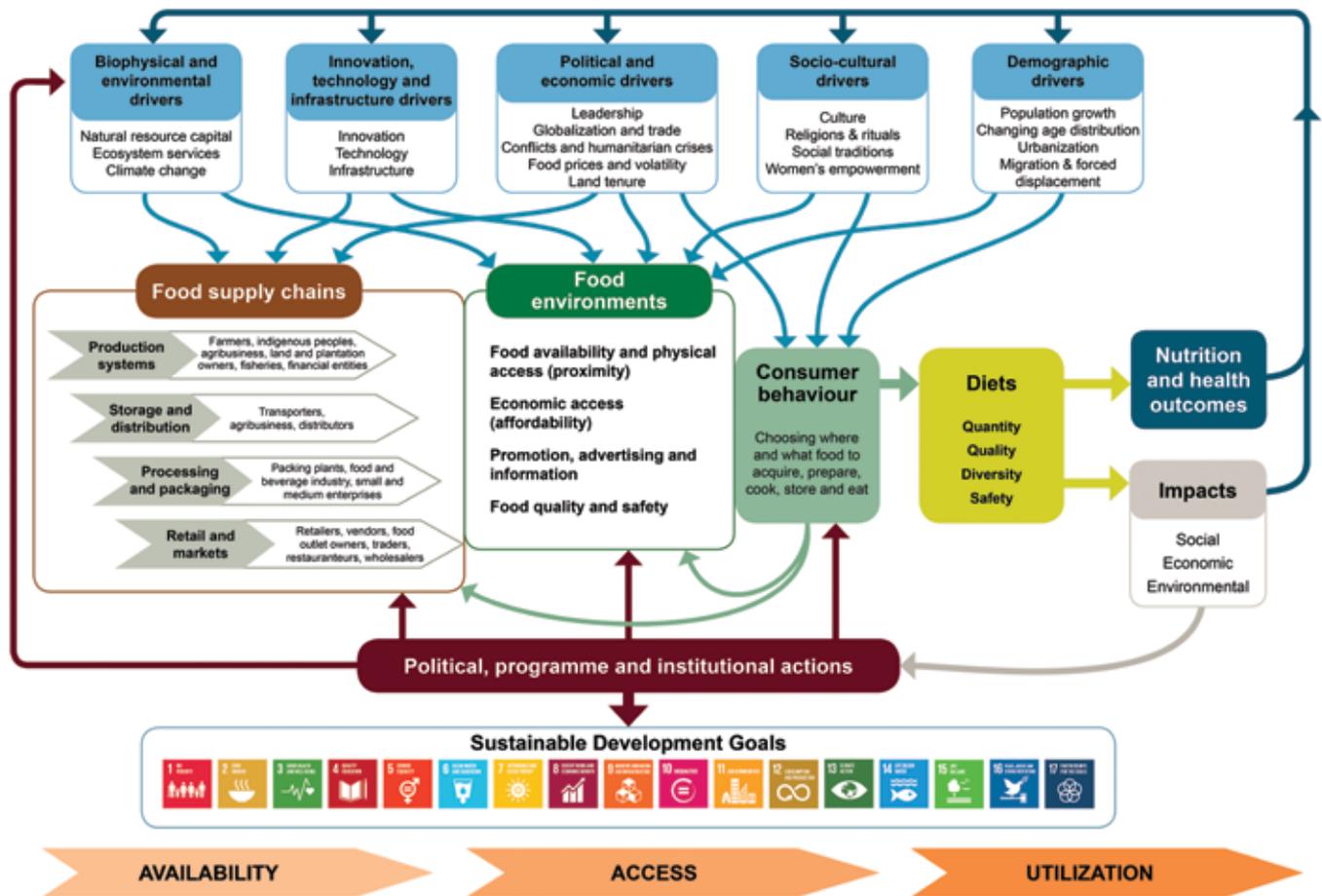


Common vision

While food processing has improved food safety, it's also frequently associated with poor diet quality. Nuances between processed, highly-processed, or ultra-processed are often lost. While dietary recommendations emphasize the need for greater intake of fresh fruits and vegetables, the perishable nature of these foods stresses the central role that food processing can play in ensuring food safety, availability and dietary quality. A first challenge was to develop a common vision of the role of processed and packaged food in supporting healthy and sustainable food systems, from sustainable food supply chains to nutrition and health outcomes of consumers. Figure 2 shows how food systems can appear complex, yet they present numerous opportunities to improve both dietary and environmental health.

Putting Food in Food participants have come to a shared consensus that processed food is an essential lever in achieving positive health, social and environmental impacts. The group collectively supports a systemic approach to food system transformations and stresses that starting with changes to food processing and packaging – that businesses can own and act on *now* – will trigger improvements across the value chain. This systemic approach emphasizes that there is no single overarching solution, but rather multiple inter-connected solutions that will combine both incremental and transformational changes.

Figure 3. Conceptual food system framework from the 2017 HLPE Report: Nutrition and Food Systems⁸



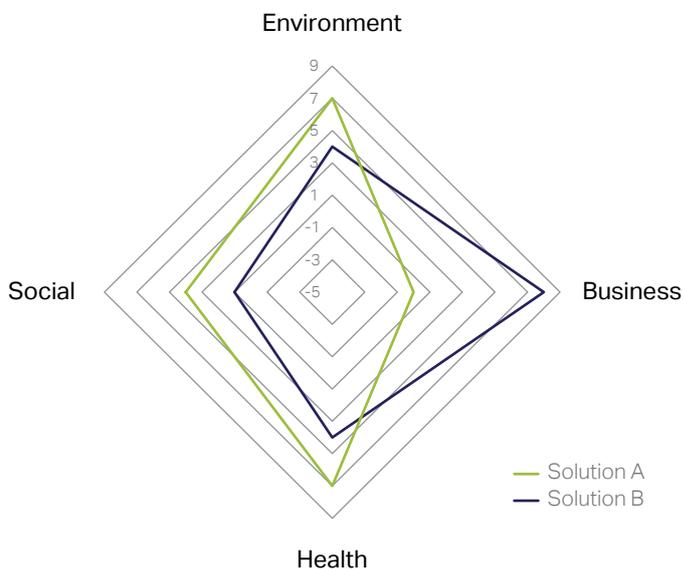
During initial discussions to shape solution spaces, there was a tendency to address a single consideration.

For example, health and nutrition considerations were often put ahead of environmental sustainability and social aspects when focusing on how processed foods could address under- and over-nutrition.

One SSD1 lesson is that a multifaceted approach is needed in order to encourage the development of solutions with synergistic effects while avoiding trade-offs. The solution spaces explored simultaneously support positive health *and* social *and* environmental *and* business impacts.

To this end, *Putting Food in Food* supports the development and testing of a multidimensional calibration tool designed to use the best available evidence to prioritize potential solutions based on their combined impact on the four dimensions identified in the diamond in Figure 4.

Figure 4. Tool to prioritize solutions



Key takeaways

- FReSH has a central role in championing a new narrative whereby all food produced and consumed should be good for people and the planet.
- Precise action frameworks are needed to translate the new narrative into solutions.
- Action is needed urgently – transformational change in a two-year timeframe is essential. To be transformational, action will need to be universal and mainstreamed.
- A strong business case is needed to demonstrate the full health *and* environmental *and* social *and* business benefits that processed and packaged food can bring.
- Yet a business case will only advance action so far – support is needed from science, policy, the technology sector and civil society to develop solutions, implement supportive policy, develop new tech solutions and engage with consumer groups to increase trust.
- Multistakeholder and multisector collaboration needs to be normalized to achieve the FReSH ambition.

Challenge areas and solution spaces

Challenge one:

Improve the nutritional content and sustainability of processed food to address over- and under-nutrition

1

Common understanding of the challenge

Food processing can play a pivotal role in addressing both under- and over-nutrition.

A focus on the quality of packaged foods often stresses nutritional rather than environmental impacts, yet the methods used to produce the inputs of processed foods can have significant impacts on water and land use, biodiversity, climate and nutrient (nitrogen and phosphorous) cycles.

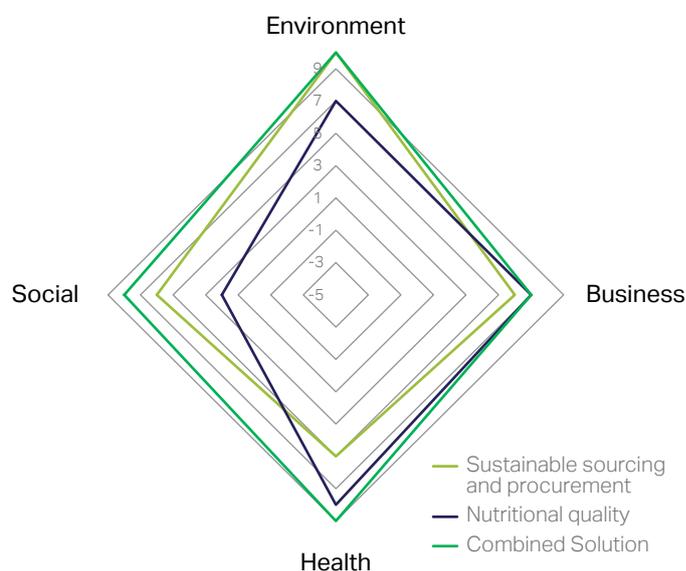
Thus, **solution spaces must focus on creating net positive impacts for both health and the environment.** Additionally, the social impacts of packaged foods need to be better understood.

2

Solution space

Two key solutions emerged. First, to improve the nutritional quality of processed foods, **reformulation, innovation and renovation** are key tools that companies can use to optimize the healthiness of ingredients and to show that taste and nutrition are not mutually exclusive. Second, companies can develop **sourcing and procurement standards** to source healthy ingredients from sustainable production systems. For maximum impact, and as illustrated below, **mainstreamed procurement standards that promote high quality (healthy + sustainable) foods based on the EAT-Lancet Commission Report outcomes** should combine these two solutions.

Figure 5. Prioritization of solutions for challenge one*



* Note that impacts are indicative, based on the best estimates of the group, and do not reflect a final analysis of the impact of the solution.

3

Barriers and key levers

A first step in developing standards for large-scale adoption is **creating a consensus framework on food quality capturing contributions to reducing over- and under-nutrition and multiple dimensions of sustainable food production** (climate, water, nutrients, biodiversity, land). This framework would help to align sustainable agriculture and healthy diet impact measurement methodologies and move to a paradigm placing production within multifunctional landscapes.

Barriers include costs of reformulation and bringing new products to market, as well as consumer acceptance. Nevertheless, **understanding financial partnerships to drive change and harnessing sensory science** can increase the performance and profitability of new/reformulated products at market.

The **role of technology is a way to overcome transparency and traceability challenges** for processed food inputs along the supply chain. With better understanding of the environmental and health impacts of foods, companies can **send clear signals of intent to buy healthy, sustainably produced ingredients that are socially acceptable and beneficial**.

4

Evidence base

There is ample evidence as to what sustainable production outcomes should include (climate, water quality and quantity, biodiversity, and reduced land expansion), but gaps persist in evaluating the impact of individual production practices in an integrated way. Similarly, there is little debate as to whether an individual food contributes to health or not, though discussions on the impacts of individual ingredients frequently masks this consensus. That people eat meals rather than ingredients challenges the assessment of the impact of individual foods on health. Precise definitions and evaluation of impacts are necessary to move forward in a united effort. This **evidence base is at the core of the consensus framework on food quality mentioned above**.

5

Impacts

It is necessary to make these procurement standards and practices mainstream. The **ambition is to have 100% adoption of such standards** and to become steadfast in the pursuit of such notions. FReSH members have clear power over the market collectively and the capacity to send **clear market signals** on sourcing requirements versus the cost and need to have specific standards requiring **an umbrella body to certify the standards**.

Challenge two:

Bring the consumer along

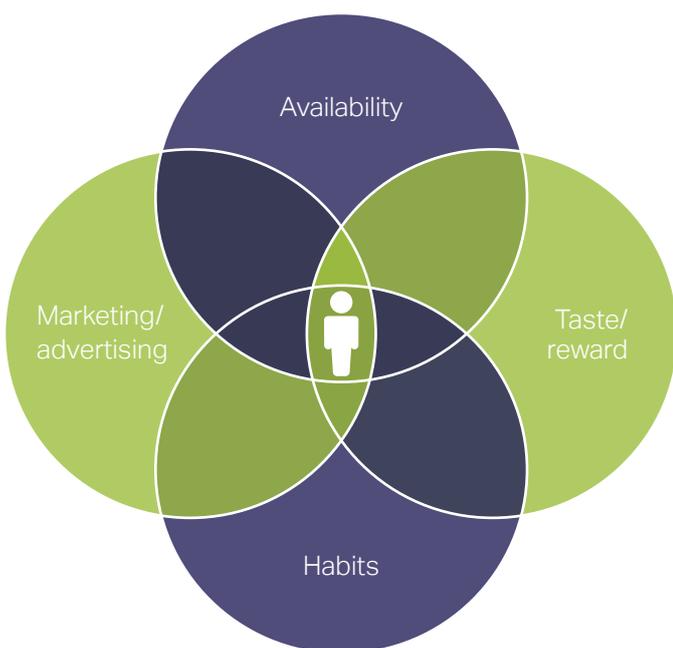
1

Common understanding of the challenge

Reframing the current discourse will harness the power of individuals to embrace and drive change. It requires **putting individual well-being at the core of business solutions** rather than viewing consumers as reluctant followers of business trends.

Any approach to influencing consumer choice should account for the **four main drivers of choice: marketing/advertising, availability (e.g. costs, supply), taste/reward, and habits/familiarity/cultural preferences.**

Figure 6. Four main drivers of choice



2

Solution space

A multifaceted consumer behavior change program that addresses the four drivers of consumer choice should complement the introduction of innovative and reformulated processed foods to support health, well-being and the environment (a solution identified in the first challenge above). **A holistic package of interventions targeting each driver will have a synergistic rather than additive effect.** Focal areas for interventions include:

- **Marketing/advertising:** Optimize marketing and advertising to increase acceptability of healthy and sustainable food. Use innovative language to sell healthier/more sustainable foods without the healthy/sustainable label.
- **Availability:** Equivalent costs for healthy/sustainable and unhealthy/unsustainable foods could lead to equivalent acceptability.
- **Taste/reward:** Incrementally improve the health and sustainability quotient of food while preserving taste and acceptability.
- **Habit/familiarity/cultural preferences:** Use teachable moments and behavior change programs to shift individuals' food habits.

3

Barriers and key levers

Sustained consumer behavior change programs are costly for businesses. **Building a convincing business case for behavior change programs** is the key to selling businesses on the long-term benefits for their bottom line. Additionally, pilot interventions and scale-up strategies should recognize that **one size does not fit all** – one dimension of consumer choice might be more dominant in certain contexts.

4

Evidence base

While the evidence base for consumer behavior interventions is thin, it is an emerging research field.

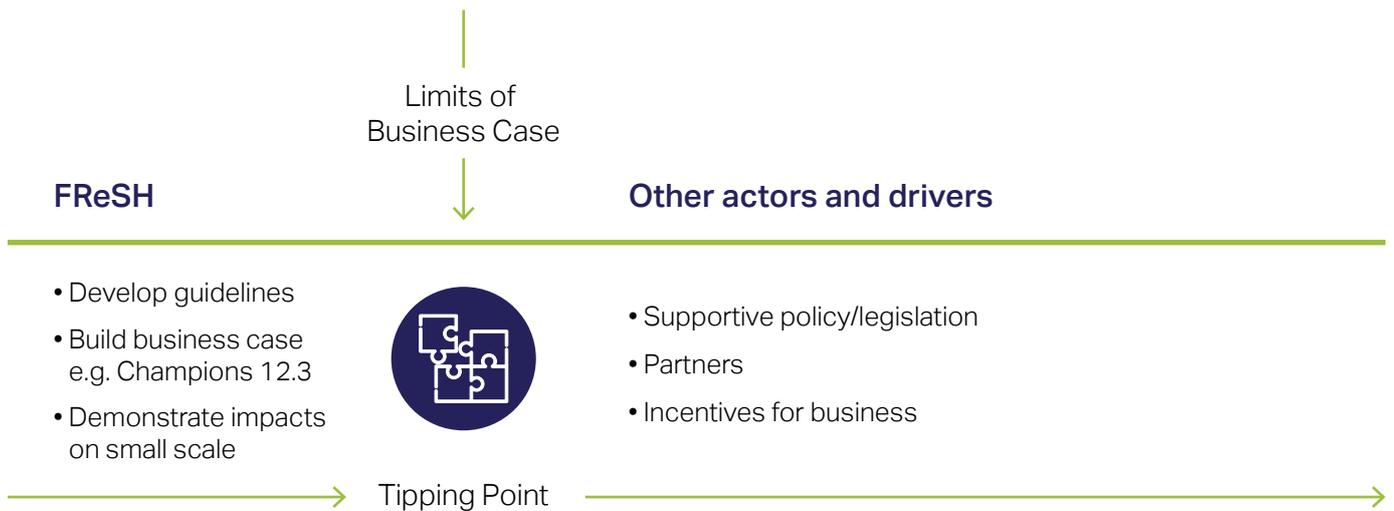
While there is certainty that the four drivers identified are the main levers of consumer choice, there is a dearth of research on the effectiveness of interventions aimed at using these levers to create lasting behavior change. In particular, **companies need to understand the biological basis of taste/reward** in the same way that scientists do to break the vicious cycle of demanding and being rewarded by unhealthy/unsustainable foods.

5

Impacts

Building a strong business case and piloting interventions to demonstrate multiple impacts (e.g. smart foods⁹ to create demand for traditional foods and crops, transition towns to support communities transition to resilient, low-carbon communities) will be central to scaling up such behavior change programs. **Yet a business case will only advance actions so far; support from other actors** – particularly through public policy and supportive legislation and partnerships to facilitate scale-up – will be essential to achieving mainstream support.

Figure 7. Impacts of challenge two



Challenge three:

Reduce food losses and waste (FLW) associated with food processing and packaging

1

Common understanding of the challenge

Clarity on the key role of processed and packaged foods in reducing FLW has accelerated the development of business solution spaces. It is crucial to **reframe the narrative to move from the cost of food to emphasizing the value of food, including food that is wasted**. The aim is to limit waste when possible and ensure the full use of foods, recognizing the important environmental footprints associated with food production, and thus the environmental impacts associated with food waste and loss. The guiding question is **Are we putting enough value in our food?** – from an environmental *and* health *and* social *and* business perspective.

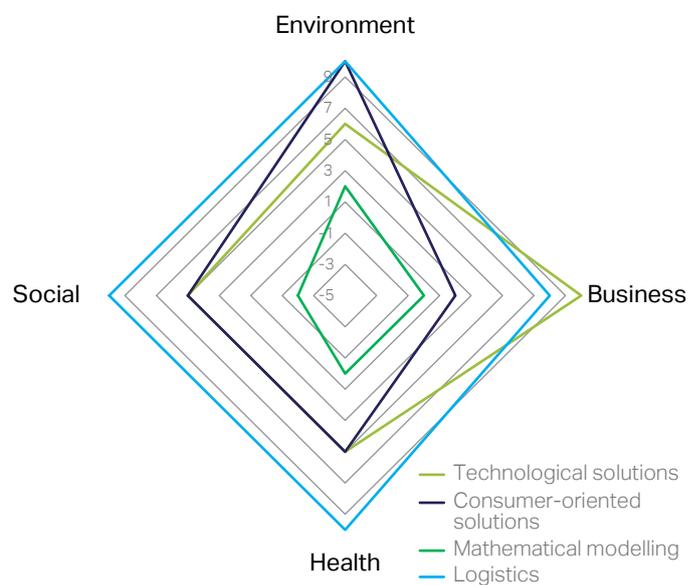
2

Solution space

Four main solution spaces underscore the need for evidence to enable the development of specific solutions:

1. **Technologies to optimize processing and preservation** (with a particular focus on preserving fresh foods to increase their shelf life)
2. **Logistics solutions** (length of supply chain and delivery method, storage facilities)
3. **Consumer-oriented solutions** (portion size, replenishment and leftover management – technologies and apps)
4. **Mathematical modelling** (in order to limit the number of experiments that would produce FLW)

Figure 8. Prioritization of solutions for challenge 3



3

Barriers and key levers

Barriers include **regulatory restrictions on price agreements** and **purchasing agreement opacity**. **Consumer acceptance of processed foods** is an area that requires more focus, as well as **changing consumer mindsets** regarding willingness to over-purchase and then waste food. There are **imbalances in production versus demand**, sometimes leading to overproduction, which in turn can result in food loss.

Levers include **technology that producers can use to access up-to-date market information**. Additionally, **loans for good practice** can provide incentives for producers to adopt positive production and processing methods.

4

Evidence base

A **prerequisite to developing solution spaces is having the evidence in place**. Evidence is needed on the **most impactful measures (environmental and nutritional footprints) to reduce FLW**, which will enable prioritization of action. This includes **common methodologies to quantify FLW** – in order to know if it is possible to achieve the Sustainable Development Goal target of halving FLW by 2030.

5

Impacts

To maximize impact, **the FReSH platform is an ideal space to facilitate the sharing of best practices on FLW in a precompetitive space**.

To respond to the urgency for immediate change, businesses could adopt both incremental measures, such as shorter term quick wins, and more systemic, longer term solutions that might be more challenging to execute but more transformational in impact.

Figure 9. Impacts of different preservation methods

Impacts of different preservation methods	
Technologies to optimize processing & preservation	Transformational
Logistics solutions	
Consumer-oriented solution space	Incremental
Sharing of best practice	

FReSH offers a unique space to advance these solutions

FReSH, WBSCD and EAT have a role in supporting the specific solutions put forth by Science to Solutions Dialogue 1: Putting Food in Food and in championing the required change on global platforms. In particular, these organizations recognize their responsibility to: 1) create and amplify a new narrative that drives action; 2) build the business case for action; 3) support the development of action frameworks; 4) curate the evidence needed to support action; 5) normalize cross-sector collaboration; and 6) gain support from other actors to reach tipping points for transformation.

1. Create a new narrative

- Create and amplify a new narrative, one that insists that all food produced and consumed should be good for people and the planet.
- Highlight the role of food as a powerful tool for leveraging synergistic, regenerative, net-positive impacts across the dimensions of health, environment, society and business.
- Emphasize the value of food, including food waste, rather than its costs.
- Underscore the centrality and importance of the individual – whether consumer, producer (smallholder farmer) or other – at the core of business solutions.
- Commit to becoming ambassadors of this narrative and, through consistent promotion on multiple platforms, it will become universal and mainstream.
- Plan the move to mainstream on a two-year timeframe and avoid the trap of a longer term (five- or 10-year) timeframe.

2. Build the business case for action

- Make a strong evidence-based business case for both pre-competitive and business-specific action for each solution space.
- Work with key business leaders to embed initiatives into business operations and strategies.

3. Support the development of precise action frameworks

- Translate the new narrative into action frameworks underpinned by precise descriptions of what constitutes food that supports human and environmental health and social wellbeing.
- Develop action frameworks in line with the overall goals while also tailored to regions, cultures and contexts.

4. Curate the evidence needed to support action

- Work to fill gaps in the existing evidence base, including evidence on consumer behavior, taste/reward mechanisms, sustainable production evaluated by environmental indicators and sustainability of preservation and processing methods.
- Channel resources into developing and executing robust evaluations of interventions based on common metrics. Challenges will remain; yet without this evidence base, organizations cannot make the business case, improve practices or measure results.
- Identify actions businesses can take today based on the best available evidence while working to build the evidence base for long-term, transformative solutions.

5. Normalize multisector, multistakeholder collaboration

- Foster the co-development of solution spaces and the resulting cross-sectoral support for the proposed solution spaces.
- Maintain the SSD1 group, building upon the trust and dialogue fostered during the dialogue to further the development of solutions during the Stockholm Food Forum (SFF) in June 2018.
- Limit opportunities to promote self-serving solutions by demonstrating the positive impacts of multisectoral, multistakeholder collaboration.

6. Gain support from other sectors

- Leverage FReSH, WBCSD and EAT networks to secure buy-in from other sectors. Businesses can take great strides in laying the groundwork for food system transformations, but wide-reaching transformations will only be fully realized with help from other sectors.
- Encourage supportive policy and legislation to reach tipping points by embedding the new narrative into political agendas.
- Continue to engage with consumer groups, which are important representatives of the public and a trusted voice.
- Target the finance and tech sectors as key actors in advancing action on business solutions.
- Identify leaders and change agents in both the global North and South, prioritizing the diversity of actors engaged in developing solution spaces.

References

- ¹ FAO (Food and Agriculture Organization of the United Nations) (2016). *Food and Agriculture: Key to achieving the 2030 Agenda for Sustainable Development*. Rome: FAO, 2016.
- ² FAO (Food and Agriculture Organization of the United Nations), IFAD (International Fund for Agricultural Development), UNICEF, WFP (World Food Programme), WHO (World Health Organization) (2017). *The State of Food Security and Nutrition in the World 2017. Building resilience for peace and food security*. Rome: FAO.
- ³ WHO (World Health Organization), FAO (Food and Agriculture Organization of the United Nations) (2006). *Guidelines on food fortification with micronutrients*. Geneva: WHO.
- ⁴ WHO (World Health Organization). Global Health Observatory (GHO) data: overweight and obesity. 2018. http://www.who.int/gho/ncd/risk_factors/overweight_text/en/ (accessed 4 January 2018).
- ⁵ Vermeulen, S.J., Campbell, B.M., Ingram, J.S.I. (2012). Climate change and food systems. *Annual Review of Environment Resources*, 2012; 37: 195-222.
- ⁶ Foley, J.A., Ramankutty, N., Brauman, K.A., et al. Solutions for a cultivated planet. *Nature* 2011; 478(7369): 337-42.
- ⁷ Comprehensive Assessment of Water Management in Agriculture (2007). *Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture*. London: Earthscan; Colombo: International Water Management Institute.
- ⁸ HLPE. 2017. *Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*. Rome. <http://www.fao.org/3/a-i7846e.pdf>
- ⁹ *Smart Food is defined as food that is "Good for you – Good for the planet – Good for the farmer"*

Participants

We would like to thank the participants who contributed to the discussions with open minds and ideas.

Research Scientists

Saul Morris, GAIN
Susan Roberts, Tufts University
Joanna Kane-Potaka, CGIAR/ICRISAT

Business representatives

Alyson Greenhalgh, Kellogg's
Alice Durand-Réville, Danone
Daniel Dorantes, Sigma Alimentos
Karin van het Hof, Unilever
Denise Jacobs, DSM
Chris Brown, Olam

Civil society representatives

Duncan Williamson, WWF International
Saul Morris, GAIN

FReSH representatives

Alison Cairns, FReSH
Alexi Ernstoff, FReSH/Quantis
Fabrice DeClerck, EAT
Alain Vidal, CGIAR and FReSH
SSD Lead

Facilitator

Amanda Harding, Convene

EAT Science writer

Amanda Wood, EAT/Stockholm Resilience Centre

About FReSH

FReSH is an ambitious global business partnership that brings a consumption lens and systemic approach across the food system to drive industry change.

We turn the conventional 'farm to fork' approach on its head by working from "fork to farm" to develop, implement and scale transformative solutions that are aligned with science-based targets.

This means we start with people, focusing on their consumption habits. Then we work back through the food system – from retail, packaging and distribution to how and what we grow – to determine what levers business can pull to contribute to food system reform in order to create healthy, enjoyable food for all, produced responsibly, within planetary boundaries by 2030.

FReSH was jointly launched in January 2017 by the EAT Foundation (EAT) and the World Business Council for Sustainable Development (WBCSD), and 25 founding member companies. The total membership has since grown to almost 40 companies.

About the World Business Council for Sustainable Development (WBCSD)

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than \$8.5 trillion and 19 million employees. Our Global Network of almost 70 national business councils gives our members unparalleled reach across the globe. WBCSD is uniquely positioned to work with member companies along and across value chains to deliver impactful business solutions to the most challenging sustainability issues.

Together, we are the leading voice of business for sustainability: united by our vision of a world where more than nine billion people are all living well and within the boundaries of our planet, by 2050.

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Credits

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About the EAT Foundation (EAT)

EAT is a catalytic organization linking food, health and sustainable development across science, business and policy. Originally launched three years ago, EAT includes three core partners: The Stordalen Foundation, the Stockholm Resilience Centre and the Wellcome Trust. The overall objective of EAT is to expand scientific knowledge on the interconnections between food, health and environmental sustainability, spur innovation along the food value chain, and facilitate the development of evidence based policies to radically transform the global food system to be able to deliver healthy, affordable diets to a growing world population within planetary boundaries. Multi-stakeholder, multidisciplinary and multi-scale collaboration between business, science, politics and civil society lies at the heart of EAT's work. EAT believes that a transformation of the food system is only possible if these diverse actors collectively address the intertwined issues of food, health and sustainability, and develop integrated strategies on food production and consumption to leverage multiple benefits for human and planetary health.

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Disclaimer

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EAT is a non-partisan, non-profit organization devoted to fixing the global food system. The challenges we face are complex and intimately intertwined. Thus, our actions must be integrated across sectors, disciplines and countries. Inviting different perspectives to be part of the conversation is necessary to develop holistic solutions. The views and opinions expressed by our programs, partners and our event participants are their own and do not necessarily represent those of EAT, nor do they represent an endorsement by EAT of any company, service or product. Please note that the data published in the report is as of May 2018.



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