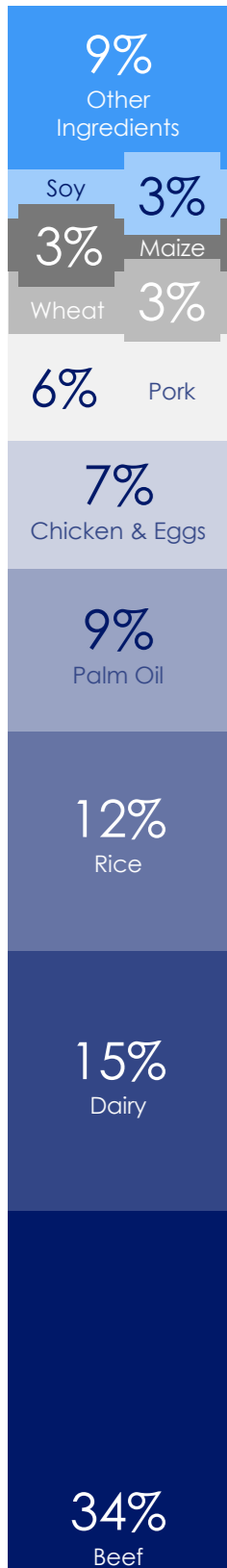


11 GTCO<sub>2</sub>e



### ACTION 1: FOCUS ON KEY EMISSIONS HOTSPOTS

As *Graphic 3* shows, the production of only nine commodities accounts for 90% of total land-based emissions worldwide from food supply chains. All nine fall into three categories: meat and dairy; tropical commodities, like palm oil; and heavily fertilized grains. Six regions – US, Brazil, China, India, Indonesia and the EU – drive 50% of the consumption of these highest-emitting commodities.\*

This concentration of emissions from particular products and regions makes it feasible for companies to identify their individual emissions hotspots and concentrate on reducing emissions from them. Focusing on the 'big bets' that matter can help companies gain traction on their Scope 3 emissions in the short term.

Developing and implementing successful net zero strategies requires companies to engage with decision-makers along entire 'hotspot' value chains, right down to the first link in the chain: the farmers. Companies need to track and trace emissions accurately along the chains to understand the risks, costs and potential returns of alternatives for reducing them and ensure all players co-operate.

Companies can start this process by prioritizing suppliers and traders for engagement, possibly those with whom they have had the longest relationships or for whom they are a major customer. Companies that are particularly large buyers of specific ingredients may choose to take a lead on setting net zero procurement standards and specifying cultivation practices that competitors with less purchasing power can follow.

Various companies have already started this kind of cooperation with farmers and suppliers – at least to a limited extent. Some are helping farmers to shift to more climate-friendly and regenerative practices. They are piloting different practices in multiple regions because, as noted above, the most appropriate and effective practices may differ widely by crop and location. For example, General Mills and Pepsico have recently announced a range of initiatives with farmer associations and other partners to pilot and scale regenerative agricultural practices. Such programs bring together local agronomical expertise and farmers on the scale needed for transitions to take hold. To incentivize such transitions, food companies could reach long-term off-take agreements with farmers and suppliers to help them access the financing they need.

\*Food and Land Use Coalition, paper forthcoming

#### Graphic 3: Global emissions breakdown by food commodity

GHG emissions (CO<sub>2</sub>e)

Sources: Food and Land Use Coalition analysis, paper forthcoming

### ACTION 2: SELECT THE OPTIMAL MIX FOR YOUR NET ZERO RECIPE

Getting to net zero will require transformative shifts in every global food company's strategy and operations. As for any corporate transformation, each company needs to strike a balance between cost, opportunity, risk and aptitude for change (a combination of corporate will and ability) to make the right adjustments to its portfolio and operating model.

To tailor a corporation's 'net zero recipe' to its specific emissions profile and aptitude for change, a company can draw on three emissions-cutting 'ingredients': technical levers, product reformulations and portfolio mix, and nature-based levers (see *Graphic 4*)

Graphic 4: Three ingredients for a corporate net zero recipe

	1. Technical levers	2. Product Reformulation & Portfolio Mix	3. Nature-based levers
What?	Emissions reductions initiatives in manufacturing and supply chain that deploy decarbonization technologies and solutions	Reducing emissions by making changes to the products or shifting the product portfolio	Sourcing ingredients that are produced through techniques that help store carbon
Levers	Packaging Sustainable Manufacturing Green Logistics	Lower-impact ingredients substitutions & novel ingredients  Focus growth towards low-carbon products  Deprioritize / phase out of high-carbon products	Regenerative agriculture practices to sequester carbon (e.g., cereal crops)  Agroforestry practices (e.g., for coffee)  Nature-based solutions within the value chain (e.g., land restoration)
How?	Delivered by technical teams (procurement, packaging, manufacturing, logistics)  Action can start today when cost implication understood	R&D / technical teams can begin some reformulation action today, following value engineering approach  Significant formulation change and growth mix changes require a process of exploration and alignment with strategy teams, category / regional leads	Sourcing sustainable commodity supply where effective protection and impact generation can be guaranteed  Deploying farming practices with key farmers and suppliers

Source: Systemiq Analysis

### Technical levers

These are changes to current practices in a company's facilities and along its value chains that will reduce emissions without altering the products the company sells or the types of ingredients it sources. Some technical levers change farming and processing practices to make them more sustainable using technology. Two such levers are methane-inhibiting livestock feed additives and solar irrigation pumps. To apply technical levers successfully, companies will need to make capital investments in their facilities and also engage closely with suppliers.

### Product reformulation and portfolio mix

Companies can reshape their portfolios to reduce emissions in two ways: by reformulating current products or by pivoting to lower-emission products.

Reformulating products entails replacing high-emission ingredients with low- or zero-emission substitutes. Instead of using, say, dairy ingredients in an existing product, a company might substitute plant-based alternatives or lab-cultured dairy ingredients. Alternatively, companies can shift their whole product portfolio away from high-emitting foods. For instance, a company long on meat and dairy might refocus production and marketing investment on low-carbon and plant-based products and dial down growth in meat and dairy categories.

To choose the optimal shape for a reformed product portfolio, companies must evaluate their current one. They will need to understand each product and category's emissions intensity, margin contribution and expected sales growth, as well as how the market will evolve. Making product portfolio changes will generally take investment in R&D, acquisitions and marketing spend in the near and medium term. Companies whose current emissions are dominated by meat and dairy may find they can cut a lot of GHGs without sacrificing profit.



### Nature-based levers

These deploy nature-based solutions to remove GHG emissions from within the company's value chain. For example, a company might switch to sourcing ingredients from suppliers who deploy regenerative agriculture techniques, such as cover cropping, use agroforestry rather than monoculture to grow commodity crops like coffee, or collect products from standing forests which would formerly have been cultivated, such as honey and nuts. Restoring natural ecosystems within a company's value chain is another important nature-based lever to consider.

The latest SBTi FLAG guidance allows food companies to count carbon removals that meet SBTi standards as effective means of reaching net zero goals. This change increases the importance of these levers in corporate net zero strategies.

*"The mix of technical levers, product portfolio changes and nature-based levers in a net zero recipe will vary for each company."*

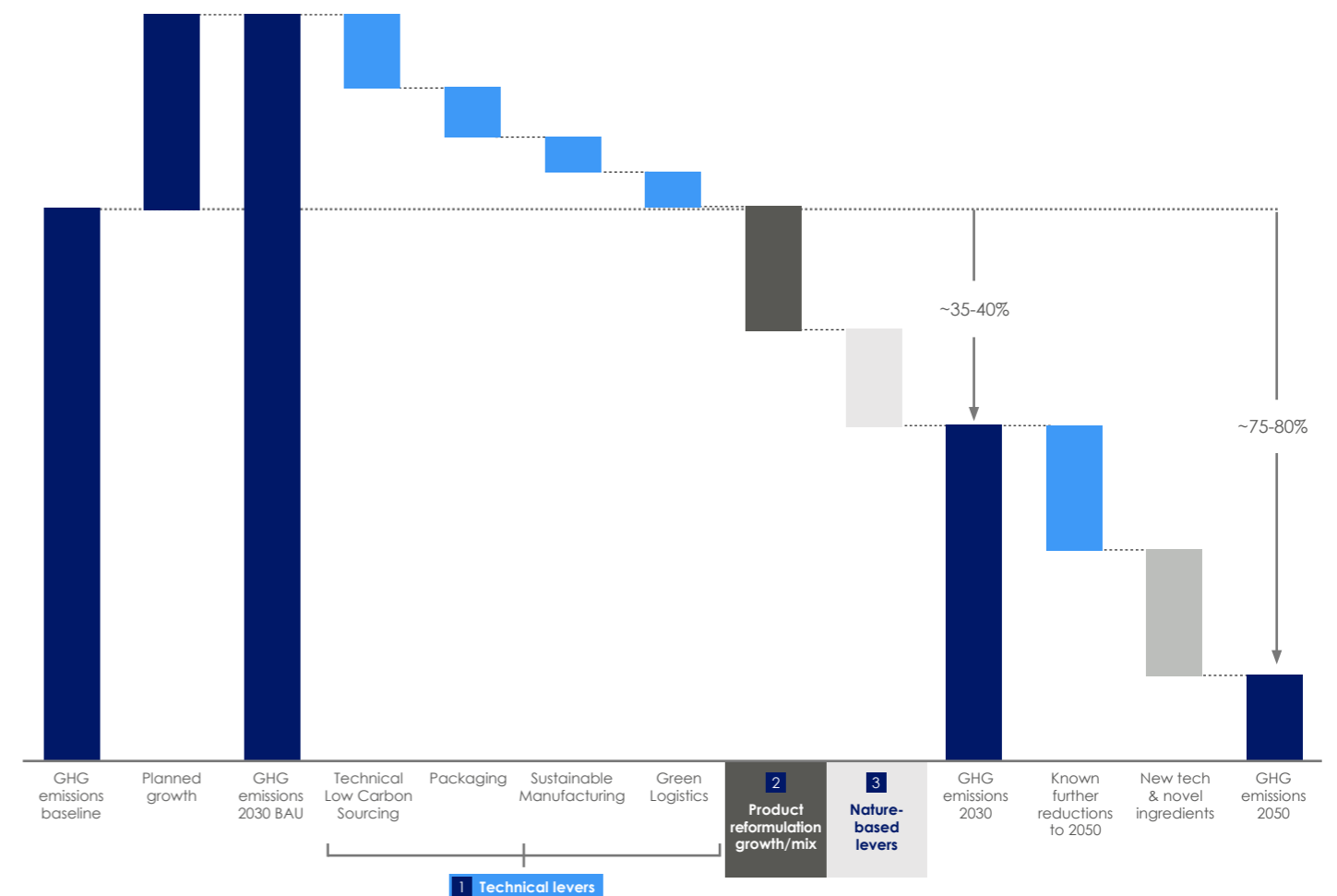
### Putting the recipe together

The mix of technical levers, product portfolio changes and nature-based levers in a net zero recipe will vary for each company. Several different mixes might produce a company's targeted carbon reduction: the right one for its recipe will depend on the company's current product portfolio and geographical spread, its risk appetite and its confidence and ability to change, among other considerations. For instance, some companies will be well equipped to persuade farmers to adopt technical levers; others may favour a complete change of direction for their product portfolio. Understanding the economics of each option is crucial to creating a winning net zero recipe, one that can meet the company's carbon, nature and financial performance goals.

Graphic 5 is a net zero recipe for a typical global food company. It shows the balance of the three emissions-cutting ingredients that the company has chosen to reach its corporate SBTi climate targets on time.

### Graphic 5: A potential net zero pathway for a food company

Emissions Reductions Pathway - GHG emissions (MT CO<sub>2</sub>e)



Source: Systemiq Analysis