



Evaluation of General Mills' and Kellogg's GHG Emissions Targets and Plans

Independent Assessment conducted by
Winston Eco-Strategies for Oxfam's Behind
the Brands Initiative



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Disclaimer:

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I. EXECUTIVE SUMMARY FINDINGS

Winston Eco-Strategies, in support of Oxfam’s Behind the Brands initiative, developed a framework of questions and metrics to assess General Mills’ and Kellogg’s recently announced greenhouse gas (GHG) reduction targets. The goal of the project is to assess whether (a) the targets for their own operations and for upstream agricultural suppliers are in keeping with science-based target methodologies, and (b) the plans to get there are robust enough to make success likely.

WES conducted this assessment using information and data that was publicly available, including company sustainability reports, websites, policy statements, and news articles. The report below explains the scoring methodology more fully. The following are the summary results of the assessment for the two companies.

General Mills:

Overall assessment: Meets the current requirements for science-based target setting and having sufficient plans to achieve those targets, with the exception of one category, the “Strength of data behind the targets” where the publicly available information was not sufficient to determine the source and strength of some aspects of the data.

Category #	Category	Assessment
1.1	Base information on the target and inclusion of scope 3 (primarily agricultural emissions)	Meets
1.2	Strength of data behind targets	Fails/Unknown
1.3	Strength/quality of target on agricultural emissions specifically	Meets*
1.4	Consistency with 2C science-based methodology and thresholds	Meets**
1.5	Consistency with best practice	Exceeds
2.1	Governance/Accountability	Exceeds
2.2	Supplier engagement plans for GHG reductions	Exceeds
2.3	Measurement and Metrics	Meets
2.4	Interim goals and target adjustments/flexibility	Meets
2.5	Transparency and communications	Meets

Kellogg

Overall assessment: Meets the current requirements for science-based target setting and having sufficient plans to achieve those targets.

Category #	Category	Assessment
1.1	Base information on the target and inclusion of scope 3 (primarily agricultural emissions)	Meets
1.2	Strength of data behind targets	Meets
1.3	Strength/quality of target on agricultural emissions specifically	Meets*
1.4	Consistency with 2C science-based methodology and thresholds	Meets*
1.5	Consistency with best practice	Exceeds
2.1	Governance/Accountability	Meets
2.2	Supplier engagement plans for GHG reductions	Meets
2.3	Measurement and Metrics	Meets
2.4	Interim goals and target adjustments/flexibility	Exceeds
2.5	Transparency and communications	Meets

*For both companies, their work to reduce supply chain emissions is focused on key crops and suppliers, which do make up a large percentage of the supply chain. But the public statements are not entirely clear on whether the GHG targets as stated apply to *all* suppliers or only those producing the priority ingredients. General Mills' target can more easily be read as applying to all, while Kellogg's target is focused on 75-80% of the suppliers. Over time, the target would need to apply to the full value chain to remain a science-based target.

**While both companies clearly exceed industry peers in setting ambitious climate mitigation targets and goals that apply to scope 3 supply chain emissions, and have used currently available methods and tools for setting science-based targets (SBTs), there are some caveats that apply. COP 21 adopted a long term mitigation goal "to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels" which would entail more aggressive cuts in emissions, and current tools for setting SBTs do not appropriately capture decarbonization pathways for agriculture.

II. INTRODUCTION & BACKGROUND

The food and agriculture sector (Food & Ag) has a significant role and stake in climate change. Extreme weather is threatening food supply chains around the world. The sector is also a large contributor to climate change, responsible for up to 25% of total global emissions.

As in most sectors, the largest companies in Food & Ag have responded to the challenge, in part, by setting targets to reduce emissions, mostly from their own operations (so-called scope 1 and 2 emissions).

Oxfam's *Behind the Brands* initiative has focused attention on "The Big 10" food and beverage companies, encouraging these companies to take on two emerging best practices:

- (1) Set their goals based on how fast science tells us we need to cut emissions (science-based targets, or SBTs) and,
- (2) Set goals for their supply chains as well, which is critical in Food & Ag since upstream (or scope 3) emissions are the majority of total emissions – equal to, according to Oxfam, the carbon emissions of around 40 coal-fired power stations each year.

In the summer of 2014, both General Mills and Kellogg released climate change plans and goals that cover the period up until 2020. Both also committed to set supply chain targets that address agricultural emissions as well. In the fall of 2015, the companies established new targets for GHG emissions that covered scopes 1, 2, and 3 emissions. In addition, in April 2016, General Mills released its latest Global Responsibility Report which extended some of its targets.

This report is focused on the following new goals and the companies' respective plans to reach the new targets:

- General Mills: "A 28 percent absolute reduction in greenhouse gas emissions by 2025" across the entire value chain and, as of the April 2016 Global Responsibility Report, a new 2050 target to "reduce absolute GHG emissions across our full value chain by 41-72% (compared to 2010) to achieve sustainable levels in line with scientific consensus."
- Kellogg: "Cut GHG emissions by 65 percent across its own operations, known as Scope 1 and 2, and, for the first time work with suppliers, known as Scope 3, to help reduce their emissions by 50 percent by 2050."

Oxfam engaged Winston Eco-Strategies, LLC (WES) to provide an evaluation of these targets. In conjunction with Oxfam, WES developed a framework of questions and metrics to gauge the robustness of General Mills' and Kellogg's greenhouse gas (GHG) targets and plans.

The purpose of this process is to assess whether...

- (a) The target GHG reductions for the companies and their supply chains are in line with credible science-based target methodologies and
- (b) The companies' action plans reflect enough organizational, informational, and financial commitment and management to both measure progress against the targets and also make the achievement of those goals likely.

WES conducted this assessment using information and data that was publicly available, including company sustainability reports, websites, policy statements, and news articles.

III. FRAMEWORK FOR ASSESSMENT

Framework elements

In conjunction with Oxfam, Winston Eco-Strategies developed a framework for assessing science based targets and plans to achieve those targets. The framework consists of a two-part assessment, which reviews the target itself (part 1) and the plans to reach the target (part 2).

Each part has 5 categories which each have a number of questions, for a total of 33 questions. The overall purpose of the assessment is to gauge whether (a) the goals are in keeping with the established science-based targets approaches (such as WRI and CDP's methodology) and (b) the plan to get there is robust enough to make achievement likely.

Scoring Rubrics

For each metric, we employ one of two assessment rubrics. Some metrics are binary and just measure a simple yes/no (e.g., is the target set for absolute emissions?). For most of the more challenging questions, the rubric is what we're calling E/M/F, which means the following.

- E = Exceeds what's necessary for achieving science based targets and plans
- M = Meets requirements necessary for achieving science based targets and plans
- F = Fails to meet requirements necessary for achieving science based targets and plans

Based on the scores received across all of the individual metrics per category, each of the ten categories of the framework receives a summary score of E/M/F as well.

- E = A rating of Yes or E for most indicators within that category, and with a minimum of a rating of Yes or M for all indicators within that category
- M = A rating of Yes or M for most indicators within that category
- F = A rating of No or F (or unknown) for most indicators within that category

Below is the full framework used to assess General Mills' and Kellogg's GHG targets.

Part 1. Robustness of Target Setting			
Category/ Questions	Category	Data Format	Assessment Rubric
1.1	Base information on the target and inclusion of scope 3 (primarily agricultural emissions)		E/M/F (Category assessment)
1	What is the target GHG reduction?	%	Yes/no
2	Is the target for absolute emissions (vs. relative/intensity)?	Yes/no	Yes/no
3	What is the timeline of the target? Baseline? Starting when and by when?	Years	Yes/no
4	What parts of value chain are included in the target? Are scope 3 and/or agricultural emissions included?	Details; Yes/No	Yes/no
5	How is the target divided amongst value chain parts (all the same target or variable)?	Details	E/M/F
1.2	Strength of data behind targets		E/M/F (Category assessment)
6	Does the company have GHG emission data with percentages broken down by scope and/or value chain stage (e.g. 70% supply chain; 25% operations; 5% EOL)	% with details	Yes/No
7	How is data on agricultural emissions reported and analyzed?(e.g., does the company have data on agricultural emissions, is the data aggregated or broken down by ingredient/commodity or by category (dairy vs. row crops)?)	% with details	E/M/F
8	How are agricultural emissions data calculated? (e.g., actual yield combined with emissions estimated from academic studies of specific crops)?	Details	E/M/F
9	What is the quality of company's data including agricultural emissions (e.g., what is baseline year of solid data for GHGs, is data third party verified?)	Details	E/M/F
1.3	Strength/quality of target on agricultural emissions specifically		E/M/F (Category assessment)
10	What % of agricultural ingredients is included in the target (By volume of ingredients? By CO2e of agricultural emissions?)	%	E/M/F
11	What sources of agricultural emissions are included in the target? (List: Deforestation and other land use change b. livestock emissions (both enteric fermentation and manure management) c.rice production d. nitrogen fertilizer application (both synthetic and manure); e. peatland drainage; f. on farm	Details	E/M/F

	energy use, and g. upstream fertilizer production, h. other as applicable)		
12	How is food waste -- i.e., losses on-farm or between farm and manufacturing -- accounted for? (i.e., is all farm production included or just emissions related to inputs that are utilized)	Details	E/M/F
1.4	Consistency with 2C science-based methodology and thresholds		E/M/F (Category assessment)
13	What was the target setting process and what, if any, science based methodologies were utilized? (e.g., does the target align with carbon budget estimations from IPCC, was the target derived through straight-line reductions or sector-based methodologies etc?)	Details	E/M/F
1.5	Consistency with best practice		E/M/F (Category assessment)
14	How does the target compare to the most aggressive SBTs from the Global Fortune 500 or other best practice examples (e.g. goals on renewable energy, waste reduction, deforestation)	NA – WES analysis	E/M/F
Part 2. Plan to Reach the Goals/Targets			
Category/ Questions	Category	Data Format	Assessment Rubric
2.1	Governance/Accountability		E/M/F (Category assessment)
15	Who in the organization is responsible for meeting GHG targets? And for measuring, estimating agric. emissions?	Details	E/M/F
16	Is there CEO or Board oversight on carbon targets?	Yes/no	Yes/no
17	Are there incentives in place for company managers, or for suppliers, to meet GHG targets?	Details	E/M/F
2.2	Supplier engagement plans for GHG reductions		E/M/F (Category assessment)
18	How will the company require suppliers to measurably reduce agricultural emissions (e.g., what mechanisms such as supplier codes will be used)?	Details	E/M/F
19	How will the company assess pathways to reductions and opportunities to embed new sustainable agricultural practices and	Details	E/M/F

	techniques? What external experts or partners, if any, will be consulted?		
20	How will the company provide suppliers best practices on key sustainable agricultural techniques (e.g., no-tillage, cover crops, rotation, nutrient management, manure management)?	Details	E/M/F
21	Will the company aid suppliers on implementing new technologies and techniques directly (e.g., with human or financial capital?)	Details	E/M/F
22	How will the progress of operational changes in the supply chain be tracked?	Details	E/M/F
23	Does the company have policies and plans for achieving zero deforestation across all high forest risk commodities it sources?	Yes/No	Yes/No
24	Does the company have policies and plans for sustainably sourcing of commodities with a high environmental footprint that are relevant for its supply chain? (e.g., commodities such as cocoa, coffee or sugar)?	Yes/No	Yes/No
2.3	Measurement and metrics		E/M/F (Category assessment)
25	What will the process be for regularly measuring and reporting on GHGs in operations, supply chain, and downstream (scopes 1, 2, 3)? What tools or models will be used?	Details	E/M/F
26	Will supplier-level agricultural emissions be tracked directly (vs. estimated from total ingredient yields across all suppliers of a given ingredient)? Will the company provide tools/assistance to suppliers to track their GHGs?	Details	E/M/F
27	What Is the process for assessing and reporting data on carbon reductions, particularly Scope 3? (e.g., is it certified by a third-party for data legitimacy?)	Details	E/M/F

2.4	Interim goals and target adjustments/flexibility		E/M/F (Category assessment)
28	Are there targets in place for interim years?	Yes/no	Yes/no
29	What are the interim targets and for which parts of the value chain?	Details	E/M/F
30	How will the company incorporate the evolving science on climate change?	Details	E/M/F
31	Is there a process in place to re-set or re-establish the goals before the target year if necessary?	Details	E/M/F
2.5	Transparency and communications		E/M/F (Category assessment)
32	Is the information on GHG reduction targets and plans available publicly in a transparent and accessible manner?	Details	E/M/F
33	How will updates on implementation progress be shared? How frequently?	Details	E/M/F

Inherent Constraints

As this exercise is qualitative in nature, many elements along the E/M/F spectrum reflect a judgment about what would be necessary to make reaching the goals more likely. Even if these processes and organizational structures are in place, the result – attaining a science-based level of reductions across the value chain – is not guaranteed.

An important caveat for this exercise: some of the areas reflect a desired state instead of the reality on the ground. In particular, in the area of measurement of agricultural emissions, the “state of the art” is currently to estimate total emissions for a crop based on actual yields multiplied by estimated emissions for that crop from academic studies of one particular site. That kind of estimate does not reflect differences in growing region or farming methods. In the future, to measure progress against reduction targets, companies may require much more accurate, farm-level data on an ongoing basis.

Finally, this process is utilizing today’s science-based target-setting methodologies. But each iteration of the IPCC process has lowered the budget on global carbon – meaning, what is considered sufficient for science today is unlikely to be sufficient tomorrow. This is one of the reasons the framework includes questions 30 and 31. This reality of changing (and likely ever-stricter) guidelines on carbon has an important ramification for this process. An assessment that the goals are in line with science is not valid indefinitely and must be reassessed periodically.

IV. ASSESSMENT OF GENERAL MILLS' GHG TARGETS AND PLANS

Below is a summary of the assessment at the category level. For a more detailed look at the assessment of each of the 33 questions, please see the spreadsheet included as Appendix B, which also includes information about where in the public documents WES sourced the data.

1. Robustness of Target Setting

1.1: Base Information on the Target and Inclusion of Scope 3

This sub-category includes five metrics or questions:

1. What is the target GHG reduction percentage?
2. Is the target based on absolute or intensity calculations?
3. What is the timeline of the target (baseline, due date)?
4. What parts of the value chain are included in the target?
5. How is the target divided amongst the value chain parts?

Assessment: Meets

Rationale: Category 1.1 primarily measures whether the goal is stated clearly and covers scope 3 (i.e., agricultural) emissions. All metrics included in the category received a “Meets” or “Yes” response. However, the answer to question #5 on how the target is applied to the value chain is not clear from public documents, which include the 28% target for the full value chain and statements about collaborating with suppliers. But it’s unclear if the 28% is expected for each of scopes 1, 2, and 3 specifically (i.e., in theory, the 28% could be broken up a number of ways, including a higher percentage for General Mills’ own operations and lower for suppliers...or vice versa).

1.2: Strength of data behind targets

This subcategory consists of four questions or metrics:

6. Does the company have GHG emission data with percentages broken down by scope and/or value chains?
7. How is data on agricultural emissions reported and analyzed?
8. How are agricultural emissions data calculated?
9. What is the quality of company's data including agricultural emissions data

Assessment: Fails/Unknown

Rationale: From public information it is clear that General Mills has conducted field tests with tools to measure GHGs in a few different settings. But it’s not explicitly stated how the company has measured or estimated total upstream agricultural emissions for all ingredients. Metrics 7, 8, and 9 cover this area. The company's CDP report discusses an LCA analysis conducted by a consulting firm, but there is no specific information about how agricultural emissions are estimated and the company reports that 0.00% of emissions are calculated using data from suppliers. The CDP report indicates a use of “mass and spend” data, but is not specific about emissions factors. The company has indicated that it has “not yet released details on the specific calculations, baseline, etc” but plans “to publish more data going forward.” Until that point, however, this area is incomplete.

1.3: Strength/quality of target on agricultural emissions specifically

This subcategory consists of three questions or metrics:

10. What percentage of agricultural ingredients is included in the target?
11. What sources of agricultural emissions are included in the target?
12. How is food waste --i.e., losses on-farm or between farm and manufacturing -- accounted for?

Assessment: Meets*

Rationale: All metrics included in the category received a “Meets.” There are clear mentions of work across the main areas of this category, including different sources of agricultural emissions (such as deforestation/land use, fertilizer/nutrients, and irrigation and tillage practices) and food waste. *There may be some inconsistency with statements about percentage of total buy covered or of key crops, but the intent of the goal as stated seems to be the entire footprint.

1.4: Consistency with 2C science-based methodology and thresholds

This subcategory consists of one question or metric:

13. What was the target setting process and what, if any, science based methodologies were utilized?

Assessment: Meets**

Rationale: General Mills worked closely with advisors at Business for Social Responsibility (BSR) and followed the WRI/CDP science-based goal standard and process. The WRI standard is generally accepted as sufficient for setting science-based targets. It is important to note two caveats however. First, General Mills’ goal is in keeping with the 2-degree scenario that, until COP21, was the global target. But the global policy community has now included in the Paris agreement an additional commitment “to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.” If this more aggressive goal becomes the norm, General Mills’ targets could be considered below science-based levels. Second, the WRI sector-based methodology has not yet calculated an agriculture sector target; this target is thus in keeping with the “other industry” SBTs used as a placeholder.

1.5: Consistency with best practice

This subcategory consists of one question or metric:

14. How does the target compare to the most aggressive SBTs from the Global Fortune 500 or other best practice examples

Assessment: Exceeds

Rationale: While a handful of the leading companies have set net positive targets for their business, General Mills’ goals are examples of leadership -- especially with the addition of the 2050 goals in the company's April 2016 sustainability report (GRR 2015). The targets include the supply chain, which is currently rare, and now extend out to 2050, matching the global policy and science communities’ time frames.

2. Plan to Reach Goals/Targets

2.1: Governance/Accountability

This sub-category includes three metrics or questions:

15. Who in the organization is responsible for meeting GHG targets? And for measuring/estimating agricultural emissions?
16. Is there CEO or Board oversight on carbon targets?
17. Are there incentives in place for company managers, or for suppliers, to meet GHG targets?

Assessment: Exceeds

Rationale: General Mills has a strong governance structure in place on sustainability in general and clear accountability and rewards at the most senior levels for meeting GHG targets.

2.2. Supplier engagement plans for GHG reductions

This sub-category includes seven metrics or questions:

18. How will the company require suppliers to measurably reduce agricultural emissions and how?
19. How will the company assess pathways to reductions and opportunities to embed new sustainable agricultural practices and techniques? What external experts or partners, if any, will be consulted?
20. How will the company provide suppliers best practices on key sustainable agricultural techniques?
21. Will the company aid suppliers on implementing new technologies and techniques directly?
22. How will the progress of operational changes in the supply chain be tracked?
23. Does the company have policies and plans for achieving zero deforestation across all high forest risk commodities it sources?
24. Does the company have policies and plans for sustainably sourcing of commodities with a high environmental footprint that are relevant for its supply chain?

Assessment: Exceeds

Rationale: All metrics included in the category received a “Meets” or “Yes” response, with two critical areas receiving an “Exceeds”. The latest sustainability report (GRR 2016) has a greater level of detail on projects and sharing of information across suppliers and groups of farmers. Of particular note is the series of sub-commitments, by crop, to buy 100% (by 2020) from those regions engaging in best practices and showing continuous improvement. That use of buying power is a strong lever for change. It’s a robust and growing program.

2.3. Measurement and metrics

This sub-category includes three metrics or questions:

25. What will the process be for regularly measuring and reporting on GHGs in operations, supply chain, and downstream (scopes 1, 2, 3)? What tools or models will be used?

26. Will supplier-level agricultural emissions be tracked directly (vs. estimated from total ingredient yields across all suppliers of a given ingredient)? Will the company provide tools/assistance to suppliers to track their GHGs?
27. What is the process for assessing and reporting data on carbon reductions, particularly Scope 3? (e.g., is it certified by a third-party for data legitimacy?)

Assessment: Meets

Rationale: All metrics included in the category received a “Meets.” The company has metrics and tools in place for GHG tracking in general (using CDP and GRI in particular), but supplier emissions tracking is not addressed quite as clearly.

2.4. Interim goals and target adjustments/flexibility

This sub-category includes four metrics or questions:

28. Are there targets in place for interim years?
29. What are the interim targets and for which parts of the value chain?
30. How will the company incorporate the evolving science on climate change?
31. Is there a process in place to re-set or re-establish the goals before the target year if necessary?

Assessment: Meets

Rationale: With the addition of the long-term (2050) target, established in the April 2016 Global Responsibility Report, the original 2025 goal is arguably now an interim target. The % of spend targets for 2020, issued in 2013, are also interim targets, so long as the definition of “sustainably source” includes reductions of GHGs in line with the targets.

2.5. Transparency and communications

This sub-category includes two metrics or questions:

1. Is the information on GHG reduction targets and plans available publicly in a transparent and accessible manner?
2. How will updates on implementation progress be shared? How frequently?

Assessment: Meets

Rationale: Both metrics included in the category received a “Meets”. The company is transparent about the goals and states clearly it will report annually on progress.

Summary Scoring for General Mills

Category #	Category	Assessment
1.1	Base information on the target and inclusion of scope 3 (primarily agricultural emissions)	Meets
1.2	Strength of data behind targets	Fails/Unknown
1.3	Strength/quality of target on agricultural emissions specifically	Meets*
1.4	Consistency with 2C science-based methodology and thresholds	Meets*
1.5	Consistency with best practice	Exceeds
2.1	Governance/Accountability	Exceeds
2.2	Supplier engagement plans for GHG reductions	Exceeds
2.3	Measurement and Metrics	Meets
2.4	Interim goals and target adjustments/flexibility	Meets
2.5	Transparency and communications	Meets

V. ASSESSMENT OF KELLOGG'S GHG TARGETS AND PLANS

Below is a summary of the assessment at the category level. For a more detailed look at the assessment of each of the 33 questions, please see the spreadsheet included as Appendix A, which also includes information about where in the public documents WES sourced the data.

1. Robustness of Target Setting

1.1: Base Information on the Target and Inclusion of Scope 3

This sub-category includes five metrics or questions:

1. What is the target GHG reduction percentage?
2. Is the target based on absolute or intensity calculations?
3. What is the timeline of the target (baseline, due date)?
4. What parts of the value chain are included in the target?
5. How is the target divided amongst the value chain parts?

Assessment: Meets

Rationale: All metrics included in the category received a “Meets” or “Yes” response.

1.2: Strength of data behind targets

This subcategory consists of four questions or metrics:

6. Does the company have GHG emission data with percentages broken down by scope and/or value chains?
7. How is data on agricultural emissions reported and analyzed?
8. How are agricultural emissions data calculated?
9. What is the quality of company's data including agricultural emissions data?

Assessment: Meets

Rationale: This category looks at how solid the data behind the target is, asking if the company has a reasonable ability to assess its value chain GHG emissions and how it is estimating agricultural emissions specifically. All metrics included in the category received a “Meets” or “Yes” response.

1.3: Strength/quality of target on agricultural emissions specifically

This subcategory consists of three questions or metrics:

10. What percentage of agricultural ingredients is included in the target?
11. What sources of agricultural emissions are included in the target?
12. How is food waste --i.e., losses on-farm or between farm and manufacturing -- accounted for?

Assessment: Meets* (with reservation)

Rationale: All metrics included in the category received a “Meets” or “Yes” response. For metric 10, a large majority of suppliers (75-80%) and supply chain spending (85%) are included, which is certainly much further ahead than most companies. But if the targets only apply to 80% of the supply chain, then they will not reach science-based reduction levels for the full value chain (unless the targets were deliberately set to make up the difference by shooting for a more-than-SBT level of reduction). Over time, the longer-term plan for these targets, and the execution plans, must move toward 100% of suppliers, or the targets will need to be adjusted to reflect the incomplete coverage.

1.4 Consistency with 2C science-based methodology and thresholds

This subcategory consists of three questions or metrics:

13. What was the target setting process and what, if any, science based methodologies were utilized target?

Assessment: Meets**

Rationale: Kellogg's utilized all major methods of setting science-based targets (WRI, WWF, and underlying IPCC data) and these are generally accepted as sufficient for setting SBTs. It is important to note two caveats however. First, Kellogg's goal is in keeping with the 2-degree scenario that, until COP21, was the global target. But the global policy community has now included in the Paris agreement an additional commitment “to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.” If this more aggressive goal becomes the norm, Kellogg's targets could be considered below science-based levels. Second, neither the 3% solution nor SDA have (yet) calculated an agriculture sector target; thus it is uncertain if the 2050 target for supply chain will fit that methodology (but as Kellogg's notes, its 2015 baseline is more aggressive than the 2010 IPCC starting point). We look then to the company's intended process for staying up to date (metrics 30-31).

1.5: Consistency with best practice

This subcategory consists of one question or metric:

14. How does the target compare to the most aggressive SBTs from the Global Fortune 500 or other best practice examples?

Assessment: Exceeds

Rationale: The target is leading in the agriculture sector and in keeping with best practice across other sectors that have set aggressive targets. Kellogg has already delivered 12% reduction in manufacturing. The additional scope 1 and 2 target of 15% (normalized) for 2020 and the 50% low-carbon energy targets are strong. While some large companies have gone further to target 100% renewable or net positive on carbon, the inclusion here of supply chain emissions in science-based targets is currently rare.

2. Plan to Reach Goals/Targets

2.1. Governance/Accountability

This sub-category includes three metrics or questions:

15. Who in the organization is responsible for meeting GHG targets? And for measuring/estimating agricultural emissions?
16. Is there CEO or Board oversight on carbon targets?
17. Are there incentives in place for company managers, or for suppliers, to meet GHG targets?

Assessment: Meets

Rationale: All metrics included in the category received a “Meets” or “Yes” response based on the company’s corporate responsibility report or its CDP report.

2.2. Supplier engagement plans for GHG reductions

This sub-category includes seven metrics or questions:

18. How will the company require suppliers to measurably reduce agricultural emissions and how?
19. How will the company assess pathways to reductions and opportunities to embed new sustainable agricultural practices and techniques? What external experts or partners, if any, will be consulted?
20. How will the company provide suppliers best practices on key sustainable agricultural techniques?
21. Will the company aid suppliers on implementing new technologies and techniques directly?
22. How will the progress of operational changes in the supply chain be tracked?
23. Does the company have policies and plans for achieving zero deforestation across all high forest risk commodities it sources?
24. Does the company have policies and plans for sustainably sourcing of commodities with a high environmental footprint that are relevant for its supply chain?

Assessment: Meets

Rationale: All metrics included in the category received a “Meets” or “Yes” based on company’s own disclosures as well as information provided through footprint tracking tools such as Field to Market.

2.3. Measurement and metrics

This sub-category includes three metrics or questions:

25. What will the process be for regularly measuring and reporting on GHGs in operations, supply chain, and downstream (scopes 1, 2, 3)? What tools or models will be used?
26. Will supplier-level agricultural emissions be tracked directly (vs. estimated from total ingredient yields across all suppliers of a given ingredient)? Will the company provide tools/assistance to suppliers to track their GHGs?
27. What is the process for assessing and reporting data on carbon reductions, particularly Scope 3? (e.g., is it certified by a third-party for data legitimacy?)

Assessment: Meets

Rationale: All metrics included in the category received a “Meets.” The company is clear about the processes, models, emissions estimates, and the role of CDP.

2.4. Interim goals and target adjustments/flexibility

This sub-category includes four metrics or questions:

28. Are there targets in place for interim years?
29. What are the interim targets and for which parts of the value chain?
30. How will the company incorporate the evolving science on climate change?
31. Is there a process in place to re-set or re-establish the goals before the target year if necessary?

Assessment: Exceeds

Rationale: Two of the four metrics included in the category received a “Meets” or “Yes” response and two of the four received “Exceeds”, which aligns with the definition for Exceeds for the category. Kellogg’s is clear about working with industry and NGOs to develop SBTs for agriculture and to revisit its goals as science evolves.

2.5. Transparency and communications

This sub-category includes two metrics or questions:

32. Is the information on GHG reduction targets and plans available publicly in a transparent and accessible manner?
33. How will updates on implementation progress be shared? How frequently?

Assessment: Meets

Rationale: Both metrics included in the category received a “Meets.” Kellogg is clear on filing with CDP and reporting on progress annually.

Summary Scoring for Kellogg

Category #	Category	Assessment
1.1	Base information on the target and inclusion of scope 3 (primarily agricultural emissions)	Meets
1.2	Strength of data behind targets	Meets
1.3	Strength/quality of target on agricultural emissions specifically	Meets*
1.4	Consistency with 2C science-based methodology and thresholds	Meets**
1.5	Consistency with best practice	Exceeds
2.1	Governance/Accountability	Meets
2.2	Supplier engagement plans for GHG reductions	Meets
2.3	Measurement and Metrics	Meets
2.4	Interim goals and target adjustments/flexibility	Exceeds
2.5	Transparency and communications	Meets

VI. RECOMMENDATIONS, BEST PRACTICES FOR FOOD COMPANIES SETTING GHG TARGETS

The Assessment Framework for Science-based Targets (SBTs) and Plans includes 33 questions/metrics in 10 categories (see appendices for the full framework). The company's ability to answer these questions will indicate (a) whether the targets themselves are in line with the current science on necessary carbon reductions to meet the global 2-degree threshold, and (b) whether the company is well prepared to execute a plan to achieve those science-based emissions reductions.

For some questions, such as whether there's a goal in place, the "best practice" is binary – it's either there or not. For most however, the actions a company takes will fall along a spectrum of likelihood to fail, meet, or exceed what's necessary for achieving science based targets. In this part of the report we describe primarily what exceeding in these core areas would look like, thus improving the likelihood of a good outcome. We suggest here best practice for each of the 10 sections and *highlight four of the more important recommendations that go beyond current practice* and would enable a company to take a leadership position.

Must-Have Requirements

A subset of the metrics is necessary for setting robust science-based goals. For the following assessment sections, companies must either "meet" or "exceed" the definitions established for the metrics included.

- **Section 1.1 - Base information on the target and inclusion of scope 3 (primarily agricultural emissions).** This section is primarily to establish the basics of the target: the percentage reduction, whether that reduction is absolute or relative, the timeline/due date, whether agricultural emissions are included, and how the goal is applied to the value chain. Best practice here is straightforward: establishing targets publicly and make the scope and inclusion of agricultural emissions clear.
- **Section 1.2 - Strength of data behind targets.** This section assesses whether the company has a strong grasp of its value chain GHG emissions (e.g., how much is upstream with suppliers) and how it measures those agricultural emissions in particular. In this case there is a gap between theoretical best practice and what's available today. For the most part, agricultural emissions are calculated by multiplying total crop yield data by estimates of the emissions associated with a particular crop based on academic studies of, for example, a sample farm in one region. Over time, best practice will need to be farm-level data so companies can establish benchmarks and truly track progress.

Next gen best practice recommendation 1: Begin to build the capabilities and tools to capture farm-level data. Ask suppliers to track and communicate farm-level GHG data annually.

- **Section 1.3 - Strength/quality of target on agricultural emissions specifically.** This section assesses whether the agricultural emissions target covers all inputs, includes all major sources of emissions from agriculture (deforestation, livestock, fertilizer, etc.), and takes into account losses and waste in the value chain. Today many companies set their goals for their top crops or inputs. Best practice is to set a goal (and process to meet the goal) for all inputs, to explicitly address the major sources, and to include emissions for the entire farm/supplier production (not just the total purchased or reaching the food processor, which would ignore waste).
- **Section 1.4 - Consistency with 2C science-based methodology and thresholds.** This section includes just one critical question about whether the company following a respected and tested methodology to set a science-based target (SBT). The major tools for SBT development include:
 - The 3% solution, built by WWF and McKinsey, which covers the period from 2010 to 2020.
 - The Low Carbon Economy Index from PwC which annually calculates the reduction in carbon intensity needed globally to meet the 2-degree threshold.
 - The Sectoral Decarbonization Approach, developed primarily by World Resources Institute, which overlays onto the science-based reductions a sector-level adjustment based on the economics of carbon reductions in each sector (thus some sectors are given recommendations to target slower decarbonization than the first two methods would suggest).

All of these methods are based on the same data from the global scientific community assembled by the UN's Intergovernmental Panel on Climate Change (IPCC). Thus they are in essence equivalent, with some variation for the sector perspective added by WRI.

But all of that said, we suggest an important caveat. Setting goals in line with the science using one of these methods should be a *minimum* barrier, or floor, for goal setting...just as the recommended and prescribed dose of a medicine is not negotiable.

We do see a fundamental hurdle to global achievement of the 2-degree mark: some countries, sectors, and companies will clearly go slower on reductions. So we recommend that best practice would mean going even faster and leading value chains and sectors down the decarbonization path. The more aggressive approach would build a buffer zone for emissions reduction performance and, on a value chain level, may actually be more economic. (See best practice recommendation 2 below).

Next Level Performance

The following sections of the Assessment Framework are highly recommended to take the goal-setting and action plans further.

- **Section 1.5 – Consistency with Best Practice.** This section reflects an assessment by WES that compares the company's goals to the goals of the world's largest companies, using our proprietary database www.pivotgoals.com. Combining the recommendations from section

1.4 and 1.5, we suggest going further. The kinds of goals that go beyond SBT level include time-based 100% renewable targets or “net positive” and “regenerative” targets.

Next gen best practice recommendation 2: Set more aggressive goals that exceed the SBT definitions in order to build in a buffer zone and move sectors and value chains along the path.

- **Section 2.1 – Governance/Accountability.** This section assesses the organizational commitment to the target, looking at who owns the target, whether the CEO and board are involved, and whether incentives are in place for leaders to reach the target. Best practice here is fairly self-explanatory – senior leaders should be responsible for meeting the numbers, and both execs and operational managers should have compensation and bonuses on the line.
- **Section 2.2 - Supplier engagement plans for GHG reductions.** This section contains the critical action plan questions about *how* the reductions in agricultural emissions in the supply chain will happen. We include questions about how the company will identify agricultural best practices, share those with suppliers, help them implement best practices, and track progress. Best practice for this section includes working with NGO experts to understand and identify sustainable agriculture techniques (no-tillage, cover crops, nutrient and manure management, etc.), developing processes and forums for sharing these with suppliers, and providing human, technological, and even financial capital to help accelerate the change up stream.

Next gen best practice recommendation 3: Set aside human capital and expertise to work with the suppliers, and establish a loan fund to invest with less technologically enabled suppliers to help them implement precision agriculture and other new technologies.

- **Section 2.3 – Measurement and Metrics.** This section assesses the company’s data collection around GHG performance – with some overlap from section 1.3 – and looks at how the company will report on these metrics. Best practice is to follow GRI and report to CDP regularly and to ask suppliers to do the same. Next Gen best practice recommendation 1 applies here as well.
- **Section 2.4 – Interim Goals and Target Adjustment/flexibility.** This section assesses how prepared the company is to adjust its targets and the process to do so. Best practice is to set interim targets on the path to long-term reductions in line with science and to regularly review the latest science and estimates on the pace of GHG reduction required.
- **Section 2.5 – Transparency and Communications.** This section simply assesses whether the company is providing information on all of the above areas transparently and regularly. Best practice is to clearly establish a public communication plan and report on the status of progress annually.

For Companies Just Getting Started

For companies in the Food & Ag sector just starting the journey to science-based goal setting, we recommended some specific steps, led primarily by the sustainability executives:

- **Self-assess your target and program:** utilize the Assessment Framework to score your current emissions target and plans to reach the target. Highlight where you fail to meet the requirements and use that outcome as input to your next iteration on goal setting. If you are well into the process, consider self-assessing your publicly available information and compare your scores and/or utilize a third-party to provide an assessment.
- **Communicate with your management team:** take the outcomes of your assessment(s) back to your greater management team and focus on where you can improve your goal(s) and your management systems in place to help reach your goal
- **Recalibrate your goals:** if needed, reset your goals and strengthen your plans based on the assessments made and the internal feedback from the management team

Recommendations for Food and Agriculture Sector

The reduction of emissions in order to abate climate change is most certainly a “we are all in this together” issue for the Food and Agriculture sector. Thus, collaborating is an imperative task and one that likely will “raise all ships.” The following are recommended specific steps:

- **Best practices database:** create an industry-wide, open platform database of best practices, e.g. emissions measuring technologies, that companies can learn from and take back to their programs. This information should likely be housed with an NGO or academic partner.
- **Meeting of the minds:** host an industry-wide gathering to provide a forum for communicating best practices, discussing issues and opportunities, and fostering a collaborative and transparent process for reducing scope 3 emissions in the sector.
- **Communicate collective progress:** establish a means for communicating company and sector progress towards goals and improvements in the plans to reach those goals. For example, the sector could produce an annual survey or report for Oxfam to curate into an industry-wide annual update.

Next gen best practice recommendation 4: Create a best practices database; host an industry-wide gathering to discuss best practices, issues, and opportunities; and communicate annual progress out to the world

There is a long way to go in corporate goal setting around emissions reductions. Leaders like the General Mills and Kellogg have taken the initial steps to set and reach a science-based emission reduction goal for their own operations *and their suppliers*. This Assessment Framework is meant to help others do the same.

VII. CONCLUSIONS

Both Kellogg and General Mills scored well on both the targets and the plans to reach the targets. The few ratings of “fails/unknown” resulted mainly from a lack of information available in the public domain. This implies that the companies may either have the necessary information and data in place but have not shared that information or could work to develop the information. A full scorecard containing “Meets” and “Exceeds” marks is close.

Based on the current scoring assessment, both Kellogg and General Mills should be considered leaders in GHG goal setting in the Food and Ag industry and also strong actors when compared across all industries (based on our benchmark analyses and comparison of goal setting from Pivot Goals data at www.pivotgoals.com). Setting a numeric goal for the supply chain is an emerging best practice and still unusual. By that standard alone, this represents leadership.

While some of the details of how the companies will reach the goals are still to be determined – and much of the uncertainty is inherent in the state of play on agricultural emissions measurement -- these targets are strong. That said, it will be critical to execute with a robust operational plan, with metrics, interim goals, and repeated checkpoints. This last consideration is not a minor one: the global policy community has already moved the discussion from 2 degrees to a soft target of 1.5 degrees, which would imply that countries and companies will need even more aggressive targets. We highly recommend a regular review of the pace of decarbonization required to match the science.

We also hope these companies will lean in to their leadership and some of the “next gen” practices we suggest above. In the future, with technology and data improvements, we should see even better data (farm-level) and perhaps even more aggressive targets (beyond SBT) to drive systemic change.

VIII. APPENDICES

APPENDIX A – Kellogg and General Mills framework assessment detail

1. ROBUSTNESS OF TARGET SETTING		Data Format	GENERAL MILLS RESPONSE	Scoring Rubric	Assessment	Reasoning/Clarifications	Source (public information)
1.1 Base information on the target and inclusion of scope 3 (primarily agricultural emissions)				<i>E/M/F</i>	<i>Meets</i>		
1	What is the target GHG reduction?	%	28% by 2025, 41 to 72% by 2050	Yes/No	Yes	Yes, target is set	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015; 2050 goal from 2016 sustainability report
2	Is the target for absolute emissions (vs.relative/intensity)?	Yes/No	Absolute	Yes/No	Yes	It is specifically stated as an absolute goal.	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015; 2050 goal from 2016 sustainability report
3	What is the timeline of the target? Baseline? Starting when and by when?	Years	Baseline: 2010; Due: 2025	NA	NA	The baseline and due date are specifically provided	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015; 2050 goal from 2016 sustainability report
4	What parts of value chain are included in the target? Are scope 3 and/or agricultural emissions included?	Details; Yes/No	Entire Value Chain	Yes/No	Yes	"across the entire value chain" is specifically stated	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015; 2050 goal from 2016 sustainability report
5	How is the target divided amongst value chain parts (all the same target or variable)?	Details	Implied that it is shared: "collaboration with stakeholders across our value chain, including growers, suppliers, industry groups, customers, as well as other partners"	<i>E/M/F</i>	<i>Meets</i>	The collaboration statement implies the goal is 28% across all stages and will be led by General Mills, but it is unclear if that means 28% for every	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015; 2050 goal from 2016 sustainability

						supplier or there will be varied targets (see line 10 as well)	report
1.2 Strength of data behind targets				E/M/F	Fails/Unknown		
6	Does the company have GHG emission data with percentages broken down by scope and/or value chain stage (e.g. 70% supply chain; 25% operations; 5% EOL)	% with detail	Yes	Yes/No	Yes, Meets	Company has clear understanding of GHG (and water) footprint across 7 value chain stages	Global Responsibility 2015, p.5
7	How is data on agricultural emissions reported and analyzed? (e.g., does the company have data on agricultural emissions, is the data aggregated or broken down by ingredient/commodity or by category (dairy vs. row crops)?)	% with detail	General Mills has conducted field tests with GHG measurement with CAP2ER (dairy) and with Field to Market in numerous regions and crops, including wheat in Idaho, sugar beets in Red River Valley, and corn in Wisconsin	E/M/F	Fails/Unknown	The pilot tests would indicate some data on some key ingredients, but it's unclear if General Mills has calculated/estimated total ag emissions to provide a baseline for the goal. The company's CDP report discusses an LCA analysis conducted by a consulting firm, but there is not specific information about how agricultural emissions are estimated and the company reports that 0.00% of emissions are calculated using data from suppliers.	Global Responsibility 2015, p.52-56
8	How are agricultural emissions data calculated? (e.g., actual yield combined with emissions estimated from academic studies of specific crops)?	Detail	From CDP: "Data is from an assessment completed in 2015 by LCA consultancy Quantis and includes agriculture, packaging supply chain and ingredient manufacturing. A combination of mass and spend data from the latest fiscal year (F14) was used for LCA-based calculations."	E/M/F	Meets*	There is the basic information from the CDP report that indicates the company has used mass of inputs and presumably some emission factors, but the specifics are unclear	Global Responsibility 2015, p.52-56
9	What is the quality of company's data including agricultural emissions data (e.g., what is baseline year of solid data for GHGs, is data third party verified?)	Detail	Some Field to Market pilots extend back 4-5 years; the company says it has "not yet released details on the specific calculations, baseline, etc." but plans "to publish more data going forward."	E/M/F	Fails/Unknown	The pilots tests indicate some data for 5 years, but unclear what portion of ag emissions can be estimated and how far back. More data and information is	Global Responsibility 2015, p.52-56

						forthcoming, but until that point, this metric must be shown as incomplete.	
1.3 Strength/quality of target on agricultural emissions specifically				E/M/F	Meets*		
10	What percentage of agricultural ingredients is included in the target (By volume of ingredients? By CO2e of ag emissions?)	%	Goal is "to reduce greenhouse gas emissions across our entire value chain"	E/M/F	Meets*	*There could be some conflict with previous statements that cover 50% of total buy, but we read the new statement as committing to cuts across either all ingredients or through larger than 28% cuts on priority ingredients to meet the total reduction goal	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015
11	What sources of agricultural emissions are included in the target? (See list below for major sources)	Detail	"By leveraging the Field to Market framework, growers are able to collect data that will help to guide everyday decisions related to irrigation, tillage, crop rotation and nutrient management." Value chain data in report also mentions deforestation and land use	E/M/F	Meets	The corporate climate policy outlines the company approach to reduce emissions across the value chain	Policy on Climate, Global Responsibility 2015 (p.7)
a. Deforestation and other land use change b. livestock emissions (both enteric fermentation and manure management) c. Rice production d. nitrogen fertilizer application (both synthetic and manure); e. peatland drainage; f. on farm energy use, and g. upstream fertilizer production, h. other as applicable							
12	How is food waste -- i.e., losses on-farm or between farm and manufacturing -- accounted for? (i.e., is all farm production included or just emissions related to inputs that are utilized)	Detail	"Contribute to cross-industry efforts on food waste reduction and donate surplus food. Reduce food waste, which, when landfilled, creates methane – a GHG 20 times more potent than carbon dioxide."	E/M/F	Meets	Food waste is addressed as a cross-industry issue that General Mills will contribute to, but no specifics are given.	Policy on Climate
1.4 Consistency with 2C science-based methodology and thresholds				E/M/F	Meets**		
13	What was the target setting process and what, if any, science based methodologies were utilized? (e.g., does the target align with carbon budget estimations from IPCC, was the target derived through straight-line reductions or sector-based methodologies etc.?)	Details	"We worked closely with Business for Social Responsibility (BSR) to calculate a science-based goal (to WRI standards)". The company's new sustainability report, indicates a new, clear 2050 goal tht will be "in line with scientific consensus"	E/M/F	Meets	The WRI standard (in conjunction with CDP) is generally accepted as sufficient for setting science-based targets. **CAVEATS: (1) The Global policy community has included discussion of a 1.5 degree warming scenario now, and these goals are	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015

						targeting the 2-degree scenario. (2) The sector-based methodology has not yet calculated an agriculture sector target; this target is thus in keeping with the "other industry" SBTs used as a placeholder.	
1.5 Consistency with best practice					Exceeds		
14	How does the target compare to the most aggressive SBTs from the Global Fortune 500 or other best practice examples (e.g. goals on renewable energy, waste reduction, deforestation etc.)		NA - WES analysis		Exceeds	The target is leading in the ag sector and in keeping with best practice across other sectors that have set aggressive targets, especially with the addition of the 2050 goals in the company's April 2016 sustainability report. While some large companies have gone further to target 100% renewable or net positive on carbon, the inclusion here of supply chain emissions in science-based targets is currently rare.	PivotGoals and WES analysis
2. PLAN TO REACH THE GOALS/TARGETS		Data Format		Scoring Rubric			
2.1 Governance/Accountability				E/M/F	Exceeds		
15	Who in the organization is responsible for meeting GHG targets? And for measuring/estimating agricultural emissions?	Detail	The entire leadership team, including Chairman and CEO, EVP of supply chain, Chief Sustainability Officer	E/M/F	Exceeds	This meets and arguably exceeds expectations	Global Responsibility 2015, p.5, 72
16	Is there CEO or Board oversight on carbon targets?	Yes/No	Yes	Yes/No	Yes, Meets	This meets expectations	Global Responsibility 2015, p.5, 72
17	Are there incentives in place for company managers, or for suppliers, to meet GHG targets?	Detail	Yes	E/M/F	Exceeds	All employees are eligible for monetary rewards for meeting efficiency targets. The CEO is eligible	CDP 2015 Supply Chain Response

						for monetary rewards for meeting emissions and energy reduction targets.	
2.2 Supplier engagement plans for GHG reductions				E/M/F	Exceeds		
18	How will the company require suppliers to measurably reduce agricultural emissions (e.g., what mechanisms such as supplier codes will be used)?	Detail	Achieving the goals will require "collaboration with stakeholders across our value chain, including growers, suppliers." Supplier code of conduct also indicates termination if no compliance.	E/M/F	Meets	The specifics of how suppliers will be required to meet the 28% are not explicit. But the combination of statements and policies in total indicates suppliers will need to reach the new goals.	Public statements: "General Mills makes new commitment on climate change", Aug.31, 2015; Global Responsibility 2015, p.41; Supplier Code of Conduct
19	How will the company assess pathways to reductions and opportunities to embed new sustainable agricultural practices and techniques? What external experts or partners, if any, will be consulted?	Detail	General Mills uses a four stage approach to work with suppliers to transform their operations and partners with WWF, TNC, CARE, and others.	E/M/F	Meets	The company has established a process for work with suppliers and find opportunities, working with top tier external partners and experts.	Global Responsibility 2015 (p.42)
20	How will the company provide suppliers best practices on key sustainable agricultural techniques (e.g., no-tillage, cover crops, rotation, nutrient management, manure management)?	Detail	General Mills works with suppliers and NGOs to implement solutions. General Mills pilots projects and communicates results so that the work might spread. The latest sustainability report (GRR 2015), released April 2016, has significant detail on programs for different crops.	E/M/F	Exceeds	The latest materials from the company add a great deal of detail around the programs, including work in sugar beet, corn, wheat, oats, dairy, and pollinators. The company has a number of programs to bring together groups of farmers and suppliers in different categories, conduct assessments, and find opportunities for improvement	Global Responsibility 2016 (p.40-58)
21	Will the company aid suppliers on implementing new technologies and techniques directly (e.g., with human or financial capital)?	Detail	General Mills is engaged in a number of pilot projects in multiple crops and regions on GHG measurement and reduction, as well as direct funding of projects in best practices in water management. There are also commitments to source 100% of major crops from regions making progress on these metrics	E/M/F	Exceeds	While the evidence of direct funding for new technologies or practices is unclear, the % of spend commitments to buy 100% from those engaging in best practices	Global Responsibility 2016 (p.40-58)

						(and showing continuous improvement) is a large funneling of capital into more sustainable practices. The buying power is the critical leverage point.	
22	How will the progress of operational changes in the supply chain be tracked?	Detail	General Mills uses different verification techniques based on the project. Third-party auditors might be involved if necessary.	E/M/F	Meets	A process exists for verification based on each project. Membership in organizations to share supplier data (e.g., SEDEX) could be helpful as well. But details are somewhat lacking.	Global Responsibility 2015 (p.5,43,50,53)
Context of larger sustainable sourcing efforts							
23	Does the company have policies and plans for achieving zero deforestation across all high forest risk commodities it sources?	Yes/No	"We are committed to achieving zero net deforestation in our high-risk supply chains"	Yes/No	Yes	Yes, policies and plans exist.	Global Responsibility 2015 (p.48)
24	Does the company have policies and plans for sustainably sourcing of commodities with a high environmental footprint that are relevant for its supply chain? (eg, commodities such as cocoa, coffee or sugar)?	Yes/No	Yes	Yes/No	Yes	Yes, policies and plans exist.	Global Responsibility 2015 (p.43-50)
2.3 Measurement and metrics				E/M/F	Meets		
25	What will the process be for regularly measuring and reporting on GHGs in operations, supply chain, and downstream (scopes 1, 2, 3)? What tools or models will be used?	Detail	Specific GHG measurement techniques are mentioned for dairy (pg. 56). General Mills also follows the GRI framework and reports to the CDP (pg. 75-77). The company follows the US EPA Climate Leaders methodology for Scope 1 and 2 (CDP 2015 Climate Change Response) Scope 3 emissions are calculated using a 2015 assessment by the LCA consultancy Quantis. (CDP 2015 Supply Chain Response)	E/M/F	Meets	Both the process for and the tools used for measurement are available.	Global Responsibility 2015 (p.56,75-77)
26	Will supplier-level agricultural emissions be tracked directly (vs. estimated from total ingredient yields across all suppliers of a given ingredient)? Will the company provide tools/assistance to suppliers to track their GHGs?	Detail	Specific GHG measurement techniques are mentioned for dairy (pg. 56). Other measurement techniques are mentioned for other crops (pg. 77), but it is not totally clear how the measurements will be taken or if tools will be provided.	E/M/F	Meets	Supplier level emissions tracking is sparsely addressed and more could be provided on the tools to be used for tracking.	Global Responsibility 2015 (p.56,77)
27	What is the process for assessing and reporting	Detail	GRI and CDP are used for Scope 1 and Scope 2. Scope 3	E/M/F	Meets	The process for reporting and	Global Responsibility

	data on carbon reductions, particularly Scope 3? (e.g., is it certified by a third-party for data legitimacy?)		emissions are reported as percentages (pg. 77), but not in the environmental data section of the report.			the third-parties are identified.	2015 (p.77)
2.4 Interim goals and target adjustments/flexibility				E/M/F	Meets		
28	Are there targets in place for interim years?	Yes/No	As of the April 2016 Global Responsibility Report, General Mills has added a longer-term target to "Reduce absolute GHG emissions across our full value chain to sustainable levels in line with scientific consensus" with a preliminary range of 41 to 72%. In addition, for 10 ingredients the company has set targets to buy 100% from sustainable sources by 2020.	Yes/No	Yes	With the addition of the long-term (2050) target, the original 2025 goal is arguably now an interim target. The % of spend targets for 2020, issued in 2013, are also interim targets, so long as the definition of "sustainably source" includes reductions of GHGs in line with the targets.	Global Responsibility 2016 (p.34)
29	What are the interim targets and for which parts of the value chain?	Detail	See above	E/M/F	Meets	See above. Whether the "sustainably sourced" definition includes explicit GHG reductions is unclear, but the spirit of interim targets is in place.	Global Responsibility 2016 (p.40-58)
30	How will the company incorporate the evolving science on climate change?	Detail	General Mills is working with BSR using a science based methodology endorsed by industry and other stakeholders. The goal of this approach is to cut emissions to keep temperature rise below 2 C. Goals will be updated every 5 years to incorporate new science.	E/M/F	Meets	A plan to recheck the methodology and latest science every 5 years is sufficient for now.	Global Responsibility 2015 (p.76)
31	Is there a process in place to re-set or re-establish the goals before the target year if necessary?	Detail	"We will regularly review our company statements and policies to ensure they are aligned with our mitigation targets, plans and adaptation initiatives. "	E/M/F	Meets	This statement does not specifically address the question but seems to be close enough and in the same spirit of transparency and accuracy.	Policy on Climate

2.5 Transparency and communications				E/M/F	Meets		
32	Is the information on GHG reduction targets and plans available publicly in a transparent and accessible manner?	Detail	Yes, everything is in the annual responsibility report	E/M/F	Meets	Yes the report presents the targets and plans in a transparent manner. We assume the new 28% target will be included in future reports.	Global Responsibility 2015 (p.75)
33	How will updates on implementation progress be shared? How frequently?	Detail	"Report progress against goals – our own as well as those in our broader supply chain - on an annual basis via our Global Responsibility Report, available on the General Mills website"	E/M/F	Meets	The frequency is specifically stated in the Climate Policy. General Mills also says it shares pilot results.	Policy on Climate, Global Responsibility 2015 (p.42)

1. ROBUSTNESS OF TARGET SETTING		Data Format	KELLOGG'S RESPONSE	Scoring Rubric	Assessment	Reasoning/Clarifications	Source (public information)
1.1 Base information on the target and inclusion of scope 3 (primarily agricultural emissions)				E/M/F	Meets		
1	What is the target GHG reduction?	%	65 percent across its own operations, known as Scope 1 and 2, and reduction in supplier emissions, known as Scope 3, of 50 percent by 2050; shorter-term targets as well of 15% (normalized) in own operations by 2020 and Scope 3 cut of 20% by 2030.	Yes/No	Yes	Yes, target is set	Company press release, "Kellogg Company Announces New..."
2	Is the target for absolute emissions (vs. relative/intensity)?	Yes/No	2050 targets are absolute, 2020 cut of 15% in own operations is normalized.	Yes/No	Yes	Long-term goal is absolute	Climate Policy Context and Methodology (p.8)
3	What is the timeline of the target? Baseline? Starting when and by when?	Years	Due: 2050; baseline not provided specifically	Yes/No	Yes	The goals were originally set in August 2014 but that does not necessarily equate to a baseline year.	Company press release, "Kellogg Company Announces New..."
4	What parts of value chain are included in the target? Are scope 3 and/or agricultural emissions included?	Details; Yes/No	Operations and Suppliers	Yes/No	Yes	Two specific value chain stages are included	Company press release, "Kellogg Company Announces New..."
5	How is the target divided amongst value chain parts (all the same target or variable)?	Details	65% reduction in their own operations; 50% for the supply chain	E/M/F	Meets	Two specific percentages are presented	Company press release, "Kellogg Company Announces New..."
1.2 Strength of data behind targets				E/M/F	Meets		
6	Does the company have GHG emission data with percentages broken down by scope and/or value chain stage (e.g. 70% supply chain; 25% operations; 5% EOL)	% with detail	"Carbon Calculation and Forecasting Tool is an Excel model built to aggregate and project...carbon emissions...across the value chain" AND vs. industry benchmarking, "this analysis [estimates] that ingredients are fewer than 50% of	E/M/F	Meets	While the estimation process is not completely clear -- nor whether there are numbers for all value chain stages -- Kellogg's seems to have a solid estimate of the portion of lifecycle emissions upstream in agriculture. That said, in order to track	Climate Policy Context and Methodology (p.2-3)

			total carbon emitted."			progress on these targets, the numbers may need to get more specific.	
7	How is data on agricultural emissions reported and analyzed? (e.g., Does the company have data on agricultural emissions, Is the data aggregated or broken down by ingredient/commodity or by category (dairy vs. row crops)?)	% with detail	From the CDP report: "we have calculated estimated emissions for our primary ingredients - corn, wheat, rice, palm oil, and potatoes - based on established GHG emission factors for various agricultural inputs."	E/M/F	Meets	The input volumes, and emissions data/calculations by key ingredient are provided in the company's CDP Report.	Kellogg Company 2015 CDP Carbon report
8	How are agricultural emissions data calculated? (e.g., actual yield combined with emissions estimated from academic studies of specific crops)?	Detail	"Baseline will be set for Scope 3 emissions from Tier 1 suppliers...based off actual reported yields...combined with emission estimates from academic studies for that crop...farmer measurement tools like Cool Farm Tool...to capture specific emissions from rice production, nitrogen fertilizer application and on-farm energy use"	E/M/F	Meets	Kellogg provides a clear statement of how the emissions will be calculated for some crops and the tools used. Over time, it appears that tools will enable farm-level data, which would warrant an 'exceeds' rating.	Climate Policy Context and Methodology (p.9)
9	What is the quality of company's GHG data, including agricultural emissions data (e.g., What is baseline year of solid data for GHGs?, Is data third-party verified?)	Detail	The model estimates emissions going back to 2009	E/M/F	Meets	Estimation is backdated to 2009, giving Kellogg's a baseline, but see line 6 for same caveat about data specificity	Climate Policy Context and Methodology (p.2-3)

1.3 Strength/quality of target on agricultural emissions specifically			E/M/F	Meets*			
10	What percentage of agricultural ingredients is included in the target (By volume of ingredients? By CO2e of ag emissions?)	%	"75 percent of the company's direct suppliers will report progress annually through CDP Supply Chain by 2020." and "requiring all key suppliers to measure and publicly disclose their own emissions and reduction targets" Percent of total spend is indicated in the CDP report as 85%.	E/M/F	Meets*	There is transparency about what portion of Kellogg supplier base is covered. While 85% of spend (and 80% of suppliers, a number provided directly by the company) is clear, the target does not cover 100% of supply chain emissions. Over time, the longer-term plan for these targets, and the execution plans, must move toward 100% of suppliers, or the targets will need to be adjusted to reflect the incomplete coverage.	Company press release, "Kellogg Company Announces New..." & Kellogg CDP 2015 report
11	What sources of agricultural emissions are included in the target? (See list below for major sources)	Detail	Kellogg's documents cite work on deforestation, rice production, and fertilizer optimization, particularly for the 10 priority ingredients in the sustainable sourcing policy.	E/M/F	Meets	Most major sources are referenced in the policy documents. Kellogg's has limited exposure to some of these sources such as livestock emissions.	Responsible Sourcing (p.18, 22-4), Climate Policy Context and Methodology (p.2)
a. Deforestation and other land use change b. livestock emissions (both enteric fermentation and manure management) c. Rice production d. nitrogen fertilizer application (both synthetic and manure); e. peatland drainage; f. on farm energy use, and g. upstream fertilizer production, h. other as applicable							
12	How is food waste --i.e., losses on-farm or between farm and manufacturing -- accounted for? (i.e., is all farm production included or just emissions related to inputs that are utilized)	Detail	Policy paper mentions looking forward to sector-based and industry work on scope 3, "including from food waste". Also mention of tools like Cool Farm and WRI Food Waste and Loss Standard	E/M/F	Meets	Utilizing a leading third-party tool will likely account for some dimensions of food waste, but this would need to be investigated further	Climate Policy Context and Methodology (p.2)

1.4 Consistency with 2C science-based methodology and thresholds				E/M/F	Meets**		
13	What was the target setting process and what, if any, science based methodologies were utilized? (e.g., does the target align with carbon budget estimations from IPCC, was the target derived through straight-line reductions or sector-based methodologies etc?)	Details	"Kellogg used the IPCC framework and data to establish a starting point for science-based reductions. The result of this assessment was then tested through two additional tools created by trusted third parties: Sectoral Decarbonization Approach [WRI] and the 3% Solution [WWF]."	E/M/F	Meets**	Kellogg's utilized all major methods of setting science-based targets (WRI, WWF, and underlying IPCC data) and these are generally accepted as sufficient for setting SBTs. CAVEATS: (1) The Global policy community has included discussion of a 1.5 degree warming scenario now, and this goal is targeting the 2-degree scenario. (2) Neither the 3% solution nor SDA have (yet) calculated an agriculture sector target; thus it is uncertain if the 2050 target for supply chain will fit that methodology (but as Kellogg's notes, its 2015 baseline is more aggressive than the 2010 IPCC starting point). We look then to the company's intended process for staying up to date (lines 30-31)	Climate Policy Context and Methodology (p.2,4-6)

1.5 Consistency with best practice				E/M/F	Exceeds		
14	How does the target compare to the most aggressive SBTs from the Global Fortune 500 or other best practice examples (eg goals on renewable energy, waste reduction, deforestation etc)		NA - WES analysis	E/M/F	Exceeds	The target is leading in the ag sector and in keeping with best practice across other sectors that have set aggressive targets, especially with the inclusion of 2050 goals. Kellogg has already delivered 12% reduction in manufacturing. The additional scope 1 and 2 target of 15% (normalized) for 2020 and the 50% low-carbon energy targets are strong. While some large companies have gone further to target 100% renewable or	PivotGoals database and WES analysis

						net positive on carbon, the inclusion here of supply chain emissions in science-based targets is currently rare.	
2. PLAN TO REACH THE GOALS/TARGETS		Data Format	Kellogg's Response	Assesment	Scoring Rubric	Reasoning/Clarifications	Source
2.1 Governance/Accountability				E/M/F	Meets		
15	Who in the organization is responsible for meeting GHG targets? And for measuring/estimating agricultural emissions?	Detail	Five executives and the Chief Sustainability Officer. The five executives are not specified.	E/M/F	Meets	This meets and arguably exceeds expectations	Corporate Responsibility Report (p.9)
16	Is there CEO or Board oversight on carbon targets?	Yes/No	Yes	Yes/No	Yes	The five executives are not specified but this setup seems to meet the spirit of the requirement.	Corporate Responsibility Report (p.9)
17	Are there incentives in place for company managers, or for suppliers, to meet GHG targets?	Detail	Kellogg states that "Sustainability commitments focused on GHG targets, including supply chain engagement and the Kellogg Grower Survey, are included in performance development plans (PDPs) and goals for cross functional teams and leadership, including procurement and sustainability. Performance against PDP contributes to Annual Incentive Plans for these individuals...Supplier performance is also annually measured, where responsible sourcing (including participation and disclosure level for CDP supply chain) is measured equality to other business drivers like on-time and in-full delivery.	E/M/F	Meets	The incentives for managers and suppliers meets expectations.	Kellogg Company 2015 CDP Carbon report, Company response to this assessment
2.2 Supplier engagement plans				E/M/F	Meets		

for GHG reductions							
18	How will the company require suppliers to measurably reduce agricultural emissions (e.g., what mechanisms such as supplier codes will be used)?	Detail	In Responsible Sourcing: "Suppliers must strive to reduce or optimize agricultural inputs; reduce GHG emissions..." and Kellogg's asks them to do so in the supplier code.	E/M/F	Meets	The responsible sourcing document, the CDP report on engagement (CC14.4a), and additional documents demonstrate that the company is having consistent conversations with suppliers about reducing their emissions. How requirements will be implemented is not entirely unclear, but the program seems robust.	Responsible Sourcing (p.18), Kellogg Inputs Excel Sheet
19	How will the company assess pathways to reductions and opportunities to embed new sustainable agricultural practices and techniques? What external experts or partners, if any, will be consulted?	Detail	Kellogg's provides research and education to suppliers so they can embed the practices in their work. Kellogg's also partners with the Cool Farm Institute, which provides farmers with a way to calculate GHG emissions at the farm level. Also work with Climate Smart Agriculture, Field to Market (Fieldprint calculator), SAI, Cool Farm Alliance, AIM-Progress, WWF, TNC, and others.	E/M/F	Meets	A process exists and experts and partners consulted are specified.	Climate Policy Context and Methodology (p.9), Responsible Sourcing (p.17, 24)
20	How will the company provide suppliers best practices on key sustainable agricultural techniques (e.g., no-tillage, cover crops, rotation, nutrient management, manure management)?	Detail	Kellogg's works with various suppliers on a crop by crop basis and developed a 4-level certification program. There are some best practice sharing opportunities in "grower days". In addition, Kellogg is one of the members of the WBCSD Low Carbon Technology Partnerships Initiative	E/M/F	Meets	The company's multiple programs provide significant evidence of projects to gather and share best practice	Responsible Sourcing (p.18, 23), WBCSD partnership

21	Will the company aid suppliers on implementing new technologies and techniques directly (e.g., with human or financial capital?)	Detail	Kellogg's works with various suppliers and other partners on a crop by crop basis, including rice, corn, wheat, and sugar beet. Responsible sourcing policy also mentions "direct investment in programs on the ground" as does the company's 2020 goals statement, with specific crops identified for direct investment. Additional information from the company indicates over 30 direct investment projects.	E/M/F	Meets	The amount of investment allocated to helping suppliers is unclear, but it is publicly stated that the company will provide direct investment and support which strongly implies human and financial support.	Responsible Sourcing (p.18, 23-25); Kellogg Sustainability 2020 Commitments
22	How will the progress of operational changes in the supply chain be tracked?	Detail	Kellogg's is using a range of tools to assess impacts and progress, including Field to Market®, the Kellogg Grower Survey, Cool Farm Tool, and other industry accepted farm management tools.	E/M/F	Meets	The company is using numerous tools and has provided data on how prevalent the use of these tools is.	Responsible Sourcing (p.18)
23	Does the company have policies and plans for achieving zero deforestation across all high forest risk commodities it sources?	Yes/No	Kellogg's is committed to zero net deforestation by 2020. They are also not buying soy products from deforested region and their palm oil strategy has been informed by this commitment. Also, they are a members of the Consumer Goods Forum commitments.	Yes/No	Yes	They have a policy in place with a near term zero target, projects in place, and participation in a group member forum. This arguably exceeds expectations.	Responsible Sourcing (p.25)
24	Does the company have policies and plans for sustainably sourcing of commodities with a high environmental footprint that are relevant for its supply chain? (eg, commodities such as cocoa, coffee or sugar)?	Yes/No	Yes. Kellogg's has a Palm Oil commitment and has committed to zero net-deforestation for all high risk commodities including sugar cane.	Yes/No	Yes	They have a policy in place for Palm Oil and a zero net deforestation target for all high risk commodities.	Responsible Sourcing (p.19) and Kellogg inputs Excel sheet
2.3 Measurement and metrics				E/M/F	Meets		

25	What will the process be for regularly measuring and reporting on GHGs in operations, supply chain, and downstream (scopes 1, 2, 3)? What tools or models will be used?	Detail	Emissions are reported to CDP. Kellogg's used the IPCC methodology to set a benchmark and then tested that using two third-party models - the Sectoral Decarbonization Approach and the 3% Solution. These models cover Scopes 1-3 (with some exclusions) and the entire global operations of the company. In addition, 75% of company's direct suppliers will report to CDP by 2020.	E/M/F	Meets	Both the process for and the tools used for measurement are available.	Climate Policy Context and Methodology (p.8) and Company press release, "Kellogg Company Announces New..."
26	Will supplier-level agricultural emissions be tracked directly (vs. estimated from total ingredient yields across all suppliers of a given ingredient)? Will the company provide tools/assistance to suppliers to track their GHGs?	Detail	Emissions will be estimated from crop yields. Kellogg's will supply the Cool Farm Tool to capture emissions from rice production, nitrogen fertilizer application, and on-farm energy use.	E/M/F	Meets	The mix of actual measurement vs. estimated from yields is unclear, but the assumption is the estimates are large majority of the numbers. The company is providing tools to capture and estimate to some suppliers as well.	Climate Policy Context and Methodology (p.9)
27	What is the process for assessing and reporting data on carbon reductions, particularly Scope 3? (eg, is it certified by a third-party for data legitimacy?)	Detail	Emissions are reported to CDP and 75% of company's direct suppliers will report to CDP as well by 2020.	E/M/F	Meets	CDP is the third-party for reporting carbon data	
2.4 Interim goals and target adjustments/flexibility				E/M/F	Exceeds		
28	Are there targets in place for interim years?	Yes/No	In addition to 2020 targets set in 2014, "Kellogg will target a Scope 3 GHG reduction of 20% by 2030"	Yes/No	Yes	2020 targets were already established but have been connected to these longer term goals, with 2030 goals added as well	Climate Policy Context and Methodology (p.8)
29	What are the interim targets and for which parts of the value chain?	Detail	In addition to 2020 targets set in 2014, "Kellogg will target a Scope 3 GHG reduction of 20% by 2030"	E/M/F	Meets	15% normalized reduction in Scope 1 and 2 and 20% in scope 3 (absolute) by 2030.	Climate Policy Context and Methodology (p.8)

30	How will the company incorporate the evolving science on climate change?	Detail	"Kellogg's looks forward to the Sector Decarbonization Tool's final version and working with industry partners and NGOs to develop the "Agriculture" sector...targets for Scope 3"	E/M/F	Exceeds	The company has stated clearly it will work with industry and NGOs on science-based targets for agriculture explicitly	Climate Policy Context and Methodology (p.6)
31	Is there a process in place to re-set or re-establish the goals before the target year if necessary?	Detail	"Kellogg will...reevaluate the targets and the tools, technologies and sciences that deliver them every 5 years at a minimum, as well as a reevaluation and re-establishment of the targets..."	E/M/F	Exceeds	The company has a clear statement of intent to revisit goals and science at least within 5 years, if not earlier	Climate Policy Context and Methodology (p.6)
2.5 Transparency and communications				E/M/F	Meets		
32	Is the information on GHG reduction targets and plans available publicly in a transparent and accessible manner?	Detail	Yes, they file with the CDP and this report is publicly available.	E/M/F	Meets	CDP is considered publicly available (you have to register, for free, to access the report)	Corporate Responsibility Report (p.62)
33	How will updates on implementation progress be shared? How frequently?	Detail	"Kellogg will report our progress annually"	E/M/F	Meets	Annual CDP Supply Chain reporting meets the requirement	Climate Policy Context and Methodology (p.6)

APPENDIX B - INFORMATION ON THE AUTHORS

Andrew Winston, Founder of Winston Eco-Strategies, is a globally recognized expert on how companies can navigate and profit from humanity's biggest challenges. His views on strategy have been sought after by many of the world's leading companies, including Boeing, Coca-Cola, HP, J&J, Kimberly-Clark, PepsiCo, PwC, Unilever, and Walmart. Andrew's latest book, *The Big Pivot* was selected as one of the "Best Business Books" by *Strategy+Business* magazine. His first book, *Green to Gold*, was the top-selling green business title of the last decade and was included in *Inc.* Magazine's all-time list of 30 books that every manager should own. Andrew's speeches around the world, including a [TED talk](#), provide a practical and optimistic roadmap to help leaders build resilient, thriving companies and communities in a volatile world. Andrew received degrees in economics, business, and environmental management from Princeton, Columbia, and Yale.

Jeff Gowdy is a well-known thought leader & practitioner in sustainability and CSR, particularly in the arena of goal setting and reporting. He serves on the Technical Advisory Group for the CDP Science Based Targets project. Mr. Gowdy has served on hundreds of sustainability projects since 2002 for some of the world's largest companies, including 13 of the Fortune 1000. Mr. Gowdy teaches in the Strategy & Economics concentration at the Owen Graduate School of Management at Vanderbilt University and in the Executive Development Institute at Owen. Mr. Gowdy earned a Bachelor of Science degree in Systems Engineering from the University of Virginia and an MBA in Strategy & Environmental Management from Vanderbilt University. He graduated with Honors from both programs.