



Field to Market®



CLIMATE ACTION IN AGRICULTURE

A COMPENDIUM OF FIELD TO MARKET MEMBER CLIMATE COMMITMENTS

THIRD EDITION | SEPTEMBER 2022

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FORWARD

Solving the climate crisis is the greatest challenge of our lifetime and success depends on collective action. Agriculture has an important role to play in building a resilient future, but our nation's producers will need technical assistance and innovative support mechanisms to deliver meaningful outcomes.

Each membership sector within Field to Market: The Alliance for Sustainable Agriculture™ — affiliate, agribusiness, brands & retail, civil society and grower — represents a segment of the full agricultural value chain and has a crucial role to play in increasing the adoption of climate-smart practices and reducing their own climate impacts. As we have gained a greater understanding of climate impacts and solutions, we've learned that these efforts must be holistic and consider many factors, including soil carbon, greenhouse gas emissions, water usage and quality, soil conservation, energy usage, land use and biodiversity. Farmers are on the front lines of climate impacts — whether they face prolonged droughts, extreme flooding or wildfires — however, no one is immune from the effects of climate change.

This compendium, now in its third edition, compiles our diverse membership's publicly available climate commitments and celebrates growing momentum and leadership on climate action, while also underscoring how greater collective action is needed to create a more sustainable and resilient agricultural system. The report is rooted in the fact that there is an important correlation between setting public targets, reporting on progress, and ultimately improving performance. By gathering these commitments in one place and clearly identifying those that use science to aid in reducing on-farm greenhouse gas emissions, we hope to enable the following:

- **BENCHMARK GOALS** — Organizations can compare their goals to others in their sector and across the broader industry to benchmark the scope and scale of their climate ambition;
- **DRIVE PERFORMANCE** — Closely correlated to benchmarking, sustainability champions within our member organizations can use the goals they have set, along with commitments their peers have made, to compel their organization to boldly address the climate crisis;
- **FACILITATE COLLABORATION** — Companies can seek multi-stakeholder partnerships and collaboration with other organizations that have established similar goals, therefore accelerating the industry's collective response to climate change;
- **FOSTER RESEARCH** — The scientific community can point to private sector commitments to spur additional investment in research needed to overcome barriers to maintaining, improving, and/or adopting climate-smart agriculture; and
- **PROMOTE ACCOUNTABILITY** — Stakeholders can use this data to hold organizations accountable to public commitments on climate action.

By translating these goals into collective action through continuous improvement, we come closer to securing a climate-smart future. Our progress and ultimate success depend on learning together and challenging each other to push ourselves further.



Scott Herndon
President, Field to Market



Brandon Hunnicutt
Chair, Field to Market



INTRODUCTION

The rapidly intensifying effects of climate change continue to impact our daily lives, threatening the productivity of agriculture and food security in this country and around the globe. Extreme weather events, once rare, are becoming common. Predictions show that climate change increases the odds of severe droughts throughout the world, in addition to increased risks of flooding, heat waves, wildfires and other impacts.¹ Our nation's farmers continue to face these challenges head-on, all while working to produce enough food, feed, fiber and fuel for a rapidly growing population. The need for climate action continues to grow stronger by the day, and it is critical that we all rise to meet the growing need for collective change.

It is crucial that our industry increases the use of climate-smart agriculture practices — a goal that farmers cannot achieve alone. The agricultural supply chain must come together to support our nation's farmers by sharing the risks associated with these practices. We all must work together and act now. As the Alliance for Sustainable Agriculture, Field to Market is uniquely positioned to help all of our member organizations achieve their goals and collaborate for success.

THE CASE FOR URGENT ACTION

Data shows that 2021 was the fourth-warmest year in the U.S. in the 127-year period on record, with the average temperature being 2.5°F above the 20th century average.² According to the National Centers for Environmental Information (NCEI), in 2021 alone there were more than 20 separate billion-dollar weather and climate disasters in the U.S.³

The challenges of 2021 continue to persist in 2022. As of July 11, 2022, the U.S. has faced nine weather/climate disaster events this year, each exceeding \$1 billion in damages, including drought, severe weather, hailstorms and tornadoes.⁴

In fact, 2022 already marks one of the most extreme weather years on record for producers in the West who have faced a relentless drought, resulting in extreme water scarcity. The West's megadrought has persisted since 2000 and is considered the driest 22-year period in the past 1,200 years.⁵

Evidence from the Intergovernmental Panel on Climate Change (IPCC) has shown that urgent action is needed to mitigate severe climate-related risks to food security, water supply, economic growth and more.⁶ Failure to avoid a 3°C global temperature rise could cost the global economy \$178 trillion between 2021 and 2070, not to mention the unbearable human costs from lack of food and water, worsening health and well-being, reduced standards of living and more.⁷

As climate impacts, including extreme weather, continue to grow in frequency, scale and intensity, farmers increasingly bear the brunt of their effects. It is more important than ever that the agricultural value chain supports farmers in driving timely and collective action on climate change.

Companies across the agricultural value chain have a critical role to play in adapting their business models to address greenhouse gas emissions and assisting farmers in maintaining, improving, and/or adopting climate-smart agriculture practices. No organization can solve this challenge alone. We must all work together to accelerate climate action across all levels of the value chain. The future of the industry and our planet depends on it.

KEY FINDINGS

As the key findings from the third edition of the “Climate Action Compendium” show, momentum continues to build across the industry in adopting time-bound, measurable emissions reduction targets.

The percentage of our membership with public climate commitments continues to grow, with 117 members (73%) having commitments for this report. This is up from the 100 members (68%) from 2021. Commitments and goals across our membership are very diverse, ranging from very specific and dated, with an absolute and/or intensity target, to aspirational.

As we consider the contributions of U.S. agriculture in achieving visions of a net-zero future, key findings from the analysis of member climate commitments signal progress, while also highlighting important opportunities to accelerate collective action to rapidly deliver emissions reductions.

As the Alliance for Sustainable Agriculture, Field to Market is uniquely positioned to help all of our member organizations achieve their goals and collaborate for success.

KEY FINDINGS

73%

(117) of Field to Market’s 161 members have public commitments on climate action, growing from 68% in 2021.

22%

(17) of Field to Market’s 79 corporate members have established SBTi verified targets for emission reductions.

4

of 11 commodity crops engaged in the Alliance have set **national, industry-wide targets** for emissions reduction from all producers.

¹Center for Climate and Energy Solutions. (n.d.) *Drought and Climate Change*. <https://www.c2es.org/content/drought-and-climate-change/>

²National Center for Environmental Information. (2022, January 10). *Contiguous U.S. ranked fourth warmest during 2021; 20 billion-dollar disasters identified*. <https://www.ncei.noaa.gov/news/national-climate-202112>

³National Center for Environmental Information. (2022, January 10). *Contiguous U.S. ranked fourth warmest during 2021; 20 billion-dollar disasters identified*. <https://www.ncei.noaa.gov/news/national-climate-202112>

⁴NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). <https://www.ncei.noaa.gov/access/billions/>, DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

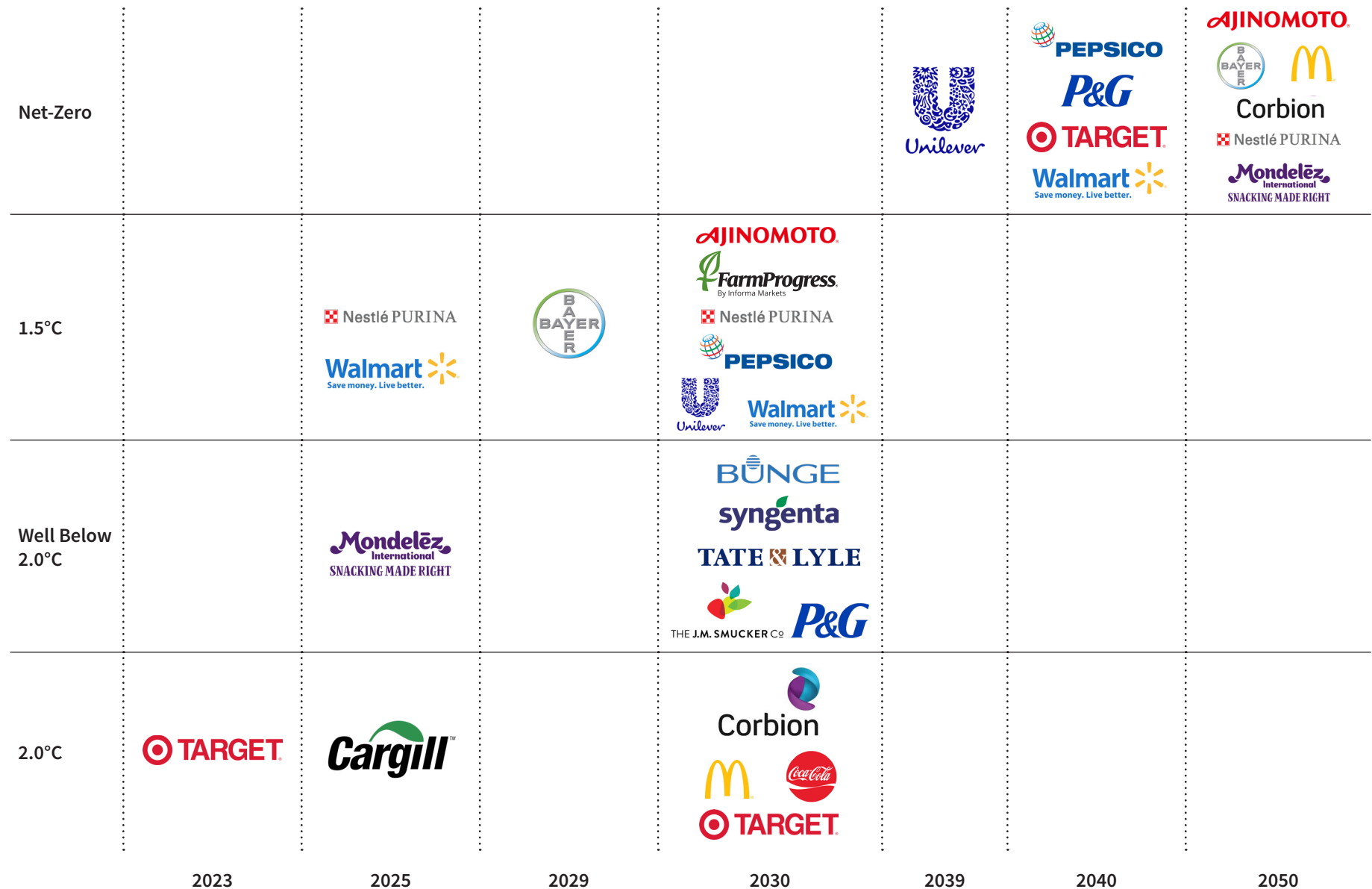
⁵Williams, A.P., Cook, B.I. & Smerdon, J.E. (2022). Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. *Nat. Clim. Chang.* 12, 232–234. <https://doi.org/10.1038/s41558-022-01290-z>

⁶IPCC, (2018): Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3–24, doi:10.1017/9781009157940.001.

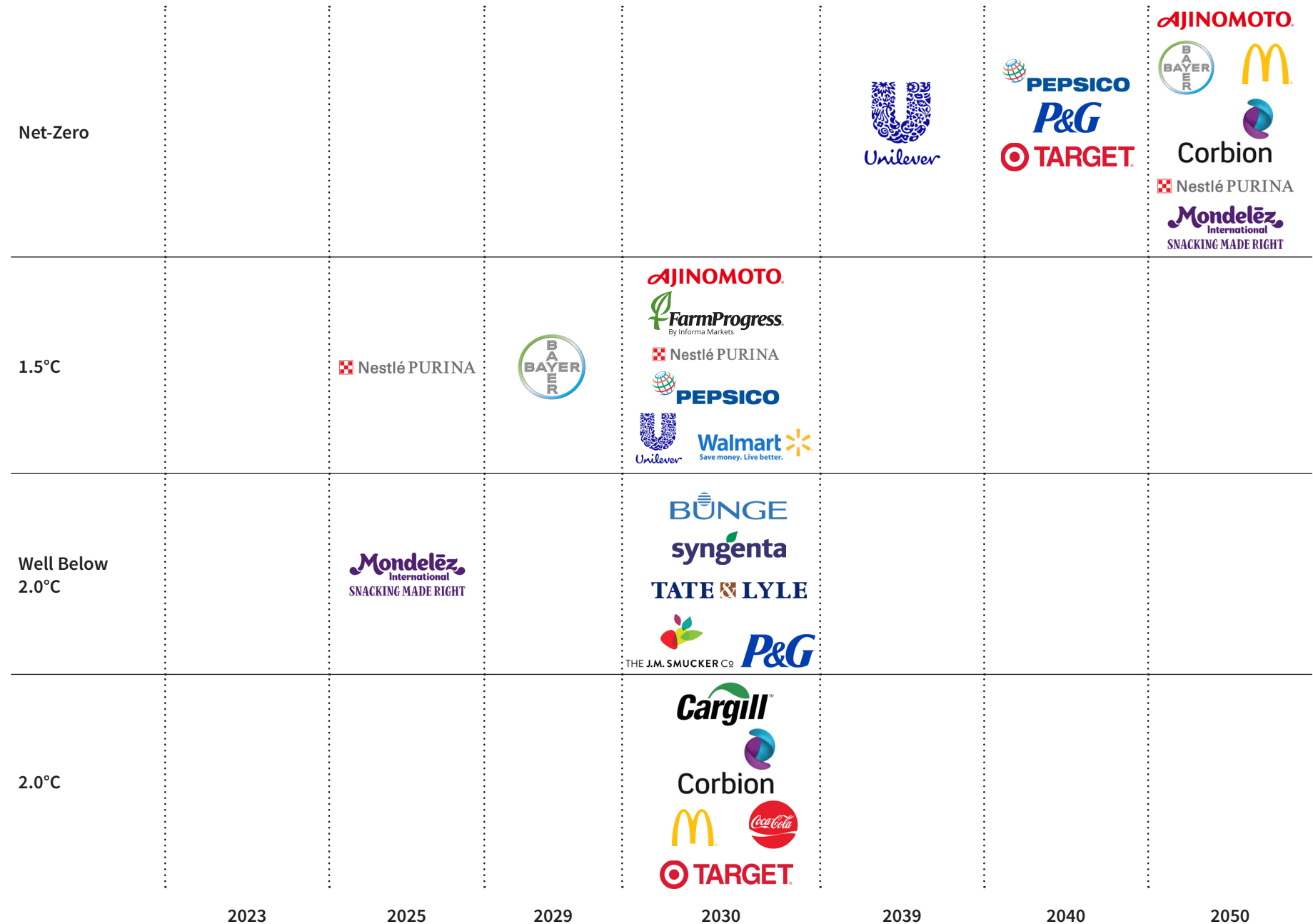
⁷Deloitte. (2022, May). *The Turning Point: A Global Summary*. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/gx-global-turning-point-report.pdf>

These charts provide a snapshot of organizations that have set science-based greenhouse gas emissions reduction targets aligned with the methodology of the [Science-Based Targets Initiative \(SBTi\)](#). Many organizations committing to net-zero are also signatories to the [United Nation's Business Ambition for 1.5°C pledge](#). Please note that organizations with emissions reduction targets not yet validated by SBTi are available in following sections.

Scope 1 and 2 Commitments



Scope 3 Commitments



United Nation's Business Ambition for 1.5°C Campaign Member



SBTi Committed



SECTION 1

AFFILIATE SECTOR

CLIMATE COMMITMENTS

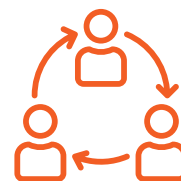
Representing universities, government and professional services, Field to Market's Affiliate Sector is comprised of 44 organizations and institutions. 32 Affiliate Sector members have set public climate commitments, 13 of which are on-farm commitments.

The following commitments reflect a broad range of climate action, from addressing on-campus carbon footprint to broader research and outreach efforts targeted at supporting farmers and the supply chain in mitigating and adapting to the impacts of climate change.

“

Field to Market's Affiliate Sector represents universities, government organizations and professional services embedded within the agriculture space. In this role we have the opportunity to encourage the adoption of climate-smart practices through research, education and outreach, as well as reduce our own climate impacts through our commitments.”

—Jun Zhu, *Director of Waste Management, Center for Agricultural and Rural Sustainability, University of Arkansas*



73%
**HAVE SET
 PUBLIC CLIMATE
 COMMITMENTS**



Goals:

- Reduce Auburn Core Campus' greenhouse gas emissions 100% from 2008 levels by 2050.¹
- By 2024, Auburn University will achieve a:
 - 10% reduction from a 2008 baseline in electricity emissions;
 - 40% reduction from a 2008 baseline in funded travel emissions;
 - 15% cap in growth from a 2008 baseline in on-campus stationary combustion emissions;
 - 30% reduction from a 2008 baseline in other campus emissions;
 - 10% cap in growth from a 2014 baseline in commuting emissions; and
 - 0% change from a 2014 baseline in campus fleet emissions.¹
- Collectively, these efforts mean Auburn University will reduce total emissions by 20% by 2024 from a 2008 baseline.¹

Progress:

- As of 2019, Auburn University has:
 - Reduced emissions from purchased electricity by 25%;
 - Reduced emissions from funded travel by 63%;
 - Seen a 29% increase in on-campus stationary combustion emissions;
 - Reduced emissions for other sources by 36%; and
 - Reduced its emissions by 32% based on a 2008 baseline.²
- Since 2014, Auburn University has seen:
 - A 149% increase in emissions from commuting; and
 - A 42% increase in emissions from the campus fleet.²



Goals:

- Building on insights from the behavioral sciences, CBEAR tests the prevailing wisdom about conservation outreach, as well as new innovative ideas for more effectively engaging agricultural producers. The goal is to identify how programs can be made more attractive to producers, more effective in encouraging the adoption of sound conservation practices, and more likely to bring about the environmental improvements that everyone wants.³



Goals:

- CDA remains committed to supporting voluntary, incentive-based stewardship practices led by farmers and ranchers that improve soil health, advance water conservation, and help mitigate climate change.⁴
- Enhance agricultural resilience, productivity and economic opportunity through increased participation in CDA's voluntary conservation programs, reducing CO₂ emissions by an additional 5,000 tons per year.⁴



Goals:

- Reach carbon neutrality by 2040.⁵
- Utilize 100% renewable electricity by 2030.⁵

Progress:

- The annual GHG inventory reflects a 31% emissions reduction between FY10 and FY21, however results were impacted by the pandemic resulting in significantly lower emissions in the category of air travel and commuting.⁵



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





Goals:

- Achieve net-zero greenhouse gas emissions by 2050.⁶
- Annual reduction in absolute emissions expressed as a percent of 2019 emissions, with the following targets:
 - 2025 target: 15%;
 - 2030 target: 42%;
 - 2035 target: 63%; and
 - 2050 target: net-zero.⁶
- Campus-specific 2030 goals for absolute GHG reduction include:
 - 66% reduction from 2006 base year by 2030 at Morningside+;
 - 66% reduction from 2012 base year by 2030 at CUIM; and
 - 72% reduction from 2016 base year by 2030 at LDEO.⁶
- Decarbonize on-campus fleet vehicles by 2037 or sooner, reduce commuter emissions, and minimize business travel.⁶
- Electrification and 100% renewable energy.⁶

Progress:

- Morningside+ campuses, CUIMC and LDEO all exceeded their 2020 goal to reduce absolute GHG emissions, with the following achievements:
 - MS+ achieved 41% reduction;
 - CUIMC achieved 41% reduction; and
 - LDEO achieved 52% reduction.⁶
- 100% transition from diesel to electric university shuttle buses.⁶



Goals:

- Achieve campus carbon neutrality by 2035.⁷
- Innovate technology, financial instruments and policy to reduce greenhouse gas concentrations and mitigate the impact of droughts, floods, storms and wildfires while adapting agriculture and the built environment for a low-carbon future.⁸

Progress:

- FY21 GHG inventory showed a net emissions reduction of 54% from the 2008 baseline. This was impacted by COVID operational changes (e.g. huge reduction in air travel).⁹

Dartmouth

Goals:

- Reduce greenhouse gas emissions from 2010 levels by 50% by 2025 and by 80% by 2050 with no offsets.¹⁰
- Transition the heating system from No. 6 fuel oil to renewable sources by 2025.¹¹
- Establish a better system to distribute energy across campus, improving efficiency by 20% by 2030.¹⁰
- By 2025, obtain 50% of Dartmouth's energy supply from renewables.¹⁰
- By 2050, obtain 100% of Dartmouth's energy supply from renewables.¹⁰
- Develop a carbon neutral, affordable energy supply by 2100.¹⁰



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





1.5°

Goals:

- **Reduce Scope 1 and Scope 2 emissions from our direct operations by 55% by 2030, from a 2017 baseline.**¹²
- **Reduce our relevant Scope 3 emissions by 20% by 2030, from a 2017 baseline.**¹²

SBTi Validated Pathway: 1.5°C

- *SBTi Validated Pathway: 1.5°C*
- Become carbon neutral as a business and across our products by 2025.¹³
- Become zero waste and net-zero carbon by 2030 or earlier.¹³

Progress:

- Informa is a certified CarbonNeutral® Company, in line with The CarbonNeutral Protocol.¹⁴
- 97% of Informa offices are powered by renewable electricity.¹⁴
- 100% of our business travel is carbon upset.¹⁴
- We have reduced our Scope 1 and 2 by nearly 80% since 2017.¹⁴

**Goal:**

- Be an energy efficient campus with a declining greenhouse gas footprint.¹⁵

Progress:

- 23% reduction of overall campus greenhouse gas emissions from 2010 figures.¹⁵
- 32% reduction of source energy consumption in campus buildings per square foot from 2010 figure.¹⁵

**Goals:**

- Eliminate coal as a fuel source.¹⁶
- Reduce university greenhouse gas emissions by 50%, with 35% coming from conversion of remaining coal boilers to natural gas by 2025.¹⁶
- Triple the use of renewable energy by 2025.¹⁶
- Reduce annual building energy use by 5% from a 2012 baseline by 2025.¹⁶
- Conversion of campus's two remaining coal boilers to natural gas will be completed in 2023, resulting in a 35% reduction of carbon emissions.¹⁶

Progress:

- All electricity purchased by the university — 48% of total campus energy — is derived from renewable power sources: 8 to 10% from wind and solar farms in partnership with the City of Ames, and 40% from renewable electricity providers using renewable energy credits.¹⁷
- Iowa State announced a partnership with Alliant Energy to develop a solar farm on university land — a facility capable of producing 900 kilowatts. The university will receive renewable energy credits from Alliant, helping to reduce annual carbon emissions of the university's animal science farms south of campus.¹⁸
- In 2021, the University's Student Innovation Center became its 13th LEED Gold certification.¹⁷
- Iowa State is #17 among the top 30 college and university partners in the U.S. Environmental Protection Agency's Green Power Partnership program.¹⁹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





Goals:

- Partner with food and agriculture industry leaders to create sustainable outcomes for companies, communities and the climate.²⁰
- Promote sustainable food supply chains through education and collaboration by tracking, analyzing, and reporting on natural resource management.²⁰
- Develop, launch, and manage impactful tools, strategies, certifications and programs for industry leaders to achieve sustainability goals.²⁰
 - Address soil health, climate and emissions reduction (among many other sustainability topics), through our Sustainability Standard launched in November 2021, which is a comprehensive sustainable agriculture certification program that allows food companies, farmers and facilities to demonstrate, communicate, and advance sustainability achievements.²¹
- Apply organizational expertise on pesticide risks in community greenspaces to benefit people and pollinators.²⁰



Goal:

- Reduce carbon intensity and total carbon emissions from university activities by 80% by 2050 from a 2005 benchmark.²²



AgBioResearch
MICHIGAN STATE UNIVERSITY

Goal:

- Achieve climate neutrality by 2050 through technology innovation, fiscal stewardship and embedding sustainability into institutional culture.²³



Goals:

- Help farmers implement practices that protect our water, soil and wildlife, while reducing emissions.²⁴
- Assist farms in completing a certification program that helps them achieve an average greenhouse gas emission reduction of 37 tons per practice implemented per year.²⁴
- Support and expand climate action on farms through our Climate Smart Farm Endorsement, a voluntary whole farm assessment that identifies existing beneficial climate practices and management while developing opportunities for additional actions.²⁵
- Provide financial support for growers while they develop whole-farm scale climate actions on their farm with MAWQCP Climate Smart Project bridge-payments, annual \$1,000 payments to offset transition costs, and time required to create customized farm plans.²⁶

Progress:

- Over 1,250 producers and 900,000 acres have been certified.²⁷



Goals:

- Achieve net-zero carbon emissions by 2026, with a goal of eliminating direct emissions by 2050.²⁸
- Achieve a sustainable, prosperous world through actionable, scientific analysis of the complex interactions among co-evolving, interconnected global systems.²⁹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goal:**

- Support voluntary, incentive-based climate-smart agricultural programs. These are programs designed to sustainably increase agricultural productivity and incomes; help farmers and ranchers build resiliency and climate mitigation and adaptation; and reduce and/or remove greenhouse gas emissions, where possible.³⁰



United States
Department of
Agriculture

Natural Resources Conservation Service

**Goals:**

- Offer a variety of programs, services, resources and tools to help farmers, ranchers, forest landowners and partners pursue voluntary conservation efforts to deliver climate solutions across the nation's working lands.³¹
- Provide conservation planning and assistance to landowners, operators and others to benefit the soil, water, air, plants and animals for productive lands and healthy ecosystems.³²
- Offer financial and technical assistance to help agricultural producers make and maintain conservation improvements on their land.³³

**NC STATE
UNIVERSITY**

**Goals:**

- Reduce NC State's total greenhouse gas emissions by 25% from the 2008 baseline.³⁴
- Reduce existing building annual energy use per square foot by 40% from the 2002 baseline.³⁴
- Expand the amount of renewable energy used to meet NC State's needs.³⁴
- Exemplify a sustainable food system from origin to plate by adding capacity to grow food on campus land for campus dining facilities.³⁴

Progress:

- Fiscal year 2021 emissions dropped 24.5% from the baseline.³⁵
- In fiscal year 2021, the university reported a 37% energy use intensity reduction from the baseline.³⁶
- The university's largest rooftop solar installation to date will be completed in fall 2022 atop the new Fitts-Woolard Hall.³⁷
- For several years, produce grown at NC State's Agroecology Education Farm has been utilized by chefs at campus dining halls.³⁸

OpenTEAM

**Goal:**

- By creating an interoperable technology ecosystem and supporting a global network of farmers, the OpenTEAM initiative is working towards improving soil health outcomes and sequestering more carbon into the soil across the globe.³⁹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Provide the soil science knowledge and tactics needed for agriculture to achieve net-zero greenhouse gas emissions.⁴⁰
- Provide the scientific leadership for understanding, managing, and measuring soil health systems contributing to regenerative land management in agriculture and other ecosystems.⁴⁰

**Goal:**

- Support the North America Climate Smart Agriculture Alliance, which aims to encourage climate-smart agriculture strategies to enhance the adaptive capacity of North American agriculture to changing climate conditions and work to achieve this goal through three complementary strategies: 1) sustainably increasing agricultural productivity and livelihoods (i.e. sustainable intensification); 2) enhancing adaptive capacity and improving resilience; and 3) delivering ecosystem services, sequestering carbon, and reducing and/or avoiding greenhouse gas emissions.⁴¹

**Goals:**

- Help organizations test and implement innovations in sustainability in the mainstream food system.⁴²
- Our work grounds aspirational goals such as addressing climate change, farmer poverty and soil health, with practical solutions such as supporting markets for small grains rotations and GHG measurement tools.⁴²



SUSTAINCERT

Goal:

- Create trust that real and meaningful progress is achieved towards the 2030 Agenda and the Paris Agreement.⁴³

**Goal:**

- The Sustainability Consortium (TSC) is housed within three leading research universities, each with ambitious climate goals. Operating within these universities, TSC is not separate from these goals and actively works to support our universities in achieving net-zero and net positive emissions. TSC is committed to managing its impact and supporting our members to achieve their climate goals with metrics, innovation, and research.⁴⁴

Progress:

- TSC has reduced its greenhouse gas emissions by 91% in the last 10 years by reducing travel and events, eliminating commutes and offices, and other energy savings.⁴⁴



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goal:**

- We help farmers and ranchers accelerate their transition to more regenerative and resilient agricultural systems by supporting the organizations that serve them with human dimensions insights, data and programming.⁴⁵

**Goals:**

- Keep global warming below 1.5 degrees by reducing GHG emissions by a target of 39%.⁴⁶
- Commit to prioritizing materials with low climate-impact without negatively affecting other sustainability aspects—the Trust Protocol cotton is among the lowest of climate impact textiles.⁴⁶
- Commit to pursuing energy efficiency across the value chain with a 15% target decrease.⁴⁶

**Goals:**

- Employ carbon neutral electricity sources by 2025.⁴⁷
- Reduce the Energy Use Intensity (EUI) of buildings by 10% from baseline year 2018 through the continued implementation of efficiency and technology upgrades and relevant behavior change tactics by 2025.⁴⁷
- Reduce distributed-source GHG emissions by 25% from baseline year 2018 by 2025.⁴⁷
- Expand the implementation of sustainable and resilient landscape best practices to 100% of managed grounds by 2030.⁴⁷
- Establish the policy, governance and administrative infrastructure that results in a highly-efficient campus with net-zero CO₂ emissions and net-zero energy readiness by 2050.⁴⁷
- Achieve net-zero CO₂ emissions and net-zero energy ready buildings based on the triple bottom line analysis – people, productivity and planet.⁴⁷



UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE

Goal:

- Become net carbon neutral by 2040. Long term solutions for reaching carbon neutrality by 2040 depend on energy conservation, renewable energy generation and carbon sequestration.⁴⁸

Progress:

- In FY2017, the university met its 2021 emissions target, dropping below 1990 emission levels.⁴⁸



FOOD SYSTEMS
INSTITUTE

Goals:

- Reduce main campus GHG emissions to at least 3% below 2005 levels by 2012.⁴⁹
- Reduce main campus GHG emissions to at least 17% below 2005 levels by 2020.⁴⁹
- Reduce main campus GHG emissions to at least 43% below 2005 levels by 2030.⁴⁹
- Reduce main campus GHG emissions to at least 83% below 2005 levels by 2050.⁴⁹
- Achieve carbon neutrality by 2025.⁴⁹

Progress:

- Achieved 18% reduction in GHG emissions from 2005 baseline by 2020.⁵⁰



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





The University of Georgia

Goals:

- By 2020, reduce energy use intensity by 35% from 2010 baseline.⁵¹
- By 2020, UGA commits to purchasing 10% of energy from renewable sources, generating 10% consumed energy through on-site using renewable sources, and evaluating on-site renewable energy opportunities for all capital projects.⁵¹
- By 2020, achieve a 20% decrease in greenhouse gas emissions.⁵¹
- By 2040, reduce energy use intensity by 50% from 2010 baseline.⁵¹
- By 2040, achieve a 40% decrease in greenhouse gas emissions.⁵¹
- By 2060, reduce energy use intensity by 70% from 2010 baseline.⁵¹
- By 2060, supply 25% of overall electricity use with on-site renewable energy generation and purchase at least 20% of remaining electricity demand from renewable sources.⁵¹

Progress:

- The 2020 greenhouse gas emissions reduction target was met in 2019.⁵²
- UGA reduced its energy use intensity per square foot by 22% between 2007 and 2020 through investments in the campus energy infrastructure, energy efficiency upgrades in campus buildings, and energy efficient design in new construction and renovations.⁵²



Goals:

- By FY 20-21, reduce/offset GHG emissions to 20% below FY 07-08 levels.⁵³
- By FY 30-31, reduce/offset GHG emissions to 40% below FY 07-08 levels.⁵³
- By FY 40-41, reduce/offset GHG emissions to 60% below FY 07-08 levels.⁵³
- By FY 50-51, reduce/offset GHG emissions to 80% below FY 07-08 levels.⁵³
- By FY 60-61, achieve carbon neutrality (zero net GHG emissions).⁵³
- Reduce energy consumption to 1992-93 levels by 2030.⁵³
- Increase renewable energy procurement to make up at least 20% of total electricity use by 2030.⁵³



COLLEGE OF
AGRICULTURAL & LIFE SCIENCES
University of Wisconsin-Madison

Goals:

- By the end of 2020, UW-Madison will facilitate joint action between campus and the community to ensure the alignment of the Resilience Assessment and Climate Action and Adaptation Plan with community goals and submit an annual evaluation of progress to Second Nature.⁵⁴
- By the end of 2021, UW-Madison will complete a campus-community resilience assessment that includes initial indicators and current vulnerabilities to campus and the community in five key areas: social equity and governance, health and wellness, economic development, ecosystem services, and infrastructure.⁵⁴
- By the end of 2022, UW-Madison will complete a climate action and adaptation plan that will include a target date by which defined thresholds of resilience will be met, interim target dates for meeting milestones that will lead to increasing resilience, mechanisms and indicators for tracking progress, actions to make resilience topics a greater part of the curriculum at UW-Madison, and actions to expand research in resilience topics.⁵⁴



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



SECTION 2

AGRIBUSINESS SECTOR

CLIMATE COMMITMENTS

Field to Market's Agribusiness Sector is comprised of 61 organizations which provide a range of services to both farmers and the supply chain, including grain aggregators, input manufacturers, technology providers, finance companies and others.

Sixty-one percent (37) of Agribusiness Sector members have made public climate commitments — a 14% increase from last year's compendium. Of these 37 members, 29 are targeting on-farm emissions. Six of the sector's members have established science-based targets to reduce greenhouse gas emissions to limit global warming at or below 2° Celsius.

“

The Agribusiness Sector is uniquely positioned with connections to both growers and downstream supply chain actors, so our commitments to addressing climate change pave the way for credible action down both pathways.”

—Michelle French, *Director of Global Sustainability Programs, Archer Daniels Midland Company*



61%

**MADE PUBLIC
CLIMATE
COMMITMENTS**

**that apply to either
their operations and/
or on-farm impact**



**Goals:**

- Provide voluntary, incentive-based tools to farmers, ranchers and forest owners so they are able to maximize the sequestration of carbon and the reduction of other greenhouse gas emissions, as well as increase the resilience of the land.⁵⁵
- Offer incentives for farmers to reduce energy consumption, increase use of on-farm renewable energy, and make continued progress toward reducing the lifecycle GHG emissions of agriculture and forestry-based renewable energy.⁵⁵
- Support the development and oversight of private sector markets for GHG credits.⁵⁵

**AgSpire****Goals:**

- Identify natural solutions on the land.⁵⁶
- Implement regenerative practices for crop and rangeland.⁵⁶
- Connect to conservation incentive programs.⁵⁶
- Use a holistic approach to conservation planning.⁵⁶
- Complete sustainable management plans.⁵⁶
- Advise companies on strategies to implement regenerative agriculture practices.⁵⁶



1.5°

Goals:

- **Reduce Scope 1 and 2 GHG emissions by 50% by 2030 from a 2018 base year.**⁵⁷
SBTi Validated Pathway: 1.5°C
- **Reduce Scope 3 GHG emissions by 24% per ton of production by 2030 from 2018 baseline.**⁵⁷
SBTi Validated Pathway: 1.5°C
- **Achieve the Net-Zero Standard for Greenhouse Gas Emissions by FY2050.**⁵⁸
SBTi Committed
- Reduce environmental impact by 50%.⁵⁷
- Realize sustainable procurement of 100% of important materials.⁵⁷
- RE100 commitment (100% renewable energy in business operations).⁵⁷

**Goals:**

- Develop tools and educational resources that enable member companies to adopt, evaluate, and share their sustainability practices.⁵⁹
- Support development of flexible, science based sustainable agriculture policies which enable seed sector innovation to meet new challenges, including priorities outlined across ASTA's strategic pillars.⁵⁹
- Working collaboratively with the greater agriculture value chain (including growers and retailers, as well as food and feed industry stakeholders), position the seed industry as a sustainability enabler.⁵⁹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Seek ways to mitigate climate change to the extent possible by reducing agricultural GHG emissions and sequestering carbon in soils and adapt the practices of agriculture and other land uses to the climate manifestations that cannot be prevented.⁶⁰
- Launch [Decode 6](#), which aims to be the trusted source for unbiased, science-based education in carbon and ecosystem services. This new project from the Agronomy, Crop, and Soil Science Societies of America bridges the gap between research and practice by providing agriculture's decision-makers with bite-sized, actionable and accessible content. The web-based, freely available platform will serve as the hub for creating, curating, and disseminating scientific information to help agriculture become part of the climate solution.⁶¹

**Goals:**

- Help mitigate many challenges agriculture faces and protect the planet's natural resources and regenerate soils while improving air and water quality for a more sustainable future.⁶²
- Reduce greenhouse gases (GHG) on a crop production acre by up to 32% — *for every million acres of crops that use Anuvia products, the reduction of GHG is equivalent to removing 20,000 to 30,000 cars from the roads.*⁶²
- Help build organic matter and retain soil carbon.⁶²

**Goals:**

- Reduce Scope 1 and 2 absolute greenhouse gas (GHG) emissions by 25% over a 2019 baseline by 2035.⁶³
- Reduce Scope 3 GHG emissions across our supply chain by 25% by 2035 over a 2019 baseline.⁶³
- Deforestation-free supply chain by 2025.⁶³
- Reduce energy intensity by 15% per ton of product produced by 2035 against a 2019 baseline.⁶³
 - Set a 5-year interim target to reduce energy intensity by 6% by 2025.⁶⁴

Progress:

- 6% reduction in Scope 1 and 2 GHG emissions.⁶³

**Goals:**

- Reinforce sustainable practices with farmers to protect land for future generations.⁶⁵
- Invest in clean energy sources to power our network, with 50% of electricity powered by renewable energy by 2025.⁶⁵

Progress:

- Engaging in solar projects and purchasing replacement Renewable Energy Credits (RECs) to support green claims.⁶⁵
- 23.36% of total operations powered by renewable energy at the end of FY2021.⁶⁵

**Goal:**

- Reduce emissions while increasing energy conservations and while creating more fuel-efficient machinery.⁶⁶



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Achieve CO₂-neutral growth until 2030. In other words, maintain total greenhouse gas emissions from our production sites (excluding emissions from sale of energy to third parties) and our energy purchases at the 2018 level (21.9 million metric tons of CO₂ equivalents) while increasing production.⁶⁷
- 25% reduction of CO₂ emissions by 2030 compared with 2018 and net-zero by 2050 targeted (based on Scope 1 and Scope 2 emissions of the BASF group, other greenhouse gases are converted into CO₂ equivalents according to the Greenhouse Gas Protocol).⁶⁸
- 100% of 2021 global power demand of BASF to be obtained from renewable sources by 2030.⁶⁸
- Help farmers achieve a 30% reduction in CO₂ emissions per ton of crop produced. BASF will support farmers to become more carbon efficient and resilient to volatile weather conditions with technologies that increase yield, make farm management more effective, and decrease environmental impact.⁶⁹



Bayer CropScience



1.5°

Goals:

- **Reduce absolute Scope 1 and 2 GHG emissions by 42% by 2029 from a 2019 base year.**⁷⁰
SBTi Validated Pathway: 1.5°C
- **Reduce absolute Scope 3 GHG emissions from purchased goods and services, capital goods, fuel and energy related activities, upstream transportation and distribution, and business travel by 12.3% by 2029 from a 2019 base year.**⁷⁰
SBTi Validated Pathway: 1.5°C
- **Achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C.**⁷⁰
SBTi Committed
- Become carbon-neutral in its own operations by 2030.⁷⁰
- By 2024, reduce Scope 1 and 2 emissions by 20% and Scope 3 emissions by 6% along our Science Based Target commitments (base year 2019).⁷⁰
- Work with farmers to reduce the ecological footprint of agriculture, which currently accounts for about 25% of greenhouse gas emissions worldwide, by reducing greenhouse gas emissions in major agricultural markets – per kilogram of crop yield – by 30% by 2030.⁷⁰
- Source 100% of electricity from renewable energies by 2029.⁷¹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





Goals:

- **25% reduction in Scope 1 and 2 emissions by 2030 from a 2020 baseline.**⁷²

SBTi Validated Pathway: Well Below 2°C

- **12% reduction in Scope 3 emissions by 2030 from a 2020 baseline.**⁷²

SBTi Validated Pathway: Well Below 2°C

- Achieve deforestation-free supply chains in 2025.⁷²
- Reduce energy intensity by 10% per metric ton of production by 2026 compared to a 2016 baseline.⁷²

Progress:

- 4.8% reduction in Scope 1 and 2 emissions (162,732 mt, which is equivalent to removing over 35,000 cars from the road for an entire year) in 2021 against the 2022 baseline.⁷³
- 2.2% reduction in Scope 3 emissions in 2021.⁷³
- Energy intensity has decreased by 6.7% since 2016.⁷³
- Total Scope 1 renewable energy is at 28% in 2021.⁷³



Goals:

- **Scope 1 and 2 (Operations): Reduce absolute operational GHG emissions by 10% by 2025 from a 2017 baseline.**⁷⁴

SBTi Validated Pathway: 2°C

- **Scope 3 (Supply Chain): Reduce global GHG emissions from our global supply chain by 30% by 2030, measured per ton of product, from a 2017 baseline.**⁷⁴

SBTi Validated Pathway: 2°C

- Transform our agricultural supply chains to be deforestation-free by 2030.⁷⁴
- Advance regenerative agriculture practices across 10 million acres of North American row crop farmland by 2030.⁷⁵



Goals:

- Reduce total CO₂ equivalent emissions by 25% per ton of product by 2030 (2015 baseline year).⁷⁶
- Reduce Scope 3 emissions by 10% by 2030.⁷⁶
- Achieve net-zero carbon emissions by 2050.⁷⁶
- Construct North America's first commercial-scale green (fossil fuel-free) ammonia production, with completion expected in 2023.⁷⁶

Progress:

- Scope 1: 14% intensity reduction since 2015.⁷⁶
- Scope 2: 12.8% reduction from 2020.⁷⁶
- Scope 3: Decline relative to 2020 due to lower fertilizer production in 2021 compared to the year before and thus lower application of fertilizer by end-users (From 61.4 million tCO₂e in 2020 to 53 million tCO₂e in 2021).⁷⁶
- We've begun our construction on North America's first commercial scale green ammonia production facility.⁷⁶



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Promote responsible crop nutrient use to feed crops and improve soil health.⁷⁷
- Compensate growers who employ cover crops and conservation tillage practices that sequester and store carbon in soil.⁷⁷
- Apply new technologies to enhance the use of natural resources.⁷⁷
- Track energy use to ensure effective, appropriate use of energy sources.⁷⁷

Progress:

- Cloud computing has reduced the CHS IT carbon footprint by at least 72%.⁷⁷
- Reduced CO₂ emissions were equivalent to taking 8.9 cars off the road for a year.⁷⁷
- 45,000 tons of N fertilizer have been treated with enhanced efficiency products.⁷⁷

**Goals:**

- CIBO achieves the sustainability goals of our partners by leveraging our scaled software platform to develop, deploy, and manage sustainability programs that combine advanced, science-based, ecosystem modeling, AI enhanced computer vision, MVR capabilities and the most complete programs engine to connect growers, enterprises and ecosystems.⁷⁸
- CIBO applies advanced technologies to promote sustainable solutions in order to mitigate climate change, secure the food supply, and improve grower outcomes.⁷⁸

**Goals:**

- Maximize operational efficiencies through the supply chain.⁷⁹
- Responsible sourcing and production. To accomplish this, we have committed and continue to explore opportunities with industry platforms, such as Field to Market.⁷⁹

**Goals:**

- Identify and undertake initiatives to reduce the overall carbon footprint of corn refining products and processes.⁸⁰
- Advocate for greenhouse gas reduction goals and targets that are grounded in science, in addition to being clear, measurable, and achievable over time.⁸⁰
- Advocate for research, technical assistance and incentives to support the adoption of agricultural practices that sequester carbon into the soil.⁸⁰
- Advocate for policies that help energy-intensive industries adapt to potential federal or state carbon reduction policies.⁸⁰
- Advocate for the recognition of agricultural feedstocks in industrial processes as a key element in advancing greenhouse gas reductions.⁸⁰



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Achieve a 65% intensity reduction in Scope 1 and 2 emissions by 2030 from 2020 baseline (*submitted to SBTi for validation*).⁸¹
- Achieve 20% intensity reduction in Scope 3 emissions by 2030 from 2020 baseline (*submitted to SBTi for validation*).⁸¹
- Evaluate energy-reduction initiatives, focused research and development efforts, increases in production efficiencies, and options to transition to renewable energy sources.⁸²
- Every newly developed Corteva solution from our pipeline must meet at least one of our sustainable innovation criteria by 2025.⁸²

Progress:

- Currently, 89% of Corteva's new crop protection products meet one of our sustainable innovation criteria.⁸²

**Goals:**

- Support advocacy, education and research efforts across the agricultural value chain to advance voluntary, incentive-based programs that will reduce greenhouse gases, improve soil health, and assist with adoption of new technological innovations that can reduce agriculture's environmental impact.⁸³
- Build programmatic efforts to elevate the necessity of current and future technologies that enable climate-smart agricultural practices and enhance crop productivity.⁸³

**Goals:**

- Through partnerships with ag retailers and other green organizations, build products using Growers Edge data and analytics that will empower farmers to adopt sustainable products and practices on one million acres by 2030.⁸⁴
- We are committed to using our platform to encourage the use of sustainable technology and practices with our strategic partners and vendors.⁸⁴
- We are committed to conserving energy and reducing pollution and greenhouse gas emissions generated by the company through the use of Energy Star-qualified office equipment and by robustly reducing, reusing, and recycling.⁸⁴

**Goals:**

- Lower carbon emissions through a strong Renewable Fuel Standard (RFS).⁸⁵
- Pave the road to higher biofuel blends.⁸⁵
- Build a new low-carbon future through biofuels.⁸⁵
- Raise awareness on benefits of biofuels.⁸⁵

**JOHN DEERE****Goals:**

- Enhance Ag Customer Outcomes by 2030 with the following goals:
 - Improve nitrogen use efficiency 20% per unit of output;
 - Increase crop protection efficiency 20% per unit of output; and
 - Reduce 15% of customer CO₂e emissions per unit of output.⁸⁶



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Achieve 100% renewable electricity in our operations by 2030.⁸⁷
- Reduce Scope 1 and 2 GHG emissions by 42% by 2030 (pending SBTi Validation).⁸⁷
- Reduce Scope 3 GHG emissions by 25% by 2030 (pending SBTi Validation).⁸⁷
- Reach Net Zero across all Scopes (1, 2 and 3) by 2050.⁸⁷

Progress:

- 2021 Scope 1 GHG emissions were reduced by 2.4% compared to the 2020 baseline.⁸⁷
- 2021 Scope 2 GHG emissions were reduced by 2.6% compared to the 2020 baseline.⁸⁷
- 2021 Scope 3 GHG emissions were reduced by 2.4% compared to the 2020 baseline.⁸⁷

**Goal:**

- Achieve a >50% GHG emissions reduction by 2030.⁸⁸

**Goal:**

- NCFC supports policies that promote voluntary, incentive-based tools for farmers and ranchers to maximize the sequestration of carbon and the reduction of other GHG emissions, as well as additional technical assistance measures to ensure producers can overcome barriers to adoption of practices that can lead to significant reduction of GHGs and improvements in soil health to increase the resilience of the land.⁸⁹

**Goals:**

- Achieve at least a 30% reduction in GHG emissions (Scope 1 and 2) per tonne of our products produced from a baseline year of 2018.⁹⁰
- By the year 2030, we aim to launch and scale a comprehensive carbon program, empowering growers and our industry to accelerate climate-smart agriculture and soil carbon sequestration while rewarding growers for their efforts.⁹¹
- Enable growers to adopt sustainable and productive agricultural products and practices on 75 million acres globally.⁹²

Progress:

- In 2021, strong interest in a carbon program has resulted in approximately 225,000 pilot acres across Canada and the U.S., exceeding the initial 100,000 acre target.⁹¹
- As part of our initial work, by the end of 2021 we measured and documented approximately 545,000 sustainable and productive acres in North America.⁹²

**Goal:**

- RFA's board of directors, comprised of ethanol producers from across the country, have unanimously committed to the following emission reduction goals:
 - By 2030, ensure that ethanol reduces GHG emissions by at least 70 percent, on average, when compared directly to gasoline.⁹³
 - By 2050 or sooner, ensure that ethanol achieves net-zero lifecycle GHG emissions, on average.⁹³

**Goal:**

- RiceTec is committed to partnering with growers to help them maximize sustainability efforts in their farming operations.⁹⁴



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goal:**

- Sound Agriculture is committed to reducing global synthetic nitrogen fertilizer application by 30% to improve air and water quality through fewer GHG emissions and less nitrate runoff.⁹⁵

**Goals:**

- **Reduce the carbon intensity of our operations by 50% by 2030.**⁹⁶

SBTi Validated Pathway: Well Below 2°C

- Measure and enable carbon capture and mitigation in agriculture.⁹⁶
- Enhance biodiversity and soil health on 3 million hectares of rural farmland every year.⁹⁶
- Invest \$2 billion in sustainable agriculture breakthroughs by 2025.⁹⁷

Progress:

- Achievements in 2021 included:
 - \$546 million invested in sustainable agriculture breakthroughs;
 - 3 million tonnes CO₂e of carbon benefit potential on farmland;
 - 7.5 million hectares of farmland benefited by soil conservation and biodiversity enhancement measures; and
 - 10% increase in CO₂e emissions intensity of our operations since baseline 2016.⁹⁸

**Goals:**

- **By 2030, deliver a 30% absolute reduction in our Scope 1 and 2 GHG emissions from a 2019 base year.**⁹⁹

SBTi Validated Pathway: Well Below 2°C

- **By 2030, deliver a 15% absolute reduction in our Scope 3 GHG emissions from a 2019 base year.**⁹⁹

SBTi Validated Pathway: Well Below 2°C

- By 2025, eliminate coal from all operations.⁹⁹
- Maintain sustainable acreage equivalent to the volume of corn we buy globally each year, and through partnerships accelerate the adoption of conservation practices.¹⁰⁰
- Achieve net-zero by 2050.⁹⁹
- Purchase 100% renewable electricity by 2030.⁹⁹

Progress:

- To date, Tate & Lyle has achieved a 12% absolute reduction in Scope 1 and 2 GHG emissions and a 1% absolute reduction in Scope 3 GHG emissions.¹⁰⁰
- Eliminated coal from our operations in 2021, four years early.⁹⁹
- In 2021, Tate & Lyle supported 1.4 million acres of sustainable corn; equivalent to their global annual corn procurement volume.¹⁰⁰

**Goal:**

- As part of the Supplier LoCT, we will refine our environmental metrics, track energy and natural resources at our major facilities, establish impact goals, and monitor our progress.¹⁰¹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Achieve net-zero emissions companywide.¹⁰²
- Reduce Scope 1 and 2 greenhouse gas emissions by 20% per tonne of product by 2025.¹⁰²
- Empower farmers in key growing areas in North America to reduce the impact of crop nutrient products on the environment by facilitating the implementation of 4R Nutrient Stewardship on 25 million acres by 2025.¹⁰²

Progress:

- We have achieved 11% Scope 1 and 2 GHG emission reductions since the 2015 baseline year, and a 2% reduction since 2020.¹⁰²
- As of the end of 2021, 4R Nutrient Stewardship practices have been implemented on 10 million acres.¹⁰²

**Goal:**

- Valagro is working on the Environmental Product Declaration (EPD) certification of its products in order to describe and quantify the environmental impact related to their entire life cycle.¹⁰³

**Goals:**

- Focus on bringing proven expertise, service and tools to assist growers in meeting the rising demands of the food channel while ultimately achieving a more sustainable, viable and profitable operation.¹⁰⁴
- Provide innovative products that advance sustainable agriculture.¹⁰⁴
- Strive to implement creative processes into our operations that protect the environment and benefit society at large, including waste reduction, energy efficiency and green design.¹⁰⁴

**Goals:**

- Reduce absolute emissions from our operations by 50% by 2025, and by 70% by 2029.¹⁰⁵
- Adopt 100% renewable electricity to power Zurich's operations by end 2022.¹⁰⁵
- Electrify 100% of our car fleet by end 2029.¹⁰⁵
- Continue maintaining our carbon neutrality for our operations.¹⁰⁵
- Net-zero investment portfolio by 2050.¹⁰⁵
- Avoid 5 million tons of CO₂-equivalent emissions per year through impact investments.¹⁰⁵
- Catalyze USD 1 billion investment going into pre-event resilience and climate action and help make 2 million people more resilient to flooding through the Zurich Flood Resilience Alliance by 2023.¹⁰⁵
- Launch a carbon removal fund through setting a realistic internal price on carbon emissions for our operations by end of 2021.¹⁰⁵
- Aim for net-zero target in operations by 2030 instead of 2050.¹⁰⁶



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



SECTION 3

BRANDS & RETAIL SECTOR CLIMATE COMMITMENTS

Field to Market's Brands & Retail Sector is comprised of 18 food, beverage, apparel, restaurant and retail companies, 16 of which have made public commitments to climate action.

Not only have 89% of members within the sector made public commitments to climate action, but 61% (11) have also established science-based targets to reduce greenhouse gas emissions to limit global warming at or below 2° Celsius. 13 members within the Brands & Retail Sector have set commitments related to on-farm emissions.

“

As members of the Brands and Retail Sector, we serve as an example of putting action in place towards our corporate climate commitments, which must be aligned with science as well as sustainable sourcing and regenerative agriculture commitments. Putting these climate commitments in action is critical for securing a sustainable and resilient future.”

—Margaret Henry, Director, Sustainable Agriculture, PepsiCo



89%

**HAVE MADE
PUBLIC CLIMATE
COMMITMENTS**

that apply to either
their operations and/
or on-farm impact





American Bakers Association

Goal:

- Promote increased energy efficiency for the U.S. baking industry by promoting EPA's "Energy STAR" Challenge.¹⁰⁷

Progress:

- 42 of the 92 manufacturing plants recognized by the EPA's ENERGY STAR® in 2021 were ABA member bakeries. These bakeries saved just over 6 million MMBTU of energy.¹⁰⁸
- Since the beginning of ABA's partnership with EPA, 50 commercial bread and roll bakeries and 24 cookies and cracker bakeries have received ENERGY STAR® recognition.¹⁰⁸



Corbion

**Goals:**

- 33% reduction of Scope 1, 2 and 3 emissions by 2030 from a 2016 base year.**¹⁰⁹

SBTi Validated Pathway: 2°C

- Reach net-zero GHG emissions in our value chain by no later than 2050.**¹⁰⁹

SBTi Committed

- 20% reduction of Scope 1, 2 and 3 emissions by 2025 from a 2016 base year.¹⁰⁹
- 100% of verified deforestation-free key agricultural raw materials by 2025.¹⁰⁹
- 100% renewable electricity by 2025.¹⁰⁹
- 100% renewable electricity by 2030 - RE100 commitment.¹⁰⁹

Progress:

- 82% of verified deforestation-free key agricultural raw materials in 2021.¹⁰⁹
- 79% renewable electricity in 2021.¹⁰⁹
- 40% reduction of Scope 1 and 2 emissions in 2021.¹⁰⁹
- 27% reduction of Scope 1, 2 and 3 emissions in 2021.¹⁰⁹



Ingredion

**Goals:**

- Achieve a 25% reduction in Scope 1 and 2 absolute GHG emissions by end of 2030 (*pending SBTi Validation*).¹¹⁰
- Source 50% of our purchased electricity from renewable sources by the end of 2030.¹¹⁰

Progress:

- 12% reduction in Scope 1, 2 and biogenic carbon emissions in 2021 against a 2019 baseline.¹¹⁰
- 4% renewable energy in 2021 against a 2019 baseline.¹¹⁰



THE J.M. SMUCKER CO

**Goals:**

- Reduce absolute Scope 1 and 2 GHG emissions by 28% by 2030 from a 2019 base year.**¹¹¹

SBTi Validated Pathway: Well Below 2°C

- Reduce Scope 3 GHG emissions by 22% per unit of sold product by 2030 from a 2019 base year.**¹¹¹

SBTi Validated Pathway: Well Below 2°C

- Reduce energy intensity at company-owned facilities by 5% by 2025 from a 2019 base year.¹¹¹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





Goals:

- Reduce absolute Scope 1 and 2 GHG emissions by 45% by 2030 from a 2015 baseline.¹¹²
- Reduce absolute Scope 3 GHG emissions by 15% by 2030 from a 2015 baseline.¹¹²
- Achieve 100% renewable electricity in all facilities globally by the end of 2050.¹¹²
- By 2030, reach 1,000,000 farmers and workers, especially smallholders and women through programs focused on climate, social and financial resiliency that contributes to improved climate-smart agricultural practices, including addressing yields, deforestation and GHG emissions.¹¹²

Progress:

- 29% absolute reduction in Scope 1 and 2 GHG emissions since 2015.¹¹²
- 9% of electricity was from renewable sources in 2021.¹¹²
- 445,000 million farmers and agronomists supported, including 37,000 smallholders, 15,000 women and 2,500 agronomists since 2015.¹¹²



Goals:

- Power 100% of owned and operated facilities with renewable energy by 2025.¹¹³
- Establish a science-based target by 2022.¹¹³
- Source 100% preferred materials, including cotton by 2025 and synthetics by 2030.¹¹³

Progress:

- 50% of cotton and 7 MT synthetics sustainably sourced.¹¹³
- 4,700 acres conserved through Alcoa Land Project.¹¹³



2.0°

Goals:

- **Reduce greenhouse gas emissions related to McDonald's restaurants and offices by 36% by 2030 from a 2015 base year.**¹¹⁴

SBTi Validated Pathway: 2°C

- **Achieve 31% reduction in emissions intensity (per metric ton of food and packaging) across our supply chain by 2030 from 2015 levels.**¹¹⁴

SBTi Validated Pathway: 2°C

- **Achieve net-zero emissions by 2050.**¹¹⁴

SBTi Committed

Progress:

- We have achieved a 2.9% reduction in the absolute GHG emissions of our restaurants and offices as of the end of 2021, compared to 2015 figures.¹¹⁴
- We have achieved a 7.8% reduction in supply chain GHG emissions intensity as of the end of 2021, compared to 2015 figures.¹¹⁴



<2.0°

Goals:

- **Reduce end-to-end greenhouse gas emissions by 10% by 2025, compared to 2018.**¹¹⁵

SBTi Validated Pathway: Well Below 2°C

- **Achieve net-zero greenhouse gas emissions across the full value chain by 2050.**¹¹⁵

SBTi Committed

- Ensure that 90% of our internal manufacturing electricity globally is renewable by 2025, and 100% by 2030.¹¹⁵

Progress:

- Since 2013, Mondelez has reduced CO₂ emissions from factories by 24%, achieving its goal to reduce absolute CO₂ emissions from manufacturing by 15% by 2020.¹¹⁶
- In 2021, we reduced our Scope 1 and 2 (market-based) emissions by 21% versus our 2018 baseline.¹¹⁶



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





1.5°

Goals:

- **Reduce absolute Scope 1, 2 and 3 GHG emissions 20% by 2025 and 50% by 2030 from a 2018 base year.**¹¹⁷

SBTi Validated Pathway: 1.5°C

- **Achieve net-zero emissions by 2050.**¹¹⁷

SBTi Committed

- Achieve 100% renewable electricity in all sites by 2025.¹¹⁷



1.5°

Goals:

- **Reduce absolute emissions across direct operations (Scope 1 and 2) by 75% and indirect value chain (Scope 3) by 40% by 2030 (2015 baseline).**¹¹⁸

SBTi Validated Pathway: 1.5°C

- **Achieve net-zero emissions by 2040.**¹¹⁸

SBTi Committed

- Spread the adoption of regenerative agriculture practices across seven million acres, approximately equal to 100% of the land used around the world to grow our crops and ingredients for our products.¹¹⁸
- Sustainably source 100% of our key ingredients, expanding to include not only our grower-sourced crops (potatoes, whole corn and oats), but also key crops from third parties, such as vegetable oils and grains.¹¹⁸

Progress:

- In 2021, Scope 1 and 2 emissions combined were reduced by 25%.¹¹⁸
- Emissions intensity (calculated as million metric tons GHG emissions per \$ billion net revenue) was 0.79 in 2021, down from 0.86 in 2020, reflecting net revenue growth that outpaced our emissions increase.¹¹⁸
- Spread the adoption of regenerative agriculture practices across over 345,000 acres in 2021.¹¹⁸
- Sustainably sourced about 50% of key ingredients in 2021.¹¹⁸



<2.0°

Goals:

- **By 2030, 50% absolute reduction in Scope 1 and 2 GHG operational emissions from 2010 baseline.**¹¹⁹

SBTi Validated Pathway: Well Below 2°C

- **P&G's ambition is to reach net-zero GHG emissions across our supply chain and operations by 2040.**¹¹⁹

SBTi Committed

- Advance natural climate solutions that will balance any remaining Scope 1 and 2 operational emissions we cannot eliminate through 2030 – effectively making our manufacturing operations carbon neutral for the decade.¹¹⁹
- Purchase 100% renewable electricity in global operations by 2030.¹¹⁹
- Reduce supply chain emissions from priority categories by 40% per unit of production by 2030 vs. 2020 baseline.¹¹⁹
- Reduce our upstream finished product freight emissions intensity 50% by 2030 vs. 2020 baseline.¹¹⁹
- Avoid 30 million tons of CO₂ via cold water washing by 2030.¹¹⁹

Progress:

- As of 2021, 97% of purchased electricity in global operations is renewable.¹²⁰
- From 2010 to 2020, P&G has reduced absolute emissions across its global operations by 52% through energy efficiency and renewable electricity.¹²⁰
- Reduced truck miles 25% per unit of production.¹¹⁹
- 15 million tons of CO₂ reduced through consumer cold water washing.¹²⁰



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:

1.5°

<2.0°

2.0°



Goals:

- By 2023, 80% of Target's suppliers — by spend, covering all purchased goods and services — will set science-based reduction targets on their Scope 1 and 2 emissions.¹²¹

SBTi Validated Pathway: 2°C

- By 2030, Target will achieve 30% absolute reduction in supply chain emissions (Scope 3) covering retail purchased goods and services from a 2017 base year.¹²¹

SBTi Validated Pathway: 2°C

- By 2040, Target commits to net-zero greenhouse gas emissions (Scopes 1, 2 and 3) across their enterprise.¹²¹

SBTi Committed

- By 2025, Target will engage suppliers to prioritize renewable energy and collaborate on solutions that protect, sustain, and restore nature.¹²¹
- By 2025, Target will source 60% of its electricity from renewable sources for our operations.¹²¹
- By 2025, Target intends to leverage soil health practices to improve at least one million acres of land.¹²¹
- By 2030, Target will source 100% of its electricity from renewable sources for global operations.¹²¹
- By 2030, Target will achieve 50% absolute reduction in operations emissions (Scopes 1 and 2) from a 2017 base year.¹²¹

Progress:

- In 2021, Target reduced GHG emissions from its own operations (Scope 1 and 2) by 32% from 2017.¹²¹
- In 2021, Target achieved a 32% absolute reduction in operational emissions, as it works toward a 50% reduction by 2030.¹²¹
- To date, Target's suppliers have reported net reductions in their Scope 1 and 2 emissions equivalent to 5.2% of the baseline established in 2017.¹²¹
- Target's established projects and partnerships are anticipated to result in purchasing more than 50% of their electricity from renewable sources, well on their way toward 100% by 2030.¹²¹



Goals:

- Reducing our absolute Scope 1, 2 and 3 greenhouse gas emissions by 25% by 2030 through our science-based target.¹²²

SBTi Validated Pathway: 2°C

- Ambition to achieve net-zero carbon emissions by 2050.¹²²
- Reduce the carbon footprint of the “drink in your hand” by 25% by 2020 against a 2010 baseline.¹²²

Progress:

- The 2020 goal to cut our carbon footprint by 25% by the end of 2020, against a 2010 baseline, has been met.¹²²



Goals:

- Reduce Scope 1 and 2 emissions by 100% by 2030 against a 2015 baseline.¹²³

SBTi Validated Pathway: 1.5°C

- Halve the full value chain emissions of our products on a per consumer use basis by 2030 against a 2010 baseline.¹²⁴

SBTi Validated Pathway: 1.5°C

- Achieve net-zero emissions covering Scope 1, 2 and 3 emissions by 2039.¹²⁵

SBTi Committed

- Replace fossil-fuel-derived carbon with renewable or recycled carbon in our cleaning and laundry product formulations by 2030.¹²⁶
- Share the carbon footprint of every product we sell to consumers.¹²⁵

Progress:

- Unilever has reduced operational Scope 1 and 2 emissions by 64% since 2015. This puts the company on track to achieve an interim milestone of a 70% reduction by 2025.¹²³



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



**Goals:**

- Reach Carbon Neutral status on Scopes 1 and 2 (CO₂e) by 2030.¹²⁷
- Achieve 25% reduction in Scopes 1, 2 and 3 (CO₂e) by 2030.¹²⁷
- Communicate benefit of plant-based food by labelling carbon emission on 500 million product packs by 2030.¹²⁷

Progress:

- Scope 1 and 2 carbon emissions decreased from 128kt in 2020 to 113 kt in 2021.¹²⁷
- Scope 1, 2 and 3 emissions reduced from 3,373kt in 2020 to 3,075 kt in 2021.¹²⁷
- We exceeded our initial 2021 target of 100 million packs with carbon labels, so extended our target to 500 million by 2030.¹²⁷



1.5°

Goals:

- **Reduce absolute global Scopes 1 and 2 GHG emissions – 35% by 2025 and 65% by 2030 from 2015 base year.**¹²⁸
SBTi Validated Pathway: 1.5°C
- **Reduce or avoid one billion metrics tons of Scope 3 CO₂e emissions by 2030 (Project Gigaton™).**¹²⁸
SBTi Validated Pathway: 1.5°C
- **Achieve zero emissions across global operations by 2040.**¹²⁸
SBTi Committed
- Power 50% of our global operations with renewable sources of energy by 2025 and 100% by 2035.¹²⁸



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



SECTION 4

CIVIL SOCIETY SECTOR

CLIMATE COMMITMENTS

Field to Market's Civil Society Sector is comprised of 12 organizations united through their commitment to conservation and serving in the public interest.

As the [Shared Vision for Climate Action](#) signed by the sector in 2020 demonstrates, Civil Society has a vital role to play in accelerating action and grounding corporate, state and federal responses in what is required by science.

Eleven organizations within the sector have made public commitments to support farmers and the value chain in not only understanding the science, but also implementing the strategies and interventions needed to enable the industry to contribute towards a net-zero economy and climate-safe future.

“

As the Civil Society Sector, we have the pleasure of working with companies and growers across the agricultural value chain. In doing so, we have the opportunity, and the responsibility, to help them develop strategies to advance sustainability and address climate change.”

—Jeremy Peters, Chief Executive Officer, National Association of Conservation Districts



92%

**HAVE MADE
PUBLIC CLIMATE
COMMITMENTS**
to support farmers
and the supply chain
on climate action

**Goal:**

- AFT is committed to making U.S. agriculture climate neutral. To do so, we are elevating the role of farmers and farmland in adapting to and mitigating the effects of climate change. From policy leadership, coalition building, and training to research and on-the-ground demonstration projects, we are working to scale up the adoption of regenerative and soil health-promoting agricultural systems. This will ensure a prosperous and resilient future for farmers and the land that sustains us.¹²⁹

**Goals:**

- Having served since 1982 as one of the nation's leading proponents for the adoption of agricultural conservation practices (e.g. no-till and cover crops) that are now known to have major climate benefits, CTIC will continue to advance practical systems that improve soil health and water quality, reduce greenhouse gas emissions, enhance resilience to intensifying climate change, and deliver other environmental benefits.¹³⁰
- Continue to connect stakeholders committed to improving the sustainability of American agriculture, including reducing agriculture's greenhouse gas footprint, and serve as an unbiased source of information for the trends in adoption of conservation practices and how they help farmers adapt to current climate changes and mitigate future climate impacts.¹³⁰

Progress:

- We have played a direct role in U.S. row crop farmers sequestering or avoiding at least 50 million metric tons of CO₂e annually, for a cumulative total of more than 2 gigatons over our first four decades of operation.¹³⁰

**Goal:**

- Bring industry and landowners together by assembling carbon offset credits associated with grassland or forest restoration and/or preservation on private lands. Beyond the carbon savings, this effort has the opportunity to further Ducks Unlimited's conservation mission by increasing waterfowl habitat in our priority areas.¹³¹

**Goals:**

- Build climate resilience in agriculture.¹³²
- Increase investments in conservation practices like cover crops and no-till that have proven time and again to deliver a clear Return on Investment (ROI) — reducing risk and environmental impacts all while increasing yield and building climate resilience. Innovative loans, crop insurance programs, tax incentives and other financial incentives can help make these practices the norm.¹³²
- Advocate for science-based standards for emissions reductions and assess science-based approaches to high quality removals via agricultural soil carbon, and support consistent, credible and cost-effective measurement and verification. Make it easier for farmers to benefit from contributing to climate mitigation and resilience.¹³²
- Make the invisible loss of nitrogen pollution visible by equipping farmers with better data, analytics tools and environmental models. With a user-friendly, scientifically robust way to assess environmental results, farmers can deliver quantifiable improvements for climate resilience, air quality, water quality and their bottom line.¹³²



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





Goals:

- Environmental Initiative administers the Sustainable Growth Coalition, which has a Clean Energy Vision: Surpassing the State of Minnesota's current economy-wide greenhouse gas emissions targets of 30% reduction by 2025 and 80% reduction by 2050.¹³³
- Environmental Initiative administers the Midwest Row Crop Collaborative which has 2030 goals to:
 - Ensure that 30 million acres in the Midwest employ practices that support improved outcomes for soil health, greenhouse gases, water quality and use, biodiversity or farmer livelihoods. At least one million of these acres will demonstrate multiple measurable regenerative outcomes.¹³⁴
 - Reduce net on-farm GHG emissions in the Midwest row crop supply chain by seven million metric tons by 2030.¹³⁴
 - Directly support at least 30,000 Midwestern farm operations in the transition to regenerative agriculture by 2030.¹³⁴



Goals:

- Build new narratives about the risks of climate change and the benefits of a rapid and just transition to a 'carbon positive' economy.¹³⁵
- Help organizations develop strategies that are aligned with the goal of staying under 1.5°C and help to catalyze widespread societal action and system change.¹³⁵
- Fast-track the ability of the food industry to deliver sustainable nutrition outcomes.¹³⁶
- Make regenerative, resilient agriculture the mainstream.¹³⁶



National Association of
Conservation Districts



Goals:

- Through NACD's Climate Action Task Force, assess current and emerging climate policy opportunities and make recommendations to NACD's leadership that utilize the technical knowledge and expertise of conservation districts as part of the U.S. solution to the global climate crisis.¹³⁷
- Work to safeguard and enhance healthy soils across the United States, whether they support grazing land, rangeland, agricultural land, or urban and community land.¹³⁸
- Expand network of over 300 Soil Health Champions who implement good soil health practices on their operations and promote the use of soil health management systems in their communities.¹³⁹
- Work cooperatively with federal, state, territory, and local resource management agencies and private sector interest groups to provide technical, financial, and other assistance to help landowners and operators apply conservation to the landscape at the local level.¹⁴⁰



Goals:

- Promote natural ecosystems-based solutions that help sequester carbon and contribute to climate resiliency.¹⁴¹
- Conserve upland habitat, based on principles and the improving scientific understanding of how our programs across the nation benefit wildlife while capturing carbon, reducing soil erosion, and improving water and air quality, in addition to providing numerous other ecological goods and services.¹⁴²
- Implement climate-smart conservation practices that also benefit environmentally, socially and economically sustainable agriculture.¹⁴³



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:





Goals:

- Empower conservation champions with innovative, real-time soil metrics to quantify how infiltration, water holding capacity, soil trafficability, leaching potential, aggregate stability and other soil properties are influenced by management.¹⁴⁴
- Demonstrate the conservation and economic benefits of rotational grazing livestock on cover crops.¹⁴⁵
- Reduce barriers to adopting, and improve equity for funding, conservation practices by historically underserved farmers and ranchers.¹⁴⁶
- Advance regenerative agriculture amongst middle to late adopters across the Lake Michigan Basin.¹⁴⁷

Progress:

- Engaged 30 farmers across Minnesota and Wisconsin in a three-year research project.¹⁴⁴



Goals:

- TNC aims to drive adoption of field-tested regenerative soil practices on 50% of fields growing row crops like corn, soybeans and cotton in the U.S. by 2030.¹⁴⁸
- Our institutional goal is to help to reduce emissions and increase sequestration by three billion metric tons of carbon dioxide per year by 2030. To reach that, we will continue to pursue solutions that benefit biodiversity, sequester carbon, and reduce risks to people most vulnerable from a changing climate.¹⁴⁹



Goals:

- Achieve zero land conversion of native habitat due to agricultural expansion or infrastructure in our priority landscapes.¹⁵⁰
- Reduce the environmental footprint of food systems, with a priority on animal protein and feed commodities.¹⁵⁰
- Curtail global consumption of natural resources by ending loss, waste and inefficiencies in the food system, from the farm to the consumer.¹⁵⁰



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



SECTION 5

GROWER SECTOR

CLIMATE COMMITMENTS

Field to Market's Grower Sector is comprised of 26 organizations representing commodity crop producers at both the state and national level.

More than half of the sector's members (19) have made public climate commitments. These commitments include several examples where organizations have set national, industry-wide targets for greenhouse gas emissions reduction for their crop.

“

It's no secret that sustainable and regenerative practices are crucial in the advancement of climate goals. As Field to Market's Grower Sector, we are in the position to encourage on-farm commitments, as well as assistance in maintaining, improving, and/or adopting those practices.”

—Brandon Hunnicutt, *Farmer and Field to Market Board Chair, National Corn Growers Association*

73%

**MADE PUBLIC
CLIMATE
COMMITMENTS**

to help farmers
mitigate and adapt to
climate change



**Goal:**

- In 2022, the American Peanut Council launched an initiative to document and track peanut sustainability starting at the field level using eight key indicators. We aim to help peanut growers estimate and understand their environmental footprint and share ways to reduce it over time. Our first objective is to reach 5% peanut acreage representation in the sustainability platform by 2023 to understand the industry's room for improvement and set appropriate goals.¹⁵¹

U.S. SOYBEAN INDUSTRY**Goals:**

Groups representing U.S. soybean farmers—including the United Soybean Board (USB), the U.S. Soybean Export Council (USSEC) and the American Soybean Association (ASA)—have outlined sustainability goals for improvements on a key set of metrics. By 2025, U.S. soybean farmers aim to:

- Reduce land use impact by 10%;
- Reduce soil erosion by an additional 25%;
- Increase energy use efficiency by 10%; and
- Reduce total greenhouse gas emissions by 10%.^{152, 153, 154}

U.S. COTTON INDUSTRY**Goals:**

Under the advisory of the U.S. Cotton Industry Sustainability Task Force, the U.S. cotton industry is committed to:

- Reducing greenhouse gas emissions by 39% by 2025;
- Increasing soil carbon in fields by 30% by 2025;
- Reducing energy to produce cotton lint by 15% by 2025; and
- Enrolling 2.5 million acres in the Fieldprint® Calculator by 2025.¹⁵⁵

**Goal:**

- Edge Dairy Farmer Cooperative stands with our farmers in their commitment to seek effective and financially viable ways to protect and improve water quality and reduce greenhouse gas emissions. We believe environmentally focused policies affecting agriculture should be guided by farmers, grounded in science, driven by the market, and sufficiently flexible to allow for innovation at the farm level.¹⁵⁶

Progress:

- As of 2021, Edge's support had helped foster a growing network of voluntary farmer-led conservation groups encompassing 273 farmers; 288,925 acres of cropland, wetlands, forest, etc.; and 43,720 head of dairy and other livestock.¹⁵⁶

**Goals:**

To support the Indiana Agriculture Nutrient Alliance's statewide practice adoption goals by 2025, Indiana Corn Marketing Council and Indiana Soybean Alliance jointly commit to the following goals:

- 100% of Indiana farmers regularly perform soil sampling;
- 100% of Indiana farmers implement plans for nutrient management;
- 75% of Indiana farmers making nutrient applications at planting or in-season;
- 100% of Indiana farmers making frozen and snow covered ground applications only as a last resort;
- 25% increase of Indiana cropland acres using reduced tillage systems;
- 10% increase of Indiana cropland acres using no-till or strip-till systems; and
- 40% increase of living green cover acres of Indiana cropland.¹⁵⁷



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



U.S. DAIRY INDUSTRY

**Goals:**

By 2050, U.S. dairy collectively commits to:

- Achieve GHG neutrality;
- Optimize water use while maximizing recycling; and
- Improve water quality by optimizing the utilization of manure and nutrients.¹⁵⁸

**Goals:**

- IAC's Rege[N]ation seal and pledge aims to elevate the story of Native American and Alaskan Native agriculture and environmental stewardship while honoring traditional, cultural and Native-led agricultural wisdom.¹⁵⁹
- IAC is committed to evaluating annually approved Rege[N]ation participants to review the producers' effectiveness to replace or eliminate synthetic and industrialized inputs with natural-based methods and/or traditional agricultural practices specific to the Tribal ag producer.¹⁵⁹
- IAC is committed to reviewing contributions made towards improving the outcomes for land, water, community and other ecological systems.¹⁵⁹

**Goals:**

- Advocate for strong conservation programs and work with growers and USDA to implement them properly.¹⁶⁰
- Work with coalition partners to help ensure sustainability initiatives work on the farm.¹⁶¹
- Engage in climate discussions in a constructive manner to represent wheat growers' interests.¹⁶¹

**Goal:**

- NBGA supports and advocates for voluntary conservation programs to incentivize growers to implement additional practices to conserve resources and improve environmental outcomes on working lands.¹⁶²

**Goals:**

- Reduce greenhouse gas emissions by 13% by 2030.¹⁶³
- Increase energy use efficiency by 13% by 2030.¹⁶³

**Goals:**

- NFU supports a farmer-focused approach to climate change guided by the following principles or policies:
 - State and federal conservation programs should have a stronger focus on climate-friendly practices;
 - Renewable fuels, including ethanol, biodiesel and sustainable aviation fuels should be a central feature of any effort to reduce emissions;
 - Further development of the bioeconomy on family farms and in rural communities, including incentives for energy efficiency and renewable energy production; and
 - Investment in public research on climate change, which is critical to reducing barriers for adoption of climate-smart agricultural practices.¹⁶⁴

**Goal:**

- Nebraska Corn Growers Association supports the development and recognition of various conservation and production practices that sequester carbon and reduce greenhouse gas emissions.¹⁶⁵



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



U.S. SORGHUM INDUSTRY

**Goals:**

The U.S. Sorghum Industry is directed by its farmers through producer organizations, including National Sorghum Producers and the United Sorghum Checkoff Program. Under the leadership and recommendations of the U.S. Sorghum Industry's Joint Climate Commitment Task Force, the U.S. Sorghum Industry is committed to:

- Gathering the evidence and creating the resources for a comprehensive understanding of sorghum's sustainable qualities and how they positively contribute to broader climate priorities in markets and policies;
- Utilizing and enhancing—through our commitment to research and innovation—sorghum's inherent attributes, including its natural heat tolerance, hardy habitat-covering and erosion-controlling stalks, extensive soil health-promoting root systems, and ability to produce with one-third less water than comparable grains, in order to drive industry and farm-level commitment to sustainability for real and measured impacts on ecosystems that build resilient landscapes;
- Leveraging sorghum's resource-conserving characteristics and showcasing sorghum farmers' resource-conserving practices to elevate the recognition of sustainable, domestically-produced food, fuel, and feed ingredients, which meet consumer demand for climate-smart commodities;
- Using food aid to address the needs of food insecure populations in unstable parts of the world in order to solve complex and connected issues surrounding childhood hunger, food scarcity, and a changing climate; and
- Annually assessing the U.S. Sorghum Industry's climate commitments to incorporate newly available data that enables the industry's continuous improvement.^{166,167}



**U.S. GRAINS
COUNCIL**

**Goal:**

- The U.S. Grains Council is proud to support the climate resiliency work of our sister organizations and corn, sorghum and barley farmers around the country as well as the climate commitments of our agribusiness members, as they commit to continuous improvement in their production practices.¹⁶⁸

**Goals:**

- Reduce greenhouse gas emissions by 13% by 2030.¹⁶⁹
- Reduce on-farm energy use by 10% by 2030.¹⁶⁹



TARGETS ON-FARM EMISSIONS

Science-Based Target — VALIDATED PATHWAYS:



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